

THE IMPACT OF HRM PRACTICES ON ORGANIZATIONAL PERFORMANCE: A GENERAL MODEL AND A TEST FOR URUGUAY

INTRODUCTION

Independently of the strategy followed to define the relevant HRM indicators, the empirical literature to date has generally provided with supportive evidence on the existence of positive relationships between at least one specific dimension of firms' economic performance and certain Human Resources Management (HRM) practices (Brewster and Mayrhofer, 2012 provide a comprehensive updated review). However, only few multivariate analyses have been performed considering at the same time the configuration of these practices, the contingency variables of the organization, together with the institutional context in which these practices are implemented and their impact on organizational performance. This paper introduces a testable general theoretical model and summarizes the results of a series of empirical analyses, using data for Uruguay.

Recent institutional changes that have taken place in Uruguay starting in 2005 provide a unique opportunity to analyze HRM under different contexts of industrial relations, collective bargaining and increasing unionization. The general model introduced links the probability of attaining a certain level of firm performance to Human Resource Management (HRM) practices, while controlling for diverse characteristics related to unionization as well as for other contingency variables.

Particular emphasis is also set on the existence of complementarities among practices. Within empirical studies, this issue involves including HRM practices interacting individually or by subsets, usually in bundles/configurations previously identified by different statistical methods.

The Uruguayan evidence is modeled along these lines, based on a sample of 274 companies with more than 50 employees, most of them SMEs according to international standards but nonetheless the largest firms in the country.

The next section is devoted to review the literature on these two topics that in turn justifies the specification of the empirical model and its application to Uruguay. A description of the information set and the definition of the variables that are included in Section 3. In Section 4 the outcome of the estimated model is discussed while the most relevant conclusions are summarized in the final section.

2. LITERATURE REVIEW

2.1. HRM and Organizational Performance

The reported evidence for the US (see Gerhart, 2005) suggests that labor productivity and/or organizational performance are positively related to diverse features of HR management systems such as recruitment and selection (Koch y McGrath,

1996); training programs (Bartel, 1994); performance evaluation (McDonald and Smith, 1995); compensation and benefits (Gerhart and Trevor, 1996; Gómez-Mejía, 1992); and innovative practices (Delaney and Huselid, 1996; Huselid, 1995). Similarly, some research has shown that firms characterized by the use of the above practices outperform those that display inflexible HR strategies within the same economic sector (Barton, 2004; Black and Lynch, 2001; 2004; Ichniowski *et al.*, 1997; among others), even in the case of small and medium-size units (Way, 2002). Becker and Gerhart (1996), Boxall and Purcell (2003), and Gerhart (2005; 2007a,b) have made comprehensive reviews of the seminal work on the relationship between HRM practices and firm performance as done by Arthur (1994), MacDuffie (1995), and Ichniowski *et al.* (1997) in manufacturing and by Batt (2002) in the service sector. Huselid (1995), in turn, conducted an early and influential study that introduced the concept of complementarities as applied to HRM practices (Milgrom and Roberts 1990). The existence of positive linkages between at least one specific dimension of firms' economic performance and certain HRM practices has also been found in small and medium size units (Way, 2002).

From a theoretical point of view, due to its strong emphasis on a subset of these practices that would operate as “best practices”, supposedly superior to more traditional ones (and with a theoretical rationale behind it), much of this literature has been equated with a “universalistic perspective”. The logic posed assumes that the relationship found can be generalized to any context, developing a set of ‘High Performance Human Resources Practices’ (HPP) with a progressive impact on organizational performance (e.g. Delaney and Huselid, 1996). Universalists such as Pfeffer (1995) and Osterman (1994) argue that greater use of “high performance” practices such as participation and empowerment, incentive pay, employment security, promotion from within the firm, and training and skill development result in higher productivity and profits across organizations.

The contingency and configurational approaches, instead, argue that firm performance is dependent on the effective combination of some HRM practices and how these practices are “bundled” together in organizations that have distinct characteristics. The literature has examined the impact of different bundles on different levels and dimensions of outcomes (Arthur, 1994; MacDuffie, 1995; Ichniowski *et al.*, 1997; Stavrou and Brewster, 2005), in which selected or specific HRM practices have a consistent configuration that reinforces their impact. These bundles are at times used to define diverse ‘work systems’ (Guthrie, 2001; Guest *et al.*, 2003). In some of this literature, though, there is still a “normative tone” on what should be the best HR practices (Delery and Doty, 1996; Doty *et al.* 1993; Martín-Alcázar *et al.*, 2005), as in the pre-existing management profiles approach that proposes “ideal types”. In this case, the focus had been set on the characterization of management profiles according to the presence/absence of specific practices within the mentioned categories and on the assumption that they have a differential impact on performance (Druker and White, 1995; Edwards,

1979; Gowler and Legge, 1986; Labadie, 2005; Monks, 1992; Rodríguez *et al.*, 2003). Delery and Doty (1996) compare practices within two configurational systems, namely the internal and the market systems. Huselid, Jackson, and Schuler (1997) cite activities such as compensation systems, team-based job designs, flexible workforces, quality improvement practices, employee empowerment, and planned development of the talent required to implement competitive strategy and achieve operational goals.

Ichniowski *et al.* (1997) explain that when HRM practices are combined in different forms, the effects on organizational performance are much greater than when practices are explored individually. In fact, MacDuffie (1995) argues that the appropriate unit of analysis for studying the strategic link between different HRM practices to performance does not involve individual activities as much as interrelated and internally consistent practices, called “bundles.” He explains that a “bundle” creates the multiple, reinforcing conditions that support employee motivation. Along the same lines of argumentation, Perry-Smith and Blum (2000) suggest that HR bundles capture broader and higher-level effects than those captured by focusing on individual policies and are particularly appropriate for investigating firm-level effects.

A strand of this literature has argued that the relevant configurations of practices vary across organizations depending on several dimensions, the focus being mostly set on divergences in management and distinct competitive advantages, that are in turn mirrored in different organizational strategies (a brief recent discussion on the topic can be found in Brewster, 2007). Schuler and Jackson (1987) distinguish among organizational strategies founded on either cost reduction, quality improvement or innovation activities. The authors argue that employees are required to play different roles depending on the type of strategy and thus the best HR practices would be those that are most suitable to serve the purpose.¹

HR managerial strategies displayed by firms seeking to improve organizational performance have been classified in two broad types depending on their intrinsic character being oriented towards the increase of human resources' skill-levels or else of the degree of involvement of workers in the organizational strategy and the performance of the firm. These two categories are discussed in the literature under different denominations, such as ‘control’ and ‘commitment-oriented’ practices (Walton, 1985); ‘efficiency’ and ‘strategy’ related HRM activities (Fombrun *et al.*, 1984); or ‘calculative’ and ‘collaborative’ HR practices (Gooderham *et al.*, 1999). The subsets of practices with the highest weight in a particular bundle built by Factor Analysis are generally of either one type or the other and thus the corresponding bundle is classified in accordance. However, it is at times the case that the bundle has a mixed and/or ambiguous character due to the fact that

¹ For example, non-professional recruitment and selection methods may be optimal for firms with competitive advantages stemming from an efficient management of costs, even at the expense of the quality of the goods and services supplied. In contrast, skilled workers that are highly committed to the firm would fit a strategy rooted on continuous improvement and innovation activities and may hence require the use of professionalized and strategically-oriented hiring practices.

efficiency and strategically oriented HRM activities are both key components of the resulting construct. Gooderham *et al.* (2008) propose to denote these configurations as ‘intermediary’ bundles.

Bundles that are usually found to be relevant are: selective recruitment, training and incentive pay, both of a calculative and collaborative nature (e.g., Black *et al.*, 2003; Galia, 2006; Gooderham *et al.*, 2008; Huselid, 1995; Ichinowski *et al.*, 1997; Katou, 2008; Stavrou and Brewster, 2005). Evaluation systems, both aimed at rewarding performance and or training monitoring, are also frequently found to be relevant (e.g., Galia, 2006; Gooderham *et al.*, 2008; Huselid, 1995; MacDuffie, 1995; Stavrou and Brewster, 2005); team-working (e.g., Galia, 2006; MacDuffie, 1995); as well as management-workforce cooperation, shared values, communication and other features that should improve commitment of workers to the organization (e.g., Huselid, 1995; Katou, 2008; MacDuffie, 1995).

International evidence supports the existence of positive linkages between most of these HRM bundles and organizational performance (Brewster and Mayrhofer, 2012). Research also suggests that improvements in performance are associated to the use of several of the single practices within these bundles, such as those related to skill and cognitive recruitment, training or incentive pay (e.g., Beer *et al.*, 1985; Black and Lynch, 2001; Delaney and Huselid, 1996; Fombrun *et al.*, 1984; Guest *et al.*, 2003; Guthrie, 2001; Jackson and Schuler, 2000; Walton, 1985).² High-commitment HR practices identified as drivers of performance include selection and training activities that emphasize values and human relations; behaviour-based promotion and rewarding; contingent pay systems; wages set above their market-level; among others (Lengnick-Hall *et al.*, 2009).

However, much of the existing empirical evidence on the actual adoption levels of HRM, as Godard (2004, pp. 6) convincingly argues, shows that many workplaces in effect combine a number of traditional personnel practices coupled with intermediate levels of adoption of HPPs and none of these studies can fully account as to why most employers would settle on the partial adoption of some of these high-level HPPs. It is recognizing that the significant gains they yield could be partially offset by their associated costs, that are rarely reflected in the performance measures used by researchers (Cappelli and Neumark 2001: 743) that some light can be shed. These costs, in turn, are strongly dependant on certain firm characteristics and its environment as argued in Godard (2004, pp. 20) and in particular in the role played by unions.

The degree of influence of unions at the firm has indeed been analyzed as an additional contingent dimension (e.g., by Brewster, 1995), that has at times been considered jointly with the organizational strategy (e.g., in Gooderham *et al.*, 2008). The topic is usually examined in the industrial relations literature in terms of either “the union substitution effect” or the

² An extensive review of this literature can be found in Boselie, Paauwe and Jansen (2001).

“mutual gains” hypotheses, with some consensus within the literature that High Performance HRM practices would operate as a substitute to unions (Kochan, 1980). Under that frame, powerful or militant unions with a poor relationship with management are likely to have a negative impact on the adoption of ‘High Performance HR Practices’ (HPP), at the extent that organizations characterized by large union militancy might exhibit a significantly lower likelihood of undertaking any HPP (Wells, 1993). However, the assumption has little empirical support except in the case of activities related to pay and communication methods that give direct voice to workers (Godard, 2009; Machin and Wood, 2005), or the use of ‘word of mouth’ as a recruitment source that has become a prominent practice in unionized frameworks, as is the case of India (Budhwar & Khatri, 2002). Some authors have argued that the implementation of some HR practices may in contrast generate a “mutual gain” with unions playing a more partnership-oriented role instead of their traditional adversarial positioning (see the review in Gill, 2009).

The contingent character of management has been also associated to other organizational characteristics, such as the firm’s economic activity (e.g., in Bloom and Van Reenen, 2007); sales market (e.g., in Osterman, 1994); societal form (e.g., in Rajan and Wulf, 2006); size (e.g., in Jackson and Schuler, 1995); and ownership (with respect to its family/non-family nature, as in Bertrand and Schoar, 2006, or its national/multinational character, as in Bloom *et al.*, 2009). Further, firm size, industry, the presence of unions, labor-management conflicts, and bureaucratic hiring and termination procedures all appear to have some relationship with external labor arrangements (Masters and Miles, 2002).

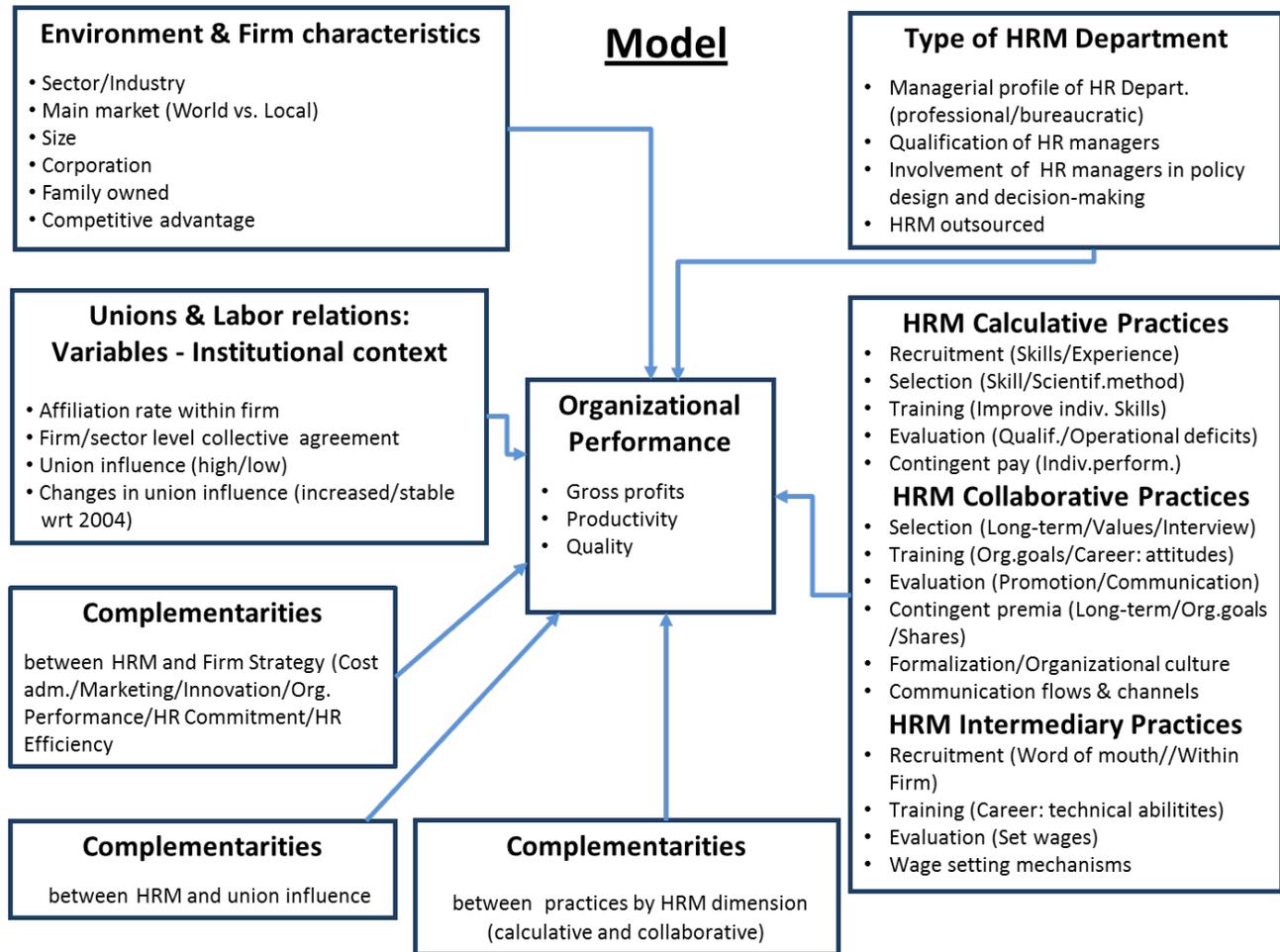
Small organizations and family businesses are more likely to operate in an informal and flexible manner than larger firms, replicating these patterns in HRM practices (Bacon *et al.*, 1996; Koch and McGrath, 1996). The national/multinational character of firms is also considered as a differential feature (Kostova and Roth, 2002; Gómez and Sánchez, 2005).

Given the above, the universalist view on the role of HR management and the optimality of specific practices in terms of firm performance seems to be strongly questioned as a suitable explanation of actual trends in the US, Canada, England and some European countries. However, no generalization whatsoever can be made for Latin American countries, for which the lack of knowledge and quantitative studies is critical, even at the basic descriptive level. Very limited valid empirical research has been published, with the exception of Elvira and Davila (2005) and Davila and Elvira (2009), who compile cases and narratives of HRM practices in the region, but no quantitative empirical test.

Given the scant knowledge on Latin America, a general multivariate model is herein introduced, that stylizes the relationships among these constructs, depicted in Figure 1. As a general specification, it allows to provide valid tests and answers to research questions such as:

- 1) What is the impact of unions on organizational performance when controlling for HRM practices ?
- 2) Are there complementarities among HRM practices?
- 3) Are there complementarities among different bundles of HRM practices?
- 4) Are there “complementarities” or “substitution” effects among HRM and Unions?
- 5) Do these effects differ depending on the type of HRM practice (calculative or collaborative)?
- 6) Do these effects differ depending on the levels of Union influence?
- 7) How do they change when union influence changes?
- 8) Do they differ by type of performance indicator?
- 9) Do they differ by levels of institutionalization of collective agreements?

Figure 1. GENERAL MODEL OF HRM PRACTICES AND ORGANIZATIONAL PERFORMANCE



As part of a research agenda, this model can be tested with evidence from Uruguay. The new labor relations setting and higher union influence at the societal level described in the next section, not only provides an interesting Latin American case but it also constitutes a unique “statistical experiment” to test some of the traditional hypotheses that link HRM and unions. These relationships have been traditionally tested –for more developed countries- in a particular context of unionization or at best comparing patterns between countries with different degrees of union influence. Instead, the case of Uruguay allows a test for the same set of firms in two distinct scenarios of unionization and collective bargaining

mechanisms -a period of declining union density with firm-level negotiations and a period of increasing union power with mandatory sector level collective bargaining.

Preliminary answers to the above research questions have been provided by using multivariate models have been already presented elsewhere, indicating the relevance of complementarities, the importance of distinguishing between calculative and cooperative bundles to model the relationship to union behavior and organizational strategy, but the estimation of the full model poses some methodological limitations imposed by the Uruguayan sample size, briefly referred in the next section.

2.2 The Uruguayan Case

2.2.1. HRM practices

Although the empirical research on HRM in Uruguay is still very scant, it has nonetheless brought forth the existence of several regularities. A first worthy finding refers to the apparent progressive professionalization of HRM practices among medium and large firms that took place along the last two decades, the drivers of such trend not being yet clearly identified (Font, 2010; Labadie, 2005). The heterogeneity of HRM practices reported in Font (2010) for 2007 is in sharp contrast to the ‘simple management profile’ that prevailed in the 1990s, even among the largest companies, characterized by employer-employees relations aimed at short-run goals; infrequently observed formal systems of performance-evaluation; and administrative/bureaucratic HR departments (Labadie, 2005; Rodríguez-Gustá *et al.*, 2003).

According to these studies, the most widespread practices, both currently and in the past, are related to recruitment and training, as opposed to the use of monetary premia based on individual/team performance or sophisticated performance evaluation systems. However, the patterns differ among firms depending on several features, such as family, national or corporate ownership; size; sales market; and economic sector; while it also depends on the firm having or not a HR department. A higher degree of formality and professionalism of HRM is found among large corporations, non-family-owned firms that have a formal HR division, operating in the service sector and/or oriented to the international market (Rodríguez-Gustá *et al.* 2003; Font, 2010).

The relationship between economic/organizational performance and HRM has been explored by Font (2010) and by the authors of this paper (*references available*) using two distinct methodologies. Measured as the self-ranking relative to its competitors in terms of profitability; labor productivity; and quality of the products/services, firm performance is examined in relation to individual HRM practices (recruitment; training; performance evaluation; and monetary payments). Font further considers several additional features that are grouped using factor analysis to build indicators of ‘best practices’ and

despite the general conclusion points at professional HRM being matched to an improved firm economic/organizational performance, the four configurations obtained cannot be unambiguously ordered in terms of ‘best practices’, except for firms in the cluster denoted as ‘low-profile’.

Previously, Labadie (2005) had hypothesized that the linkages between HRM practices and performance are influenced by the overall institutional framework of labor relations and particularly by the role played by HR departments in relation to trade unions. The additional insights provided in Font (2010) also point in that direction while they further suggest that the structure of bargaining and its continuity in time have also a major incidence.

2.2.2. HRM and Industrial relations in Uruguay

Major institutional changes have characterized the industrial relations system in Uruguay. Starting in 1985 Uruguay’s unique system of Wage Councils was re-instituted after almost 15 years along which collective bargaining was absent given that the 1973 military coup had banned unions. The traditional system operated mainly through a system of trilateral negotiations – unions, employers’ representatives and government - within wage councils by industry. Minimum wages by job category were set through collective agreements and endorsed by the government to all firms within the sector. The system implied that for most SMEs the level and timing of wage setting were located outside the boundaries of firm decision-making, by the negotiators of the larger companies that were represented in the employers’ associations (see further details in Cassoni *et al.*, 2004). Along these lines, the HR department was only strategically relevant for those large firms with powerful unions that frequently operated in concentrated sectors (Labadie, 2005). Unions, in turn, were almost exclusively interested in setting wage levels, in accordance with the intermediate degree of centralization of the system and the highly inflationary entourage. This was particularly the case of the manufacturing sector, which in 1985 employed almost half the labor force in the private sector, of which one third were union members (Cassoni *et al.*, 2004).

In 1991 there was a significant change. The government stopped participating in bargaining and hence collective agreements bound only those firms and unions that were actually represented in the negotiation. As a result, union density within the private sector dropped sharply and many agreements started to be bargained at the firm level (for details on these changes and their effects on the labor market regarding employment, mobility, wages, as well as on firm economic performance, investment and profitability, see Cassoni *et al.*, 1996; 2000; 2004; 2005).

In 2005, with the advent of a newly elected government, the traditional tripartite industry-level negotiation system was re-instituted, while compulsory bargaining was also extended to all services, commerce, rural workers and activities with a traditionally high informality degree. As a result, the number of firms that set wages internally decreased sharply. Union

membership increased about 40% between 1997 and 2007 further fueled by the prevailing context of sustained economic growth, employment formalization and wage increases after the 2002-economic crisis, one of the most significant in the history of Uruguay (Bianchi *et al.*, 2011).

The joint analysis of the hypotheses summarized in Figure 1 and the answers to the research questions posed in the previous section has been attempted in previous studies (*reference withdrawn to secure blind review*) given the advantages of these institutional changes in Uruguay. However, the estimation can only be robust if performed using a large-sized sample so that the degrees of freedom are still sufficient to validate the statistical inference. Further, the high collinearity that is introduced among regressors also generates increases in the variance of estimates that may prevent the identification of actual effects. The use of bundled practices poses additional methodological challenges linked to the introduction of endogeneity biases, forcing the use of full-information estimation methods that further reduce the degrees of freedom. Therefore, the full analysis of all the hypothesized effects has to be undertaken sequentially.

In this paper we thus focus on the identification of significant bundles of practices and on the quantification of their impact on firm performance, as measured by labor productivity. We also include individual practices seeking to contribute to the discussion on their merit relative to that of configurations as productivity drivers. In doing so, and following the proposed model, we control for diverse firm characteristics, the main strategy that is the source of the firm's competitive advantage; and the degree of union influence and its evolution with respect to 2004.

3. DATA, DEFINITION OF VARIABLES AND BUNDLES

The information used stems from the “Survey on Labor Relations and HRM Practices” (SLR), performed in 2007 to a sample of 274 medium and large enterprises, representative of the universe of 1172 firms with 50 and more workers that belong to Industry; Construction; Commerce; and Services.³ The sample was selected through a stratified (economic sector and size) sampling model. The data relate to a wide range of HRM practices, many of which are also referred to 1999-2001, and other operational characteristics of the firm, its main sales market and the current and past institutional setting of labor relations.

³ “Encuesta de Relaciones Laborales y Prácticas de Recursos Humanos a nivel de Empresa”, Universidad ORT Uruguay - Equipos Mori, 2007.

Data were collected using the CRANET questionnaire through personal interviews.⁴ The answers provided by the respondents allow for defining binary indicators that state if a HRM practice is used or not by the firm or else categorical variables that differentiate between the intensity with which a practice is used within a 5-value likert scale (where 1 corresponds to the absence of the HRM activity and 5 to its permanent use). Given the subjective nature of the survey, it was decided not to differentiate between degrees of intensity that correspond to the two top/bottom strata (that may introduce distortions into the analysis as shown by Fowler, 2009 and by Kanouze and Elliot, 2010). Hence, the original variables become categorical with 3 possible values instead of 5.

The resulting indicators reflect the degree of usage of 130 individual HRM practices. In many cases, however, the same HRM activity gives rise to four different individual practices, one for each type of employee – managers; technicians and professionals; administrative staff; and blue-collar workers. Practices are classified in 7 subsets that match particular dimensions of management – hiring (recruitment sources, selection profile sought, selection methods); training (with different goals); performance evaluation (aimed at distinct objectives); pay (wage setting mechanisms, regular benefits linked to diverse aspects and contingent extraordinary premia); communication flows and channels (collective and/or individual, involving employees in different occupations and referred to distinct topics); formalization/organizational culture (the existence of unwritten/written statements on eight organizational aspects); and organizational characteristics of HRM (the existence and type of HR department; the qualification and roles of HR managers; and the degree of outsourcing of practices). Practices are further re-defined by jointly considering those with a shared character (e.g., recruitment through advertisements in newspapers or web pages, public pools or among unsolicited workers give rise to a unique HRM activity) and also by ignoring differences by type of worker. The definite set involves 71 HRM practices (Table 1).

Factor Analysis is performed over different sets of practices controlling for sample design effects to avoid the introduction of biases (Fazio *et al.*, 2008). Significant factors (that are therefore kept) are those with an associated eigenvalue that is not below 1. These factors are afterwards transformed into orthogonal constructs using the Varimax method.⁵ The use of the re-defined set of HRM activities together with those single practices for which the previously estimated loadings differ

⁴ The CRANET questionnaire has been developed by an international team of scholars doing research on human resource management over the past 15 years (see Brewster, Mayrhofer and Morley, 2004 for details on the questionnaire and its methodology). The questionnaire is structured with eighty composite closed-ended questions, each of which presents a number of options/items, attempting to cover all facets of HR management. The unit of analysis of the questionnaire is the organization and the respondent is the highest-ranking corporate officer in charge of human resource management. Besides the regular CRANET questionnaire validated in Spanish, an additional module added questions on HRM and union practices in 1999-2001.

⁵ These analyses are reported in working papers whose citation is withdrawn to secure the blind review process. They are available upon request and available on the web. The analysis is first performed over all original practices (130) and 29 significant factors are identified that account for 84% of the total variance. Most of them (26) are just a grouping of the same practice referred to each of the four occupational types considered. We therefore perform a robustness check by factor analyzing practices within each of the 7 above-listed HRM dimensions and obtain fully consistent constructs. In both cases, the total number of identified bundles is too large if they are to be included in a multivariate model for firm performance.

substantially, leads to the identification of 15 significant constructs that account for 84% of the total variance and that are generally consistent with those obtained using the original set of practices, although with an enlarged prevalence of bundles that involve HRM activities of both an efficiency and strategic nature (the estimation outcome is reported in the Appendix).

Table 1. HRM practices in Uruguay

Dimension	HRM practices	
Hiring	Recruitment sources	Specialized agents (educational institutes and specialized agencies, any occupation); qualified word of mouth information (any occupation; blue-collars; managers); internal to the firm (any occupation; blue-collars; managers); others (adverts, public pools, unsolicited applications, any occupation)
	Selection profile	Identification w/firm values; team-work; current skills; proven experience; future performance; long-lasting work relation
	Selection method	Scientific methods (specialized panel; scientific tests); personal interview; personal references
Training	Goal sought	Improve technical skills; improve team-work abilities; access to monetary premia; enhance the identification with firm values and the comprehension of the business; develop a career within the firm through the acquisition of technical/attitude-related abilities
Evaluation	Goal sought	Improve efficiency; task accomplishment; career development; communication; wages setting
Pay and Monetary Incentives	Wage setting mechanisms	Firm-level; collective bargaining (any occupation; blue-collars & white collar); sector & firm-level collective agreements.
	Benefits	Future-oriented; large share of pay; linked to seniority; linked to performance; linked to organizational goals
	Premia	Firm shares (managers; other occupations); contingent monetary bonuses
Communication w/workers	Channels	Consultative board; employees' representative body; to teams; to individuals; unwritten/written
	Subjects	Organizational strategy; financial results; work organization (managers, other workers)
Formalization/ Organizational Culture	Statements	Corporate mission; strategy; HR strategy; values; ethics; social responsibility; diversity; communication
	Formalization	Written (all; at least one; at least on corporate mission, strategy & values); unwritten (at least one)
Organizational Characteristics of HRM	HRM carried out	Through a formal HR department; fully and/or partially outsourced
	HR dept.profile	Professional (updated); bureaucratic (administrative)
	Profile of HR manager	Qualification-level; involvement in policy design; participation in decision-making (member of Board of Directors)

Source: Survey on Labor Relations and HRM Practices.

Factor analysis performed over the new set of HRM activities leads to the identification of 15 significant constructs that account for 84% of the total variance and that are generally consistent with those obtained using the original set of practices, although with an enlarged prevalence of bundles that involve HRM activities of both an efficiency and strategic nature

Purely calculative bundles (2) refer to qualified word of mouth and internal to the firm recruitment sources involving any type of worker, blue-collars and managers. Collaborative factors (6) refer in turn to formalization/organizational culture (2); communication flows (2); and contingent pay (2). The largest complementarities found among organizational culture

aspects relate to its degree of formalization and to the existence of statements on corporate mission, strategy and values. Practices related to communication flows on organizational strategy, work organization and financial results complement each other to a different extent depending on whether they involve managers or workers in other occupations. Regular benefits as an important share of wages regardless of them being linked to seniority or to performance (both current and in the long-term) are bundled together while contingent annual premia materialized in both monetary bonuses and firm shares (differentiating managers from workers in other occupations) give rise to another construct.

Two additional bundles are identified and refer to pay practices, but their theoretical categorization as strategic or efficiency-oriented is unclear (they may even be thought of as intermediary). One configuration suggests that collective bargaining effects are reinforced when undertaken at the sector level and when negotiations involve blue-collars and administrative employees while the other construct reflects the gains that stem from collective negotiations at the level of the firm besides centralized bargaining. Under the assumption that wages set at the firm are used as a means to promote increases in productivity (as claimed by the Efficiency Wages theory), even if done through collective negotiations, the bundles may be classified as efficiency oriented (and would be expected to have a negative impact on productivity). Nevertheless, the configurations may also be assigned a strategic character whenever wages set at the firm (and hence above the negotiated level) are used as a means to promote workers' commitment to the company.

The remaining five significant constructs are intermediary in nature. The reinforcement of evaluation and training aimed at improving efficiency and commitment levels and the preference for applicants with a diversified profile suggests that both HR policies and practices complement each other all. A larger weight assigned to a high degree of alignment of new workers with the organizational strategy/goals and the likelihood of establishing a long-lasting relation point, however, at an enhanced relevance of strategic over efficiency oriented profiles in recruitment.

The last two factors involve practices linked to more than one HRM dimension. A first bundle gathers organizational characteristics of HRM (such as the existence of a HR department and the participation of HR managers in policy design), together with scientific selection methods and the use of written communication channels, particularly on work organization with non-managers. The bundle is thus suggested to be mostly aimed at improving efficiency levels. The second bundle includes the existence of communication flows (written and/or unwritten), the use of non-professional recruitment sources (adverts, public pools and unsolicited applications) and selection methods (based on personal references). Its character is thus linked to the use of less professionalized hiring practices combined with a strategically-oriented communication policy.

The estimated configurations are generally consistent with those reported in the international literature (see, e.g., Gooderham *at al.*, 2008). However, in the case of Uruguay efficiency-oriented HRM activities would complement each other to a negligible extent compared to the reinforcing impact that stems from their interaction with commitment-related activities and also to the gains associated to the combined use of collaborative practices.

4. THE IMPACT OF HRM PRACTICES ON ORGANIZATIONAL PERFORMANCE

For the purposes of this paper economic performance of firms was measured by means of their relative ranking in terms of their level of labor productivity with respect to the sector's average (Model 1 shows alternative measures). The indicator is defined as equal to (-1) whenever the firm's productivity is below the average; it is equal to 0 if similar to the sector's average level; and it is equal to 1 whenever the firm outperforms its competitors. Firms that are self-ranked below the sector's average are only 6% of the sample, implying that most small enterprises, excluded from the sample, have a significantly lower productivity level than medium and large firms. HRM activities are proxied by the 15 bundles estimated in the previous section and also by 11 individual practices that are not included in any bundle with a sufficiently significant associated loading.⁶

The model includes a set of binary variables that account for differences across firms in terms of economic sector (industry and construction, commerce and services); size (medium and large), national and family ownership (full-national or not; family-owned or not); corporate character; and main sales market (local or international). Firms in commerce are a comparatively smaller share of the sample, in line with the sector's size-composition (biased towards micro and small units) while the prevalence of national versus foreign companies is a most expected regularity. In contrast, the distribution of firms according to all other characteristics is quite balanced⁷.

The degree of union influence at the firm (low or high) and its evolution with respect to 2004 are two further controls included in the model. Even though powerful unions are present in only 12% of firms, one third of respondents perceive that their influence has indeed increased. Lastly, we also acknowledge for differences that stem from firms' strategy as a source of competitive advantage, distinguishing between six different strategies: marketing (advertising and services provided to clients); innovation (new products and/or brands; novel merchandising and marketing practices); costs and prices management; HR efficiency levels (qualified managers and skilled workforce); HR commitment to the company (shared knowledge of organizational mission, values, etc. and high involvement with organizational goals); and overall organizational performance (as reflected on factors such as strategic cooperation; systematic improvement; operational

⁶ An in-depth description of these variables can be found in a working paper available upon request and not cited to secure the blind review process.

⁷ The composition of the sample by diverse characteristics is available upon request.

efficiency; and explicit individual, team and overall goals). The composition of the sample according to this aspect shows that around 60% of firms have competitive advantages that originate in a high HR efficiency or commitment to the organization, while at the other end only 10% of companies root their success on innovation activities.

Given the definition of the dependent variable, an ordered logit regression model is specified and estimated by Full-Information Maximum Likelihood controlling for sample design effects.⁸ No differences in productivity are found across firms according to the national or family ownership and corporate character of the organization. Even though no gains or losses are found associated to one specific major source of competitive advantage, the most productive organizations are those that exhibit advantages, at least to a certain extent, on all dimensions. The suitability of a diversified organizational strategy is consistent with the volatile macroeconomic conditions, market imperfections and high uncertainty degrees that has historically characterized the Uruguayan economy (Table 3).

Large-sized, local market oriented companies and those that operate in commerce are also found to outperform medium, exporting companies in the industry and services sectors. The size composition of the economic sectors, the existence of economies of scale and the emphasis on other dimensions of performance needed to compete in foreign markets are most likely explanations at the root of these findings. Lastly, productivity levels would be higher among firms that are not subject to a high union influence than otherwise while no differences are found related to the temporal evolution of such influence. The result may be thought as consistent with an adversarial role of unions.

Table 3. Productivity model – Estimated coefficients for control variables

Variables	Coef.
Sector: Manufacturing & Construction industries	-1.9***
Sector: Services	-2.4***
Medium-sized (between 50 and 99 workers)	-1.0***
Family-ownership	-0.2
National-ownership	0.3
Corporate nature	0.4
Local-market oriented	1.0***
High union influence at firm	-1.1**
Increased union influence at firm	-0.4
Competitive advantage - all	1.0***

Note: * / ** / *** refer to $p < 0.15$; $p < 0.10$; $p < 0.05$, respectively. The full output is available upon request.

The model is able to identify several linkages between productivity and diverse dimensions of HR management that involve both calculative and collaborative practices, either individually or in bundles (Table 4). No calculative bundle is found to differentiate firms in terms of their productivity level while gains associated to efficiency oriented individual practices are only linked to the use of specialized agents that recruit workers for at least one occupational category (so as to guarantee

⁸ The authors discuss the topic at length and show that the biases driven by the disregard of sample design are most significant in a Working Paper available upon request.

that applicants have the necessary skills). The absence of significant effects associated to most hiring practices is consistent with the professionalized characterization of firms in the sample with respect to this particular HRM dimension. Further, the positive impact associated to the preference of a diversified profile of applicants, where the largest weights are assigned to the identification with the organization's ideology and to the likely establishment of a long-lasting work relation, reveals that firms that put the emphasis on the strategic profile of new workers would outperform their competitors.

Table 4. Productivity model – Estimated coefficients for HRM practices

Variables	Coef.
Individual practices	
Recruitment: specialised agents (educational institutes & specialized agencies)	1.2***
Training: aimed at developing a career through the acquisition of technical skills	0.9*
Training: aimed at developing a career through the acquisition of attitude-related abilities	-1.0*
Wage setting at the firm for at least one occupational category	0.5*
Communication flows: to teams	-1.4***
Collaborative Bundles	
Formalization/organizational culture – bundle 1 ^{1/}	0.3*
Formalization/organizational culture – bundle 2 ^{2/}	0.5*
Intermediary Bundles	
Selection profile: commitment & efficiency oriented characteristics	0.5**
Evaluation: commiment & efficiency oriented goals	0.6***
Benefits: future oriented and linked to seniority, current & future performance	0.4**
Population/Sample/Strata	889/206/9
Significance of model: Prob. > F	0.0016

Notes: */**/** refer to $p < 0.15$; $p < 0.10$; $p < 0.05$, respectively. Only significant coefficients are reported. The full estimation output is available upon request. ^{1/}The bundle includes the existence of at least one written statement (negative loading if unwritten); written statements on corporate mission, strategy and values; and written or unwritten statements on these three aspects and also on HR strategy and ethics. ^{2/} Statements: all written; written or unwritten on responsibility, communication policies and diversity.

Training aimed at developing a career within the firm is predicted to exert opposing impacts on productivity depending on its being based on the acquisition of technical (positive effect) or attitude related (negative effect) abilities. The result suggests that the combined use of efficiency and strategically oriented HRM practices has a magnified impact on productivity, a pattern that is also observed with respect to the use of evaluation systems and pay practices (wage setting at the firm and contingent benefits).

Further productivity gains are associated to the two bundles that include statements on all the considered organizational culture aspects and their degree of formalization (written or not), as opposed to the negative impacts driven by the use of communication policies that involve working-teams.

5. CONCLUDING REMARKS

The evidence presented supports the existence of complementarities among HRM activities that involve not only the use of a particular practice with various purposes and/or for workers in diverse occupations, but also different dimensions of management. Bundled HRM activities are able to magnify the impact of single HRM practices on the economic performance of Uruguayan firms as measured through their comparative level of productivity. However, the significant effects that stem from single HRM practices would in principle be inconsistent with a strict interpretation of the theoretical predictions of the configurational approach and definitively suggest that the universalistic approach of best practices is not applicable.

Even though the prevailing profile of management in Uruguay is more efficiency than strategy oriented according to the existent empirical literature, our results show that their impact on performance is generally materialized only when combined with practices that are commitment-related. Strategic HR activities, in contrast, are found to be of relevance by themselves, both in bundles or individually.

Future work should include interactions and complementarities with organizational strategy, their respective interactions with union behavior and their impact on productivity, as well replicating the analyses for other organizational performance measures –quality and gross profits- as indicated in Figure 1. Preliminary analyses indicate different effects.

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Appendix: Factor Analysis results

Factors	Eig.	% V.	Load.		Eig.	% V.	Load.
Calculative Bundles							
		7.3%					
Recruitment: Internal to the firm	1.4	3.1%		Recruitment: Word of mouth	1.8	4.2%	
At least one occupation			0.76	At least one occupation			0.86
Managers			0.61	Managers			0.41
Blue-collar workers			0.41	Blue-collar workers			0.78
Collaborative Bundles							
		26.1%					
Contingent benefits	2.0	4.6%		Contingent annual premia	1.2	2.7%	
Important share of wage			0.46	Shares – Managers			0.61
Future-oriented			0.43	Shares - Other workers			0.38
Linked to performance			0.77	Bonuses (annual)			0.35
Linked to organizational goals			0.82				
Communication flows: Managers	1.3	2.9%		Commun. flows: Other workers	1.0	2.4%	
On financial results			0.48	On financial results			0.56
On work organization			0.73	On work organization			0.41
On org. strategy			0.55	On org. strategy			0.51
Organizational culture Bundle 1	3.8	8.7%		Organizational culture Bundle 2	2.1	4.8%	
All statements unwritten			-0.88	Communication policies			0.48
At least one written statement			0.91	Responsibility			0.46
Written mission/strategy/values			0.54	Diversity			0.43
Corporate mission			0.79	All statements written			0.43
Corporate strategy			0.70				
Corporate values			0.62				
HR strategy			0.42				
Ethics			0.42				
Intermediary Bundles							
		50.3%					
Selection profile	2.3	5.2%		Evaluation	9.4	21.6	
Actual skills			0.46	Goal: accomp. of tasks			0.93
Identification with org.values			0.61	Goal: efficiency			0.93
Future-oriented			0.52	Goal: promotion			0.89
Proven experience			0.44	Goal: communic.w/workers			0.91
Expected performance			0.67	Goal: set wages			0.77
Training	3.3	7.5%		Collective Bargaining	2.8	6.4%	
Goal: increase skills			0.89	At least one occupation			0.94
Goal: access to premia			0.64	Blue-collar/admin.staff			0.76
Goal: improve team-work			0.87	Sector-level			0.67
Goal: increase commitment			0.84	Collective Agreements	1.5	3.5%	
				Sector-level			-0.71
				Firm-level			0.92
Commun. flows & Hiring	1.1	2.5%		HRM Charac./Commun./Hiring	1.6	3.6%	
Commun. flows exist			0.43	HR dept. exists			0.52
Commun. flows-Written			0.42	Manager: policy			0.67
Recruit.: advert/pool/unsolic.			0.44	Comm.: Written			0.38
Sel.method: pers. references			0.42	Sel.meth.:Scient.test/panel int.			0.44

Source: Survey on Labour Relations and HRM Practices.