Are Mergers and Acquisitions Accompanied by Increasing Recourse to THS employment? A French perspective

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Abstract

This paper focuses on variations in employment of temporary help services (THS) employment when firms face mergers & acquisitions (M&As). We use an original French dataset in which the stock of temporary workers is isolated from that of other workers. With descriptive statistics, we observe that the number of temporary workers increases in acquiring firms. We use matching difference-in-differences estimators to check whether the use of THS employment increases after M&As. The results show that M&As are accompanied by increasing recourse to THS employment. The effects are quite strong for 1999 and 2000. The effect is weaker for 2001 because from this year the use of THS employment decreased for the first time since the beginning of the 1980's in France.
1. Introduction

In France over the last two decades, the amount of temporary help services (THS) employment has doubled. THS employment operations consist in temporarily providing client companies with employees who, in return for an agreed payment, are employed and paid to that effect by the THS agency. They are therefore characterized by a three-way relationship and involve the signature of two contracts: a labor supply contract (between the temporary employment agency and the client company) and an assignment contract (between the temporary employment agency and the employee). The use of the core periphery human resource strategy is largely spread in most of the industrialized countries and explains a structural use of THS employment (Bronstein 1991, Segal Sullivan, 1997). In an environment where competition and uncertainty among firms was increasing, temporary workers helped firms to reduce the costs of understaffing as well as overstaffing positions and to lower recruitment and screening costs (Kalleberg, 2000). However, as observed by DiPrete (1993), industry reorganizations can also influence the trends in mobility and labor contracts. The aim of this paper is to investigate the relationship between THS employment use and mergers & acquisitions (M&As) with French data. We investigate the use of THS employment before and after M&As. Only 1% of French firms are involved in M&As, but as the latter take place in the largest manufacturing firms, it is crucial to analyze their effects on the level of employment or on the use of different labor contracts. In our paper, we try to answer the following question: beyond the characteristics of firms – which play an important role in M&As – are M&As accompanied by increasing recourse to THS employment?

Three ideas explain why M&As might be accompanied by increasing recourse to temporary workers. First, when firms face M&As there is a period of uncertainty in which they may prefer to hire temporary workers rather than workers with longer labor contracts. Temporary workers are particularly adaptive after M&As, especially if the acquiring firms plan to downsize in the future. The economic literature about temporary workers often stresses the flexibility that firms need to reduce adjustment costs in case of demand shocks (Segal Sullivan, 1997). Of course, the presence of uncertainty strengthens this need of flexibility. Second, in the context of M&As, firms’ accounts are particularly scrutinized. Indeed, the use of temporary workers enables firms to show good financial ratios to their shareholders: as the cost of temporary workers is not part of the wage bill (it is considered as an intermediate good), firms’ accounts can be improved by replacing “traditional” workers with temporary workers. Third, hiring temporary workers may follow increasing quits because employees working in a firm involved in M&As (mostly the smallest and the acquired firms) are more likely to leave because of the changes (DiPrete, 1993).

There are numerous works that explore the effects of M&As on employment and wages (Brown and Medoff, 1988; Lichtenberg and Siegel, 1990; McGuckin and Nguyen, 2001; Conyon, Girma, Thompson and Wright, 2001, 2002; Gugler and Yurtoglu, 2004; Siegel, Simons and Lindstrom, 2005; Nguyen and Ollinger, 2007; Siegel and Simons, 2008; Lehto and Bockerman, 2008), mainly based on American and English firm or plant data. Margolis (2006) and Bunel, Duhautois and Gonzalez (2009) study the impact of M&As in France. Others, less numerous, studies are based on employees or linked employer-employee data (Shleifer and Summers, 1988; Siegel and Simons, 2008). A priori there is no study that deals with the effect of M&As on the use of THS employment because data on both M&As and on THS employment are difficult to use. In particular, as THS workers are not counted as employees in temporary help agencies, we have to reintroduce them in the firms where they work.

This paper examines the effect of M&As on the use of THS employment with matched firm-level data from France. We are able to identify for each firm the number of THS
workers, the number of employees with short-term labor contracts (called “Contrat à durée déterminée”, CDD) and the number of employees with long-term labor contracts (called “Contrat à durée indéterminée”, CDI). These three types of employees represent the stock of total employees in each firm. We only focus on THS employment compared with short-term contracts because the latter are slightly different: by using THS agency, firms can skip the recruiting process and increase separations so that they reduce labor adjustment costs; moreover, 70% of hirings are done with short-term contracts so that it is difficult to identify their effects on M&As. We use matching difference-in-differences estimators to check whether the use of temporary workers increases after M&As.

The paper proceeds as follows. Section 2 summarizes the related empirical literature. Section 3 describes our data and our final samples and Section 4 describes empirical strategies. Section 5 presents the results, Section 6 discusses them and Section 7 concludes the paper.

2. Related empirical literature

Empirical results focus on both the effects of M&As on the level of employment and the effects of M&As on workforce structure or employee trajectories. THS employment is part of the level of employment because firms can have a constant share of temporary workers, but it is also part of the workforce structure because it can be substituted to other labor contracts.

2.1 The effects of M&As on the level of employment

Brown and Medoff (1988) focus on the effects of M&As on employment and wages. They analyze more than 16,000 M&As in the state of Michigan over the period 1978-1984. They distinguish between three different kinds of restructuring: M&As without asset transfers and two kinds of M&As with asset transfers. The first type of M&As with asset transfers involve a transfer of less than 50% of the target firm’s workforce to the acquiring firm, and the second M&As with asset transfers involve a transfer of at least 50% of the target firm’s workforce to the acquiring firm. They consider the evolution of employment in both the acquiring firms and the target firms simultaneously. They show that there are important differences in the effects of the different types of M&As on employment and wages: for the second type of M&As (with asset transfers greater than 50%), employment increases by 2% and wages decrease by -4%. On the other hand, for the other types of M&As, the employment effect is on average -5% and the wage effect is +5%. Lichtenberg and Siegel (1990) analyze the evolution of employment and wages in 2,600 firms changing ownership over the period 1977-1982 in the U.S. In contrast to the previous work, they do not consider the evolution of employment in both acquiring firms and target firms simultaneously. For multi-establishment firms, they show that the effects on employment and wages are negative after ownership changes. However, the effect is not the same for production establishments and for administrative offices (auxiliary establishments): for the former, the employment effect is about -5% and for the latter it is -15%. MacGuckin and Nguyen (2001) use U.S manufacturing data over the period 1977-1987 to estimate the effect of ownership changes on employment, wages and plant closings. They show that the impact of ownership changes on employment and wages are positive. They also find that plants that change owners have a higher probability of survival than those that do not. Nguyen and Ollinger (2007) partly use the same data, but they focus on the meat and poultry industries. They compare the impact of M&As on employment, wages and plant closings over the period 1977-1987 and over the period 1982-1992. The only result that holds in both periods is the negative relation between
M&As and plant closures. On the other hand, the impact of M&As on employment and wages depends on the period and the industry. Conyon, Girma, Thompson and Wright (2001) analyze the impact on employment of 240 M&As in the U.K for the period 1983-1996. They consider changes in employment in the acquiring and target firms jointly, and they find that the overall employment seems to fall about -7% after the M&A. Conyon et al. (2002) show that M&As tend to have a significantly negative effect on employment. However, this effect is limited over time, not lasting more than three years after the date of the restructuring. When the acquiring firm and the target firm do not belong to the same industry, the employment effect seems to be less negative: -8% against -19% for between-industry M&As. Likewise, companies with a lower than average workforce size are more likely to see their level of employment fall after M&As. Dutz (1989) stresses that horizontal M&As – compared to vertical ones – lead to more employment destruction due to economies of scale. Gugler and Yurtoglu (2004) show that M&As tend to have a significantly negative effects on employment in the U.K. (and continental Europe). For the U.S., the results show that there is no significant effect on employment. The effect depends on the nature and the context of the M&As. The more the firm has financial difficulties, the more negative the employment effect. Lehto and Bockerman (2008) analyze the effect on employment of M&As for Finnish establishments for the period 1989-2003. They focus on cross-border M&As and compare them to two other types of M&As. Their results show that cross-border M&As lead to downsizing for manufacturing and non manufacturing employment, although the effect of the latter is weaker.

2.2 The effects of M&As on workforce structure or employment trajectories

All the studies referenced below focus on the global staff of firms or plants. Very few analyze the impact of M&As directly on employees. Shleifer and Summers (1988) show that M&As are likely to break implicit contracts between the managers and the employees. The new managers, who are not at the origin of the “old” implicit contracts, can decide to get rid of employees (or cut wages) if the firm is about to fail or to fall into economic difficulties. Siegel, Simons and Lindstrom (2005) study ownership changes for Swedish manufacturing plants with more than 20 employees for the period 1985-1988. They consider partial and full acquisitions, and their results seem particularly true for full acquisitions: they find that plants involved in ownership changes experience an increase in employees’ age and an increase in the percentage of employees with college educations. They also find that ownership changes increase wages and decreases the share of female workers. Siegel and Simons (2008) also analyze the direct consequences of different types of M&As on employees. They use linked employer-employee data for Swedish workers in manufacturing plants. They show that the outcome for employees is more favorable when only part of the firm is bought or sold. Smeets, Ierilli and Gibbs (2008) show that firm size plays an important role for employees involved in M&As in Denmark: whatever the acquiring or the acquired firm, the bigger the firm is, the better employees of this firm in the new organization feel. This result stresses the importance of the firm culture. They also show that employees are more likely to quit in acquired firms, but these quits are followed by new hires. This goes against the idea that M&As downsizing is a process linked with economies of scale. The work of Pesola (2008) with Finish data shows that the effects of M&As on employees turnover differ according to sectors: In manufacturing, employee turnover is more important than in services, and this is all the more true when the acquiring firm is a foreign one. He also shows that the effect on employment is not really negative because employees move to other firms. For France, Margolis (2006) reports a negative employment effect of M&As in the short term and shows that employees who leave firms after M&As are those who have “good” characteristics to find new jobs rapidly.
3. Data sources

To study the effect of M&As on the use of temporary workers, we merge three datasets: one which contains M&As (CITRUS), an administrative dataset that gives us economic and financial information on each firm (FUTE), and a dataset that enables us to get more information on THS workers (UNEDIC). We focus on M&As that take place in 1999, 2000 and 2001 and we are able to follow acquiring firms between t-3 and t+3 after M&As.

CITRUS (in French: Coordination des Informations et des Traitements sur les Restructurations d'Unités Statistiques) is a system for coordinating information and processing operations on statistical-unit restructurings. For CITRUS, only the restructurings implying transfers of activities between distinct enterprises: mergers, splits, takeovers, partial mergers and franchising agreements are interesting, so merely financial transfers and merely internal reorganizations are excluded. Since its creation in 1998, CITRUS has been continuously enhanced. The database does not contain any economic and financial information on firms, which is why it is matched with FUTE files.

FUTE (in French: Fichiers Unifiés Total Entreprises) is a firm level file providing most accounting variables (turnover, value-added, profitability ratios, and temporary workers expenditure) as well as employment data. It is the result of the compilation of three different yearly sources: French administrative fiscal files, “business” surveys and “financial connections” surveys. In this database, information (number and wages) on direct employment of the firm is not identified according to long-term and fixed-term contracts. However, business surveys provide information (number and cost) on the labor force “lent” by one firm to another. This encompasses not only THS workers but also between-firm workforce lending, which often observed within a group of enterprises. This workforce lending is a good proxy of the THS employment used by firms. However, the questions on workforce lending are not always filled in by the firms in the business surveys.

Information on temporary work is taken from temporary work files (UNEDIC). Each month, temporary help agencies must report temporary work assignments to the organization in charge of unemployment compensation for the private sector. This file is an exhaustive compilation of temporary work assignment, each assignment being defined by one employee (THS worker), a period of work, a temporary help agency and a “hiring” firm. We aggregate the assignment by years and by business registration numbers to construct yearly numbers of temporary workers by firm. We assume that this improves the quality of information on temporary work in our final database.

After matching these data sources and eliminating establishments with missing information and agricultural establishments, we work on a balanced panel of 1,169 French establishments that are involved in one and only one M&A in 1999, 2000 or 2001. To be able to follow firms before and after M&As, we concentrate on one type of M&As: absorptions. Of course, before the M&As, we aggregate the THS employment information for the acquiring and acquired firms. The balanced panel of firms is centered on the year of the M&A, and we can follow firms between t-3 and t+3: we have information for seven years for each firm (8,183 observations) between 1996 and 2002, 1997 and 2003 and 1998 and 2004.

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1 We call absorptions the following M&As (with two firms): a firm A acquires the totality of firm B so that A+B before the M&A is equivalent to A+B after the M&A (it represents about 40% of M&As). We also include M&As when firm A and Firm B become firm C (these types of M&As represent about 5%). But we exclude other M&As because they are partial and it is impossible to really aggregate employment.

2 The interval of seven years is simply linked to the availability of THS employment in firms and not in THS agencies: as we wanted to use at least 3 years of M&As to be as robust as possible, we choose 1999, 2000 and 2001 because it enables us to follow firms 3 years before and three years after.
Each year, only 2% of French firms with 20 employees or more are involved in M&As, and this proportion varies according to firm size, firm sector and financial links (Bunel, Duhautois and Gonzalez, 2009). To study the effect of M&As on the use of temporary workers, we constitute three groups of surviving firms which are not involved in M&As (the control groups) between 1996 and 2002, 1997 and 2003 and 1998 and 2004 (about 40,000 firms each year).

4. Empirical Strategy

As M&As are not randomly distributed among firms, we use propensity score matching (PSM) models to analyze the effect of M&As on the use of THS employment: the aim of these models is to construct a control group from the group of firms that are not involved in M&As and ensure that this control group is as similar as possible (with respect to observable characteristics) to the group of firms that are involved in M&As. To construct the control group, we choose firms that are never involved in M&As at any time between t-3 and t+3. We conduct PSM as follows: First, we construct logit models to obtain the propensity scores controlling for observable characteristics. Second, we use the predictions of the logit models to compare the THS employment change in firms involved in M&As and the THS employment in the others. That is, in our paper, we use difference-in-differences estimates to remove the fixed firm effect (Heckman, Ichimura and Todd, 1997; Heckman, Ichimura, Smiyh and Todd, 1998). We estimate the average treatment effects on the treated (ATT) for the use of THS workers changes with the following formula:

\[
\frac{1}{N_1} \sum_{i \in I_1} \left( y_{i,t} - y_{i,t'} \right) - \sum_{j \in I_0} \left( \frac{M' \left[ \frac{P(X_j) - P(X_i)}{\sum_{j \in I_0} \left( P(X_j) - P(X_i) \right)} \right]}{\sum_{j \in I_0} \left( P(X_j) - P(X_i) \right)} \right) \left( y_{j,t} - y_{j,t'} \right),
\]

where \( N_1 \) is the number of firms involved in M&As, \( I_1 \) is the set of firms involved in M&As, \( I_0 \) is the set of firms not involved in M&As and \( P(X) \) is the estimated propensity score, \( y \) is the level of THS employment. \( M' \) indicates the average value of the outcome variable among the controls \( j \) that are chosen for the establishment \( i \) based on the predictions of logit models. \( t \) and \( t' \) are two (3 years average) periods after and before M&As: we not only remove the fixed firm effect, but also smooth the average of THS employment before and after M&As. The validity of this estimator supposes that the “common trend assumption” is satisfied.

5. Results

All regressions are run on the sum of temporary workers of both acquiring and acquired firms before and after M&As. The likelihood of M&A is explained with the logit models by firm-level variables (the set of control variables \( X \)). The values of the explanatory variables are taken from \( t \) (firm sector, firm size, firm status and firm ownership (belonging to a business group or not), being a listed firm or not) and \( t-1 \) (lagged value-added growth rate and lagged labor productivity ratio). These two latter variables play an important role in the identification process. The results are not reported, but they are identical for all regressions.
and all sub-samples: Belonging to a business group increases the probability of being involved in M&As; M&As are more likely to occur in large firms and less likely in small firms. As underlined in Bunel, Duhautois and Gonzalez (2009), the effect of M&As is stronger in the retail sector, in firm services sectors and in the intermediary goods sector. Being listed is not significant. We decompose lagged value-added growth rate and lagged labor productivity ratio by quartiles. The effect of these economic variables increases with the level of quartiles: As we follow acquiring firms, this means that firms with good economic situation are more likely to absorb other firms.

The matching results (Table 1) are reported as the average treatment effect on the treated (ATT), with temporary workers changes based on the difference-in-differences estimator. The difference-in-differences matching gives reliable results of the effects of M&As on the temporary workers change. We only report one set of results for ATTs based on the radius matching method. We use balancing tests to check the validity of the matching, and for almost all the variables it succeeds in reducing the bias for about 90% (the means are identical at the 5% level). For each year, we calculate the mean number of temporary workers 3 years before and the mean number of temporary workers 3 years after the M&A (for instance, for 1999, we use the years 1996, 1997 and 1998 for the mean before and 2000, 2001 and 2002 for the mean after). This enables us to smooth measurement errors. ATT estimates are thus the differences between these means, controlling for the selection bias.

Table 1 presents the results for the years 1999, 2000 and 2001. The first part of the table presents the results for the global sample, i.e., using as control group all the firms not involved in M&As (37,524 in 1999, 41,408 in 2000 and 42,542 in 2001). They show that M&As cause significant temporary workers increase whatever the year. The positive effect evolves with time: the mean temporary workers effect is 2.69 in 1999, 1.43 in 2000 and 0.61 in 2001. The decreasing positive effect is due to the evolution of the number of temporary workers in France from 2001. The number of temporary workers kept increasing from the middle of the 80’s (about 150,000) to 2001 (about 600,000) whatever the economic growth. However, from 2001, for the first time, the number of temporary workers has decreased because of the economic downturn. Because we want to test the robustness of our results, the second part of the table presents the results the distribution of 50 different estimations each year. We draw 5% (about 2,000 firms) of the control groups (and only the control groups) and we re-estimate the average treatment effect on the treated (ATT): the second part of Table 1 shows the mean, the min, the max, Q1, the median and Q3 of the distribution and also the percentage of estimations which is significant at 1%, 5% and 10% levels. Even with small control groups, we find the same results: M&As cause a significant increase in temporary workers. The mean temporary workers effect with these estimations is lower compared with the global sample: 2.22 in 1999, 1.27 in 2000 and 0.58 in 2001. Unsurprisingly, each estimate is significant at the 1% level for 1999 and 2000 and is less significant (10% of the estimations) for 2001.

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3 We also ran the PSM difference-in-differences kernel method and the results are similar. Because we have many firms not involved in M&As, the radius matching estimate is the more appropriate: it enables us to compare firms with very close predictions of logit models.
Table 1: ATT based on difference-in-differences estimates

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<thead>
<tr>
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<th>1999</th>
<th>2000</th>
<th>2001</th>
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</thead>
<tbody>
<tr>
<td>ATT estimates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global samples</td>
<td>2.69***</td>
<td>1.43***</td>
<td>0.61**</td>
</tr>
<tr>
<td>Standard-Error</td>
<td>0.56</td>
<td>0.35</td>
<td>0.25</td>
</tr>
<tr>
<td>Number of M&amp;As</td>
<td>294</td>
<td>393</td>
<td>482</td>
</tr>
<tr>
<td>control group</td>
<td>37524</td>
<td>41408</td>
<td>42542</td>
</tr>
<tr>
<td>ATT estimates</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mean</td>
<td>2.22</td>
<td>1.27</td>
<td>0.58</td>
</tr>
<tr>
<td>Min</td>
<td>1.82</td>
<td>0.95</td>
<td>0.30</td>
</tr>
<tr>
<td>Max</td>
<td>2.85</td>
<td>1.56</td>
<td>0.86</td>
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<tr>
<td>Q1</td>
<td>2.05</td>
<td>1.19</td>
<td>0.49</td>
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<tr>
<td>Median</td>
<td>2.23</td>
<td>1.25</td>
<td>0.56</td>
</tr>
<tr>
<td>Q3</td>
<td>2.35</td>
<td>1.38</td>
<td>0.68</td>
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<tr>
<td>1% level of significance</td>
<td>100 %</td>
<td>100 %</td>
<td>30 %</td>
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<tr>
<td>5% level of significance</td>
<td>0 %</td>
<td>0 %</td>
<td>50 %</td>
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<tr>
<td>10% level of significance</td>
<td>0 %</td>
<td>0 %</td>
<td>10 %</td>
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<tr>
<td>No-significant</td>
<td>0 %</td>
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<td>10 %</td>
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Notes: Significance levels: ***(1%) and **(5%).

6. Discussion

M&As are supposed to be accompanied by uncertainty, which explains why firms prefer to hire temporary workers. It is difficult for them to hire long-term labor contract workers (but also short-term labor contract workers), in particularly if they plan to downsize in the future. The uncertainty can be described by demand shocks or by the difficulty for employees to stay in acquiring firms after M&As. If an increase in uncertainty may explain the intensive recourse to temporary work during a M&A, it does not seem that the main reason for this uncertainty is demand shocks (except maybe in some special cases of M&As between industries where the acquiring firm disposes of less information on the state of the new market). On the other hand, M&As can be described as a situation of “crisis” for employers and employees. Even for very skilled employees, who can be considered as individuals with more information, “uncertainty, trial and error rules” could lead to contradictory tensions between different types of anticipations: the anticipation of the expectations of financial markets, the anticipation of the evolution of products and services markets, the anticipation of the evolution of their jobs and the anticipation of the effects of the implemented strategies on employment and on work. Indeed, the decision making process for downsizing combines financial decisions (decreasing costs and in particular the weight of the total wage bill), industrial decisions (rationalizing the production tool and work organization) and social decisions (guaranteeing social peace). Margolis (2006) emphasizes that the decision of M&As is made from the acquired firm observable information, i.e., mainly performance and economic health criteria, rather than financial criteria from the accounts of the firm. The profit and loss account can also inform about firm’s wages policy, but most of the information of the working force structure (skills, « quality », productivity, etc.) is not available before the M&A process; it represents an ex post discovery for the acquiring firm. Margolis (2006) shows that decisions about the work force changes are made after M&As. In particular, he stresses that the main difficulty is the potential same jobs between employees in the acquired firm and those in the acquiring firm. This implies a
“period of waiting” for the human resources management at the moment and just after the merger-acquisition, which is related to the process of reorganization.

With our data it is difficult to check the persistence of the impact of the shock of M&As on the use of temporary workers because we have only a few years of data after the M&As (3 years) but Bunel, Duhautois and Gonzalez (2009) show that the effect is a priori transitory. This seems to confirm a transitory wait-and-see attitude of acquiring firms which can postpone hiring relations of medium run (long-term contracts and short-term contracts) during the period of time of the reorganization of the “new” created firm after the M&As and after being sure of the success of this operation. If the use of temporary worker is not persistent, this invalidates the hypothesis that an M&A is the occasion to accelerate the underlying process of substitution between external and flexible working force (temporary workers and subcontracting). On the other hand, if the use of temporary workers is persistent, this could explain partially why between 1980 and 2001, temporary employment has continually increased in France no matter the phase of the economic cycle: The spreading of financial business groups of firms and repeated waves of M&As contributed to the raise of the number of temporary workers.

7. Concluding remarks

Our study is based on an original database which enables us to analyse the effect of the waves of the M&As at the end of the 1990’s in France. In particular, we focus on the use of temporary workers after M&As. We follow acquiring firms by aggregating their temporary help employment before and after the M&A. Controlling for the fact that firms involved in M&As are different from those not involved in M&As, the main results show that acquiring firms increase their level of use of temporary help after the M&A. We can interpret these results as a sign of a situation of “crisis” for employers and employees: because of the uncertainty in the reorganization, firms prefer to hire temporary workers more than long-term or short-term contracts workers. These first results could be continued in several directions: On the one hand, we could extend the number of years after M&As to check whether the use of temporary workers is persistent. On the other hand, we would like to analyse the trajectory of temporary workers (with individual information) with worker flow data (we only measure variation of the number of temporary workers).

REFERENCES


