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Trading-off flexibility: Contingent workers or human resource practices? A configurational approach

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Abstract

Atypical work has been proven to worsen employment conditions, reduce labour productivity and hinder firms from competing in higher quality market segments, yet companies still hire atypical workers to provide flexibility in response to unstable market conditions. Previous research has examined the relationship between specific job features and the incidence of atypical work. Using a fuzzy-set qualitative comparative analysis technique, we analysed interviews of service firms' managers to identify configurations that limit the use of atypical workers. We found evidence that firms limit the use of atypical contracts not only in cases of firm-specific and complex tasks but also in cases of simple and nonspecific tasks when supported by human resource management practices that aim to increase internal flexibility. Firms can take advantage of a stable workforce by strategically using human resource management flexibility practices as an alternative to labour market flexibility.

KEYWORDS

atypical work, fuzzy set qualitative comparative analysis, HRM, human capital theory, job design, workforce flexibility, working time

Abbreviations: HRM, human resource management; fsQCA, FuzzySet qualitative comparative analysis; ICC, intraclass correlation coefficient.

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Practitioner notes**Current knowledge**

- The core-periphery model has argued that firms should hire contingent workers for simple, non-firm-specific jobs.
- The structural perspectives on task design and the human resource management (HRM) literature have highlighted individual factors that reduce the number of atypical workers.

Manuscript contribution

- We draw on a qualitative comparative analysis to identify the configurations of factors that reduce the use of atypical workers.
- We identify three configurations that reduce firms' reliance on atypical workers.
- Proper HRM practices lead managers to hire workers permanently for simple, non-firm-specific jobs.

Implications of the study's findings for practitioners

- We stress the importance of considering job characteristics and HRM practices that favour permanent work.
- Even at the lower ranks of the workforce, HRM practices modify the trade-off between external workforce flexibility and the preservation of human capital.

1 | INTRODUCTION

Atypical workers usually earn low wages, incur lower hiring and firing costs for companies and have poorer career prospects than permanent workers (Barbieri & Cutuli, 2016; Kalleberg, 2003). While helping firms respond to market volatility, nonstandard workers impair productivity, quality standards and innovation capabilities and do not help firms compete in the higher quality market segments (De Stefano et al., 2019; Guillaume et al., 2019). Nevertheless, most firms adjust to volatile demand and variable market conditions by hiring nonstandard workers (Storey et al., 2002). This is believed to be particularly true for low-skilled jobs and tasks that do not require firm-specific knowledge (Håkansson & Isidorsson, 2012). The link between atypical contracts and a low added value of jobs is consistent with the principles of core-periphery theory (Atkinson, 1984), which distinguishes between simple, non-firm-specific tasks that are easily done by nonstandard and temporary workers and highly specific, complex tasks that only permanent workers can accomplish.

Consistently hiring a number of temporary workers is not, however, the only way to adjust to market demands and competition pressure (Allen et al., 2017). Several studies have examined the relationship between specific dimensions of work organisation, human resource management (HRM) and the use of temporary workers. By employing temporal flexibility (Doellgast & Berg, 2018; Wood, 2016), job rotation and training (Cappelli & Neumark, 2004), job design (Cappelli & Keller, 2013) and investment in firm-specific skills (Shire et al., 2009), firms can address flexibility needs without relying on temporary workers, with a positive impact on quality and productivity.

While previous studies have offered useful insights into atypical work, they have left two research gaps. The first regards whether firms confronted with volatile markets should limit permanent work to complex and specific tasks and maintain flexibility by resorting to atypical workers for simple tasks as argued by core-periphery theory (Martin & Scarpetta, 2012).

The second research gap regards the use of HRM practices to moderate the use of atypical workers. Usually, individual HRM practices have been considered. By contrast, we suggest that employers' reliance on atypical workers does not result from a single management practice but rather depends on a bundle of practices and conditions. This view is founded on organisational theory, which describes how several factors affect organisational practices (Ouyang et al., 2016). Several studies have highlighted the role of organisational complementarities in shaping the advantages of management practices and technological choices (Brynjolfsson & Milgrom, 2013; Milgrom & Roberts, 1990; Misangyi et al., 2017). Business performance is not a matter of a single or a few management tools but involves several concurrent management practices.

Proceeding from these theoretical principles, we rely on a fuzzy-set qualitative comparative analysis (fsQCA) to analyse companies' use of atypical workers. Our first research goal, therefore, was to find typical configurations that lead to an extensive use of permanent work. FsQCA, with its underlying configurational perspective (Ragin, 2008), provides a sound methodological basis for identifying configurations of factors that reduce the use of atypical workers. Moreover, fsQCA is consistent with the principle of equifinality. Using this approach, we can assess various combinations of causal conditions capable of generating the same outcome (Misangyi et al., 2017).

Our focus is on the service sector, in which the use of temporary workers is widespread. Examples of service firms include restaurants, hotels and retail enterprises (Knox & Walsh, 2005; Townsend et al., 2013; Whitehouse et al., 1997). By definition, part of the service must be rendered in the presence of clients (front office), and must adapt to irregular flows of clients (Künn-Nelen et al., 2013). This component of service cannot be buffered by inventories. Firms must also respond to demand that is characterised by both regular variations (at particular times of the day or particular days or seasons) and irregular variations (e.g., clients' arrival for a special event) (Burgess et al., 2013). In this context, businesses want to maintain a high reversibility of resources and avoid freezing operational capacity; consequently, they are under strong pressure to employ contingent workers.

Our results show that three configurations lead employers to hire permanent workers under unstable market conditions. Within such configurations, the HRM dimension plays a pivotal role in boosting the hiring of permanent workers, but it requires the concomitant and interconnected presence and/or absence of various characteristics of tasks. The firm specificity of tasks turns out to be relevant, but it needs to be integrated with HRM practices to encourage the hiring of permanent workers. With regard to core-periphery theory, we show that, even in the case of simple and nonspecific work activities, appropriate HRM practices lead managers to hire workers permanently.

The article proceeds as follows. The next section describes the predictors of the hiring of nonstandard workers, and the third section presents the data, methods and procedures of analysis. The fourth section illustrates the results, while the fifth discusses our contributions to theory and highlights the managerial implications. Section sixth concludes.

2 | THEORETICAL BACKGROUND

Demand volatility, which makes accurate predictions difficult, encourages firms to make extensive use of short-term employment arrangements (Burgess et al., 2013). In general, firms face specific market challenges shaped by the combined action of two market characteristics: variability and unpredictability (Ghosh et al., 2009). *Variability* describes uneven demand that can, however, be anticipated on the grounds of experience and stochastic calculations. Conversely, *unpredictability* means that consumer choices within specific markets cannot be foreseen, producing further uncertainty (Drago, 1998). Several managers and companies have characterised their reliance on contingent workers as being necessary to survive in fluctuating markets (Kalleberg & Marsden, 2005). Essentially, they argue that they cannot hire people permanently unless demand is stable.

Various theoretical strands have highlighted several factors that limit the use of nonstandard workers when addressing flexibility needs resulting from market pressures. On one side, structural perspectives have paid

attention to the nature of tasks, with core-periphery theory considering the complexity of tasks. A second determinant of the preference for permanent employment is firm task specificity and the associated costs sunk in training. On the other side, several studies highlight how HRM practices can moderate reliance on the labour market to attain flexibility. HRM practices aim to cope with market volatility through the internal adaptation of labour resources. Building on these strands of literature, which are presented in detail in the following sub-sections, we propose to extend the strategic view of flexibility by means of HRM practices, hypothesising that bundles of complementary practices can better describe configurations resulting in a high incidence of permanent workers.

2.1 | The structural view and the nature of tasks

From a structural perspective, the use of nonstandard workers is positively correlated with the nature of the tasks designed by employers. An initial study highlights the role of work simplicity and well-defined elementary tasks (Cappelli & Keller, 2013). According to the core-periphery hypothesis, simpler and easily learnt jobs that are not firm specific are carried out by short-term workers, whereas more complex, company-specific activities are assigned to permanent and better-trained employees (Atkinson, 1984). Thus, to satisfy demand peaks, firms can assign simple jobs to unskilled, temporary workers, while cognitive and relational tasks that require problem-solving and creativity demand well-trained workers (Autor, 2015; Autor & Dorn, 2013).

The task content of jobs is affected by the type of occupation. For example, supermarket cashier tasks and hotel cleaning jobs can be easily learnt by newly hired workers, as these tasks are not complex. Conversely, maintenance workers or sales office employees need cognitive and/or relational skills that make them not easily replaced by temporary workers. Based on these studies, it is hypothesised that temporary workers performing simple jobs can easily be hired and fired to accommodate market fluctuations. By contrast, the most complex jobs require highly skilled workers who must be hired and retained through permanent contracts, limiting employers' opportunities to rely on contingent work arrangements.

A partially different view derives from human capital theory and highlights the role of the firm specificity of tasks. When human capital is highly firm specific, the tasks require tacit skills and knowledge that workers must acquire in the workplace over time through training and experience (Becker, 1964). Thus, the greater the specificity of tasks in a firm, the greater the sunk investment in human resources and the greater the irreversibility of hiring choices. After spending time and resources in training workers, entrepreneurs are willing to retain the workers to recoup their investments (Cappelli, 1999). Firm specificity adds one more dimension to the complexity of tasks considered by the core-periphery model. This is particularly true in the context of customer services, in which firms can make a strategic choice about the type of service they wish to provide (Shire et al., 2009). A hotel can adopt cost-cutting policies by using nonstandard contracts for check-in and check-out operations, but this is hardly a solution if the competitive strategy is to offer tailored relational services that demand knowledge of client preferences. Companies can strategically decide whether they aim to serve a general customer or to cultivate a particular organisational culture by offering tailored services to well-defined categories of customers (Batt et al., 2009). Companies that pursue firm-specific approaches to customers are inclined to develop long-term relationships with their employees and hire them permanently (Shire et al., 2009).

We suggest that the firm specificity of tasks (Shire et al., 2009) can affect the use of atypical contracts in interaction with the tasks' simplicity/complexity (Autor, 2015) and vice versa. At one end are simple tasks that are not firm specific and can be performed by unskilled workers, favouring atypical work. In the middle are tasks that require cognitive and relational skills that are not firm specific as well as easy tasks that require firm-specific skills. In this case, companies will be more inclined to hire workers permanently. At the other end are complex tasks that require firm-specific skills. Simultaneously, market variability and unpredictability can drive companies to rely on contingent employment contracts for simple and not organisation-specific tasks.

2.2 | Towards a strategic view: HRM practices as moderator

The literature on the service sector highlights how several HRM practices enable firms to respond to market pressures without relying on contingent employment contracts (Boxall & Macky, 2009). HRM flexibility practices help workers adapt in terms of tasks and working time, thus reducing firms' need to employ temporary workers to meet variable market demand (Knox & Walsh, 2005). Through job rotation, managers encourage workers to learn to perform diverse tasks, thus allowing them to adapt their workforce to volatile demand or to the need to replace absent workers, reducing reliance on temporary contracts (Cappelli & Neumark, 2004; MacDuffie, 1995). Implementing job rotation systems requires proper training to equip workers with the necessary knowledge (Bonavia & Marin-Garcia, 2011). These findings are relevant for temporary workers' employment, as companies that invest in worker training have a strong incentive to hire them permanently (Davis-Blake & Uzzi, 1993). HRM practices related to flexible working schedules, such as overtime and part-time work, are increasingly adopted by companies and can also limit a firm's reliance on nonstandard contracts (Lambert, 2008). Regarding part-time contracts specifically, overlapping shifts of part-time workers can be employed in businesses such as retail shops and supermarkets to meet market demand that cannot be satisfied with buffers (Künn-Nelen et al., 2013). Therefore, firms can respond to variability in markets by increasing the temporal flexibility of regular workers.

2.3 | Interconnecting diverse theoretical strands

Previous research has focused primarily on how individual or only a few market, structural and HRM factors and underlying theoretical principles are related to the use of atypical workers (Cappelli, 1999; Cappelli and Neumark, 2004; Batt et al., 2009; Martin & Scarpetta, 2012; Shire et al., 2009). These theoretical reflections and empirical outcomes have offered useful insights into how and why employers resort to atypical contracts. However, as an alternative to market exchange, we argue for the importance of advancing our understanding of the strategic nature of policies aimed at increasing flexibility through HRM practices. To this end, we follow the organisational complementarities theory (Brynjolfsson & Milgrom, 2013; Misangyi et al., 2017) and the coherent principles of set-theoretical, configurational thinking (De Vos & Cambré, 2017; Farivar & Richardson, 2020). Because organisations can be best understood as interconnected practices, we suggest that the market, the nature of tasks and HRM practices be analysed in their mutual relations within a set-theoretical approach to clarify their overall influence on the use of nonstandard workers. For instance, job rotation strengthens firms' flexibility in simpler jobs (MacDuffie, 1995; Pulignano & Signoretti, 2016). Nevertheless, workers performing complex jobs gain learning opportunities by concentrating on the same activities, so, in such circumstances, job rotation would limit rather than increase employee knowledge and skills (Hsieh & Chao, 2004), hence possibly hindering and not encouraging employers' reliance on permanent positions. Additionally, HRM practices and job complexity should be viewed in their mutual relations with market characteristics and the firm specificity of tasks (Shire et al., 2009). Therefore, we argue that it is necessary to combine these various theoretical strands, which embrace market-based approaches, organisational job design, human capital theory and HRM flexibility, to better understand firms' reliance on atypical contracts.

To gain an overall view of the strategic interplay of the market, the structure of tasks and bundles of HRM practices, we adopted a configurational approach. Through this methodological choice, which is described in Section 3, we pursue a twofold goal. First, we investigate whether and what combinations of factors encourage employers to hire workers permanently acknowledging the importance of considering several elements at once to understand the organisational phenomena related to the use of atypical workers. Second, by drawing on the configurational results, we enquire whether firms, even in the case of simple and non-firm-specific jobs, are not inevitably bound to hire nonstandard workers to adjust to volatile markets.

3 | METHODS

3.1 | Data and procedure

The data were collected in 2018–2019 and consisted of 39 interviews from 17 different service sector firms located in north-eastern Italy. We identified 34 occupations, such as waiter, security guard, and shop assistant, for which proper information was collected on all our variables of interest. All the jobs considered are operative, meaning that we did not consider coordination or management jobs. North-eastern Italy was selected because of its economic vitality, which possibly captures sophisticated HRM and organisational courses of action. We involved firms of different size. We relied on an intermediate N-sample (i.e., between 10 and 40 cases) to deal with our five predictors derived from our theoretical background: job rotation, firm-specificity of tasks, simplicity/complexity of the job, working time flexibility and market volatility (Kosmol et al., 2018). Jobs vary in terms of complexity as, for example, a maintenance worker fixing complex machinery performs more specialised work activities than an employee who hangs blankets up to dry. We tried to consult firms that presented differences among the factors of interest to address possible issues linked to limited diversity (Su et al., 2019).

Before interviewing the managers, background information about the company was collected. We interviewed owner-managers, members of the executive boards, and heads of HRM and/or commercial operations departments. Managers were chosen based on their knowledge of the themes under scrutiny. We interviewed more than one manager within larger enterprises to triangulate information and reinforce the robustness of the available data (Yin, 2014). In small companies, it was sufficient to consult with the owner-managers. Table 1 presents the type of people interviewed, and basic information about the firms. Enterprises are only numbered to ensure the anonymity of the participants. We conducted all interviews face-to-face and, in some cases, asked for further information by phone and/or e-mail (Geary et al., 2017).¹ Interviews were recorded and transcribed.

We relied on semi-structured interviews (see Appendix 1) because they ensured a certain degree of consistency while also ensuring that the interviewees expressed the mechanisms underlying their choices and the interconnections among the variables of interest. To facilitate an open expression of the manager's ideas and facts, we guaranteed anonymity to all interviewees (Bader et al., 2019). Interviews were centred on the content of the independent and dependent variables, which constituted the data of this study and were also explored through indirect questions. In particular, they focused on the firm's HRM practices, on the structure of tasks inside the firm and the characteristics of different jobs, whether atypical work is used to face market pressures and professional development opportunities for atypical workers.

3.2 | Configurational perspective

We consider all predictors simultaneously in relation to the employment of non-standard workers by following the set-theoretic approach of fsQCA (Ragin, 2008). Configurational comparative methods represent a valid approach in studies with small samples (Fiss, 2007). In particular, fsQCA enables identifying common causal conditions that generate a certain result when complex inter-relations among variables are present. FsQCA is based on fuzzy logic, which, unlike binary logic, allows variables to be any real number between 0 and 1. By assigning these membership values to variables for each case, fsQCA then identifies specific combinations of variables that lead to the outcome using Boolean algebra: cases sharing specific combinations of variables and exhibiting the same outcome signal causal-relevant conditions. Related configurational thinking has attracted growing attention in the HRM literature (De Vos & Cambré, 2017; Farivar & Richardson, 2020). The configurational approach is based on three forms of causal complexity that are particularly relevant for our purposes: conjunctural causation, equifinality, and asymmetry (Misangyi et al., 2017; Schneider & Wagemann, 2012). Conjunctural causation is viewed as a 'causal recipe', in which sets of factors interact to generate the outcome. Equifinality means that different causal recipes can be

TABLE 1 Information on case study firms and managers interviewed

Company	Business	Province	Number of employees	Manager interviewed
01	Clothing shops	Venice (Italy)	6.320	HRM Director, Administrative HRM Manager, Commercial Director
02	Supermarket chain	Venice	7.219	HRM Director, Administrative HRM Manager, Commercial Director Supermarkets, Commercial Director Superstores
03	Supermarket chain	Verona	20.921	HRM Director, HRM Manager Northern Italy, Commercial Director
04	Electronic shops	Brescia	150	Commercial Director, Commercial Manager Northern Italy
05	Hospitality	Verona	41	Owner-manager, Finance Director, Operations Manager
06	Hospitality	Treviso	15	Owner-manager in charge of HRM, Owner-manager in charge of commercial activities, Finance Manager
07	Entertainment	Verona	752	HRM Director
08	Hospitality and bar/food	Verona	n.d.	Owner-manager
09	Restaurant	Verona	6	Owner-manager
10	Restaurant	Verona	15	Owner-manager
11	Restaurant	Verona	10	Owner-manager
12	Pizzeria and restaurant	Verona	22	Owner-manager
13	Security	Bergamo	1.205	HRM Director, Industrial Relations Manager, Administrative HRM Manager, Industrial Relations Employee, Commercial Director
14	ICT and marketing	Verona	71	CEO, HR Director, Creative Office Manager
15	Laundry	Parma	1.851	HRM Manager (Laundry Business), HRM Manager (Sanitation Business), Plant Manager
16	Warehouse	Verona	464	Owner-manager in charge of commercial activities, Owner-manager in charge of operations, Shift Manager
17	Commercial and catering	Venice	1500 (Italy)	HRM Director

Abbreviations: HRM, human resource management.

functionally equivalent; thus, non-competing paths can yield the same outcomes (Goyer et al., 2016). Asymmetry means that one factor can influence the outcome within one configuration and be absent within others, depending on its combination with other factors (Ragin, 2008). From a practical point of view, this implies several steps, the first of which calibrate the variables by creating a table that maps each variable's characteristics through graded membership within a scale of 0 (full non-membership) and 1 (full membership). The second step assigns each case fuzzy set membership value for each variable and checks the relationships among variables and the outcome. This step allows identifying possible conditions, and, in some cases, reducing the number of characteristics to be considered in the analysis. The third step is to create the truth table for fuzzy data, which identifies sufficient relationships among variables and the outcome, clarifying the combinations of variables that lead to the outcome. Based on the number of cases, consistency, and knowledge of the matter, relevant combinations are selected to continue the analysis and obtain the final configurations.

3.3 | Measures

We converted the data into a four-value fuzzy set with 1 = fully in, 0.67 = more in than out, 0.33 = more out than in, and 0 = fully out. The four-value fuzzy set was especially useful in our study because managers who were interviewed were not always able to provide detailed answers on all the subjects explored, and interpretation of task characteristics and HRM practices differed between businesses (Ragin, 2008).

In the fsQCA coding process (calibration), cases were assigned membership scores based on the four values previously highlighted. As our study was based on qualitative data, calibration of independent variables was based on researchers' judgement, while the dependent variable was calibrated according to predefined thresholds (Kosmol et al., 2018). The calibration is reported in Table 2. Some clarifications are needed. Regarding the independent variables, we considered the predictability of fluctuations along with market variability. Variable markets with regular fluctuations present fewer managerial issues in limiting temporary work employment than variable markets with unpredictable fluctuations. Second, the column related to job rotation should be read by considering the peculiarity of workplaces. A waiter who regularly handles clients, works in the kitchen and serves tables performs a complete job rotation. Third, the time required to learn a job was an important criterion in defining the specificity of a job. We considered the deployment of atypical workers as dependent variables. We referred to contingent employees as those hired by all contracts other than permanent contracts. Regarding the calibration of the dependent variable, we referred to commonly used thresholds of atypical workers to grade membership (European Commission, 2018, Pulignano & Doerflinger, 2013, Wood, 2016). Moreover, if the interviewed reported that non-standard contracts were considered an entry point for permanent employment (Mitlacher, 2007), we systematically asked how many temporary workers have ensured a regular contract out of the total of contingent employment contract used².

All three researchers were involved in coding activity, given the importance of relying on more than two coders whenever possible to strengthen data reliability (Krippendorff, 2004). The calibration frame was discussed and elaborated on before and after reading a couple of cases together (i.e., all three researchers). We then tested the coding frame's applicability using the intraclass correlation coefficient (ICC) parameter, which is suitable when there are more than two coders and when a subset of cases is rated by multiple coders and the rest by one coder (Hallgren, 2012). We achieved good intercoder reliability (ICC = 0.78) (Cicchetti, 1994) in eight cases and 19 interviews and assigned the remaining ones equally to single researchers. Exemplary quotations of our calibration are presented in Table 2.

4 | RESULTS

As fsQCA focuses on sufficient conditions, following Ragin (2017), we first tested the necessary conditions. In fsQCA, necessary conditions are able to singlehandedly produce the outcome, and therefore constitute a superset

TABLE 2 Fuzzy set scores for independent and dependent variables

	Job rotation	Firm-specificity of tasks (time required to learn the job inside the firm)	Simplicity/complexity of jobs	Working time flexibility	Market stability and predictability	Deployment of atypical workers
0.0 Fully out	No job rotation or sporadic (e.g., in case of operations emergencies)	None (1–7 days)	Repetitive and non-cognitive tasks	No part-time and overtime or limited use of one of these tools	Completely or very variable and unpredictable	40%
0.33 More out than in	Occasional rotation on some work activities	Few specificities (2–4 weeks)/Not very specific (1–3 months)	Mainly or quite repetitive tasks entailing some cognitive skills	Limited use of both part-time and overtime	Variable but with the possibility of foreseeing fluctuations in which the amount remains unpredictable	21%–39%
0.67 More in than out	Quite periodic or periodic rotation on some or several work activities	Good (4–9 months) or high specificity (9 months–1 year)	Mainly irregular and non-repetitive tasks entailing cognitive tasks	Frequent reliance on either part-time or overtime	Variable but with quite or very foreseeable fluctuations	11%–20%
1.0 Fully in	Periodic rotation on many or all work activities	Very high specificity (more than 1 year)	Irregular and non-repetitive tasks requiring high cognitive skills	High use of both part-time and overtime	Stable and predictable	5%–10%
Example quotation	'Organisation here works like this: if I'm a warehouse worker and I'm done with my activity, I can go help customers or fold clothes'. 01	'It generally takes two months to be independent; for a fast learner, it can be half of that time'. 09	'There are written protocols and procedures which need to be followed. Workers always have them available in front of them, and that helps'. 15	'Overtime is widely used here; together with the management of shifts, it guarantees the presence of employees when it's most needed'. 13	'On average, we have few customers from Mon to Thursday. On Fri, customers start growing, and almost 50% of our revenues come from the weekend'. 02	'We always offer a fixed-term contract up to 36 months to new employees, which also serves a trial period. They are around 15%–20% of total employees'. 04

of the outcome. As such, they must be tested before continuing with the analysis. We tested each variable individually for its presence or absence. The consistency must generally be higher than 0.9 to consider the condition necessary for the outcome (Schneider & Wagemann, 2012). As scores for our conditions all remained below 0.9 for both the presence and absence of single variables, we concluded that there were no necessary conditions. We proceeded to identify sufficient conditions, which instead constitute a subset of the outcome. This enabled equifinality, meaning that the same outcome can be achieved through different combinations of factors.

The analysis of sufficient conditions measures the extent to which the reduced deployment of atypical contracts is causally related to the external and internal factors previously described. To assess the sufficiency of causal combinations, we used the fsQCA truth table algorithm. The sufficiency condition was also supported in the analysis because, in further steps, no condition alone was able to predict the outcome.

We created the truth table for fuzzy sets by following a two-step procedure. In the first step, we created the truth table from fuzzy data. We specified the outcome (i.e., our dependent variable of deployment of atypical workers) and determined the conditions to include in the analysis. In the second step, we selected relevant cases based on the frequency and consistency of the subsets. Given the small dataset, the recommended frequency threshold based on the number of cases was equal to two (Ragin, 2017). For consistency, we selected a threshold of 0.8. We then applied the standard analysis and reduced the truth table analysis rows into more simplified combinations using the intermediate solution. The results in Table 3 show the three configurations that led to a reduced deployment of atypical workers. The resulting three paths, summarised in Table 3, are different in terms of present or absent conditions but equally, lead to atypical workers' low deployment. We dubbed them: task, HRM, and firm-driven configurations.

In the task-driven configuration, workers are at the deli counter of a supermarket, cooks in restaurant #12 (see Table 1), and waiters in restaurant #11. All these workers share jobs that require a great amount of time to be performed autonomously; however, they focus on their tasks without covering different positions inside their firm. In particular, they develop relevant skills to run highly firm-specific tasks and are difficult to replace. Regarding cooks, the restaurant owner stressed that there is no possibility of adding to these workers' activities because they need to focus on their tasks. Describing the kind of requirements needed to perform the job, he stated:

To become a pizza chef requires one year or so because you need to understand how to make dough. Because I also want my dough, that is it. What we do in our pizzeria was done by the former owner for ten years, and by the former owner again for eight and nine years. Thus, it is 40 and 35 years that a specific dough is prepared. I want that. [...] Because if a person has been coming here for ten years to eat pizza and I change the dough he/she does not come anymore. We have experienced these various times.

People working in these jobs are found in organisations that rarely use temporal flexibility. This absence represents a co-predictor for the low deployment of atypical workers within the 'task-driven' configuration. Drawing from within-case knowledge, it emerges that the difficulty and firm-specific character of jobs requires hiring full-time employees, while the low reliance on overtime seems related to the proper internal organisation of shifts.

The 'HRM configuration' is the most frequent solution (coverage 0.399 and unique coverage 0.17). This configuration identifies different jobs characterised by high job rotation and associated (mainly on-the-job) training and the simplicity and non-firm-specificity of the jobs. Concurrently, employees follow standard procedures when performing their jobs, while temporal flexibility decisions are not relevant in this configuration. In these cases, employers prefer to have regular workers to offer good and reliable services, despite the simplicity of and low firm-specificity of the tasks. This category included all three jobs conducted in a warehouse company. The employees were involved in different steps of warehouse operations, with different levels of difficulty, but managers stressed

TABLE 3 Analysis of sufficient conditions

Configuration	Task-driven configuration	HRM configuration	Firm-driven configuration
Causal condition			
Intra-organisation factors			
Job rotation	○	●	●
Specificity	●	○	●
Simplicity/Complexity	●	○	
Temporal flexibility	○		●
External factors			
Market	●	●	●
Consistency	0.880723	0.897409	0.864198
Raw Coverage	0.337022	0.399262	0.290456
Unique Coverage	0.093592	0.171047	0.107884
Empirical Cases	4, 21, 24	1, 5, 12, 13, 14, 23, 27, 31	2, 6, 8, 11, 25
Overall solution Consistency: 0.932561			
Overall solution Coverage: 0.631166			

Notes: ● Presence of a condition, ○ Absence of a condition.

that people could be assigned to different jobs, both because the jobs themselves are easy to learn and because people often rotate for emergency reasons and can learn different activities:

Yes, we have a good number of people who can perform different jobs. Including us, of course, I worked in different areas of the warehouse myself, so I know how things get done. We expressly trained a lot of people for this need... We have this possibility... and it helps a lot. When we have an emergency, we know we can take resources and place them in other units – perhaps not all of them, but a great number. Some people can perform two activities, and some can perform all of them.

In the same configuration, there are employees of an industrial laundry, performing different tasks including monitoring washing machines and spreading the sheets after they were washed:

The strategic aspect here is not in the individual worker as the professional content of the job is not high: it's essentially loading and unloading the machines and monitoring that they work properly... training on the machines does not require more than a week, it's extremely easy from this point of view. People are trained by someone doing the same job. How long does the training last? Three days may be less for unloading sheets.

In addition to these jobs, which can be considered non-specialised, we find employees in the reception at a small family hotel #5 and waiters in restaurants #6 and #12. From interviews with the operations manager of the hotel, we learnt that the possibility of having people who can cover different positions when the firm is in need, even if the job is not difficult, seems to encourage employers to rely on the same people instead of searching for temporary workers. In this particular case, receptionists also helped with bar and room service (e.g., making the beds) when needed. Therefore, such employees are more easily hired with standard contracts than with atypical arrangements.

In the firm-driven configuration, all predictors are present, except job complexity, which does not seem relevant. Jobs in this configuration are highly firm-specific, include periodic rotation on many activities, and are subject to high use of part-time or overtime work. The latter represents the main form of temporal flexibility within the most specialised working activities. Within this configuration, jobs included maintenance workers in an industrial laundry company and an amusement park. Employees with visual merchandising duties in shops that were part of a large clothing company, stock clerks in a supermarket, and cooks in restaurant #10. In the first case (maintenance workers in an industrial laundry company), the firm's operations are generally stable over the year, in the second case (maintenance workers in an amusement park), the amusement park is seasonal and closed in the winter. Maintenance workers were very busy when the park was closed and only performed emergency adjustments when the park was open. The importance of these workers to the park is mostly highlighted by the fact that in the high season, only one-sixth of the company's employees are hired with a standard contract, and almost all are maintenance workers. Further, stock clerks in a large supermarket were included in this configuration. However, interviews with directors highlighted how these particular workers undergo long training and perform many different tasks. Supermarket management chose to have only two distinct operative jobs inside the supermarket: butchers assisting customers at the deli counter and workers covering all other duties. This choice allows the second category of employees to rotate very often and be ready to cover positions whenever needed; this is why we find them in this configuration.

Regarding this category of workers, the company uses several part-time contracts to make employment compatible with market demand and, thus, with consumers' flow. Concurrently, overtime is requested for part-time workers to adjust to small additional fluctuations. Finally, the presence of cooks in this configuration indicates a business that, in contrast with those belonging to the task-driven configuration, trains its employees to cover different activities and makes use of temporal flexibility in terms of overtime, because of the internal organisation and the specific flow of clients. Workers who have firm-specific skills and the ability to perform many different tasks but are also temporally available to perform their job causes employers to reduce atypical contracts.

5 | DISCUSSION

This study first aimed to examine the combinations of factors that encourage employers to hire workers permanently. Contrary to previous studies that focused on a single or a couple of factors, we followed the idea that multiple factors influence organisational practices at once (Ouyang et al., 2016). Our configuration analysis provides insights into the combinations of several factors and underlying theoretical strands that cause employers to reconsider hiring through temporary contracts and select permanent contracts instead. This configurational view goes beyond simpler combinations of factors highlighted by other mentioned research. In our analysis, the factor that identifies the external conditions of the market is always present. This results from the fact that all firms interviewed, except one, faced similar market conditions: variable but predictable demand. However, we were able to notice how firms reacted in a different way to the same external environment. It was also confirmed that firms manage different workers differently (Schmidt, et al., 2018).

Our results show that the HRM dimension and related practices play a strategic and pivotal role in permanent employment, importantly mediating market pressures (Boxall & Macky, 2009). They are relevant both within the HRM and firm-driven configurations when present and within the task-driven configuration when absent. However, this influence requires the concomitant and interconnected action of other factors. Job rotation leads to the hiring of permanent workers when jobs are simple and non-firm-specific. Therefore, HRM practices help workers in the lower ranks acquire valuable skills. Temporal flexibility makes workers more relevant for companies when integrated by other HRM practices and job characteristics in terms of structure of tasks (Pulignano & Signoretti, 2016), assuring qualified flexibility in terms of the variety of jobs performed (job rotation) and peculiar knowledge of

company processes and customers (firm-specificity). Thus, workers' flexible presence configures itself as crucial (Wood, 2016) only when in co-occurrence with more than one other factor. In contrast, in the case of firm-specific and complex jobs, the HRM practices of job rotation and temporal flexibility limit learning and knowledge acquisition in more complex working activities (Hsieh & Chao, 2004). Part-time work operates in the same direction. Thus, in specific situations, some HRM flexibility practices, such as job rotation and part-time, can configure themselves as 'double-edged swords'.

Our results are also relevant in the light of human capital theory. We observed broader linkages between firm-specificity of working activities and permanent contracts than those hypothesised by human capital theory. The investments in training for firm-specific working activities and the related difficulties of finding adequate people in the labour market is insufficient to encourage firms to hire permanent employees. Firm-specific human capital alone is not sufficiently valuable for companies. It should be accompanied by the complexity of jobs, or HRM practices, to obtain further and qualified flexibility. Thus, further joint investments in human resources are required beyond firm specificity.

Our second research question involved investigating how to trade off the costs of flexibility and long-term competitiveness, at the lower ranks, to meet market fluctuations. Our configurational results contradict the core-periphery model and similar analyses focussing on the sheer nature of tasks to forecast the deployment of atypical or permanent workers. In fact, the strategic use of proper HRM practices, particularly job rotation, lead to higher skills in workers and flexibility that encourages managers to permanently hire them, even in non-specific and simple work activities. Employers appreciate the flexibility and constant quality of these workers. In this vein, HRM practices have become means of increasing the value of unskilled workers by upgrading the skills of this potentially marginalised workforce.

Concerning managerial implications, this study suggests that well-designed HRM and job design practices can modify the trade-off between the quantitative adaptation of the workforce and the preservation of human capital. Such practices can make it easier to keep permanent workers and avoid the shrinking of human capital invested in the firm while coping with volatile demand. Moreover, it stresses the importance of considering a combination of job characteristics and HRM practices in choosing which contracts to adopt, specifically when trying to reduce the deployment of atypical contracts. It is not only the specificity of jobs or the number of tasks one is supposed to perform which should be considered when choosing an employee's contract, but also temporal flexibility demands. Second, the configurational approach allows managers or business owners who are in charge of similar jobs to understand which elements it would be useful to work on reducing the deployment of atypical contracts. The analysis has shown that structure of tasks and HRM practices, or their proper mix, might also help contain the use of atypical labour contracts when tasks are simple and non-firm-specific.

This research has some limitations. The first relates to the specific context in which data were collected. Different contexts with different labour laws and incentives might lead to different results (Liu, 2015; Richbell et al., 2011). Therefore, further studies should focus on configurations in a modified framework to understand the actual importance of national labour laws. Concurrently, although set-theoretic principles are useful in showing causal relations (Fiss, 2007), we relied on cross-sectional data hence further longitudinal studies would be particularly valuable to enquire changes over time (Farivar and Richardson, 2020). Second, while the low reliance on atypical contracts can positively contribute to service quality, employee stability, and career prospects, we also considered the utilisation of part-time contracts and overtime in our configurations. Research has shown that such contracts and extra time at work can have detrimental effects on employees' economic capacity and life organisation when their use and regulation are unilaterally determined (Doellgast & Berg, 2018; Scholarios, et al., 2017; Signoretti, 2019). Further, as mentioned above, the patterns of demand that we observed are similar: they are highly variable, but predictable. We do not have enough observations on non-predictable markets. Further studies might include firms with higher variability in terms of market conditions, which might bring out configurations that could not be detected.

6 | CONCLUSION

This study provides insights into firm strategies concerning the deployment of atypical workers in the service sector (Knox & Walsh, 2005, Townsend et al., 2013). Hiring permanent workers has positive influences for both workers' employment conditions and companies' productivity and innovation capabilities. First, by drawing on configurational theory (De Vos & Cambré, 2017, Misangyi et al., 2017), our findings underline that there is no single condition, but a combination of multiple conditions lead to more stable jobs. Considering a single or a couple of factors can be misleading for understanding organisational practices that require weighing several relevant aspects (Farivar & Richardson, 2020). Second, our results corroborate previous studies that argue that firms do not need to hire a consistent number of temporary workers to adjust to volatile markets (Allen et al., 2017). This is also true in the case of lower-ranked jobs. Even when tasks would suggest contingent contracts as a cheaper way to accommodate unstable demand, HRM practices can modify the trade-off in favour of stable arrangements.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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ENDNOTES

¹ In the few cases where task description by different interviewers did not agree, additional information or a second round of interviews were used to reach a unique codification of the task.

² We do not report this criterion in Table 2 as it did not change what is determined by the proportion of nonstandard employees deployed.

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APPENDIX

SEMI-STRUCTURED INTERVIEW WITH MANAGERS

We report the subjects and questions whose answers have been used for the manuscript.

GENERAL CHARACTERISTICS OF THE COMPANY AND RELATED MARKET

The interview starts with questions that aim to understand the structure of the firm in terms of plants/units and people employed, the products/services offered and the quality requested, and the variability and predictability of the market.

- 1) An illustration of the company's structure (sites, etc.) is asked, as well as of its products/services and related markets by paying particular attention to the variety and variability of consumer demand in temporal and quality terms.
- 2) Particularly, are there monthly, weekly, or daily peaks or strong reductions in consumers' demand?
- 3) Are you able to foresee these variations and to what extent?
- 4) What is the flow of the production process?
- 5) How many people are employed?
- 6) In the latest 5 years, did you undertake off-shoring operations and why?

WORK ORGANIZATION AND HUMAN RESOURCE MANAGEMENT

This section of the interviews aims to understand the organisational and human resource management systems used by firms.

- 7) In general, how are working activities organised in terms of rotation and autonomy? For instance, are workers able to perform different tasks autonomously?
- 8) Is rotation among tasks structured?
- 9) Do people need specific technological, linguistic, and relational competences?
- 10) How long does it take for a person, on the average, to learn the different tasks they should perform with adequate productivity?
- 11) As regards working time, do you use part-time contracts? In which departments/offices are such contracts used?
- 12) Is overtime used? To what extent?
- 13) Do you arrange training activities and on what subjects?
- 14) Do you have contingent pay systems and/or monetary incentives for workers?

DEMAND OF ATYPICAL WORKERS

This part of the interview is devoted to understanding in detail the use of atypical contracts in the latest years by also considering different types of atypical contracts, the reasons underlying their use, etc.

- 15) How many people hired with open-ended contracts have worked in the company in 2016 and in 2017?
- 16) How many people have been hired with atypical contracts in 2016 and in 2017? What is their proportion out of the total workforce?
- 17) Do you use these contracts especially within specific departments/offices/occupations?
- 18) What type of atypical contracts do you use?
- 19) In which departments/offices are these contracts concentrated?
- 20) How come you rely on these atypical contracts?
- 21) Is specific education and/or previous working experience required for workers hired with atypical contracts?

INDUCTION OF ATYPICAL WORKERS IN THE ORGANIZATION

These questions are bound to inquire how atypical workers start working within the organisation and their eventual defined path over time.

- 22) What are the responsibilities and the autonomy assigned to atypical workers?
- 23) How much training do atypical workers carry out? On which subjects?
- 24) Do you have specific paths of stabilisation for atypical workers?
- 25) How many atypical workers have been promoted into permanent positions, in percentage terms out of the total atypical workers hired, in 2016 and in 2017?