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Abstract

This paper analyses employee flows in firms subject to foreign acquisitions using a large Finnish linked employer-employee data set. The results show that in the industrial sector, the job separation hazard increases in the year following a foreign or domestic acquisition. In the case of foreign acquisitions exits to both other jobs and non-employment become more likely with the probability of changing jobs increasing more than the probability of moving to non-employment. However, in certain industrial sectors, where technological know-how may be argued to be important, the job separation hazard does not increase following foreign acquisitions. Neither foreign nor domestic M&A transactions appear to influence the job separation hazard of service sector employees in the first year following the acquisition, but in the second and third years after the transaction the job separation hazard increases with a larger change following foreign than domestic acquisitions. The impact of a foreign acquisition does not vary by individual characteristics in either sector, whereas following a domestic merger there is an increase in the job separation hazard of university educated employees. Also older workers experience an increase in their job separation hazard following a domestic merger.

JEL Classification: J63, C23, F23.

Keywords: Foreign acquisition; Job separations; Linked employer-employee panel data

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1 Introduction

Cross-border mergers and acquisitions play a major role in the ongoing globalisation process and are often the subject of public debate on the pros and cons of increased economic integration. One of the areas of influence of foreign acquisitions is the labour market. In the public debate foreign acquisitions are often seen as increasing job insecurity due to the perceived ease with which multinational companies can shift their production facilities elsewhere following adverse changes in their operating environment. On the other hand, policy in many countries is designed to attract foreign direct investment because of its perceived positive influence on the host country's economy.

Empirical research on the effects of foreign acquisitions has mainly focused on productivity and wages. There have, nevertheless, also been a number of contributions to the analysis of the impact that transition to foreign ownership has on employment. However, the existing evidence is predominantly based on plant and firm level data, which implies that the employment effects found in these studies may mask a number of interesting individual level developments taking place following a foreign acquisition. For example, foreign acquisitions may affect different types of workers in different ways depending on the motives of the acquisition. By following the employees of firms subject to a foreign acquisition and combining this with information on individual characteristics, we can study whether some employee groups are e.g. more adversely affected by foreign acquisitions than others. Taking into account the subsequent employment status of employees that leave a firm following a foreign acquisition can also give us an idea of how severe the effects of potential workforce restructuring are at the individual level.

In addition to being predominantly at the firm and plant level, previous empirical research has been mostly based on data from the manufacturing sector, which is a limitation, considering the increased importance of the service sector. There may be important differences between the motives and impacts of acquisitions in

different sectors. For example, to the extent that certain service sector firms may need a customer interface, it may not be as straightforward for an acquirer to restructure the workforce of a service sector firm as it would be in an industrial firm.

When studying the impact of foreign acquisitions on personnel it is also important to try to distinguish between effects that potentially are common to any acquisition, be it cross-border or not, and effects that are unique to transactions where the acquirer is foreign. An acquisition per se may induce restructuring, but to the extent that the motives of foreign and domestic acquisitions differ, there may be quite different implications for the workforce. For example, there is survey evidence from Finland indicating that the most prevalent reasons for acquisitions of Finnish companies by foreign companies have to do with access to the Finnish, Nordic or Russian market (Ali-Yrkkö et al. 2004). There are also differences depending on sector, with technological know-how also being a commonly cited motive for foreign acquisitions in some industrial sectors. Motives for purely domestic mergers may differ from these, which may imply different consequences for employees.

This paper seeks to complement earlier studies on the links between foreign acquisitions and the workforce, and contributes to the literature in two ways: firstly, the analysis focuses on the effects of foreign acquisitions for employment outcomes at the individual level, and secondly, all sectors of the economy are covered. We use linked employer-employee data on a representative sample of Finnish employees in all sectors, which enables us to analyze the flow of workers in plants following a foreign acquisition. We decompose these flows by destination states and control for individual and firm characteristics in studying the effect that foreign acquisition has on the probability of ending up in a particular state. We also seek to establish whether the effects of acquisitions are similar regardless of whether foreign companies are involved, i.e. we distinguish between the effects of purely domestic mergers and cross border acquisitions.

The analysis shows that in the industrial sector, the job separation hazard increases in the year following a foreign or domestic acquisition. In the case of foreign acquisitions exits to both other jobs and non-employment become more likely with the probability of changing jobs increasing more than the probability of moving to non-employment. However, in certain industrial sectors, where technological know-how may be argued to be important, the job separation hazard does not increase following foreign acquisitions. There is no such difference between different types of industrial sectors following domestic mergers. This may indicate knowledge sourcing as a motive behind foreign acquisitions in these sectors. M&A transactions do not appear to influence the job separation hazard of service sector employees in the first year following the acquisition, but in the second and third years after the transaction the job separation hazard increases with a larger change following foreign than domestic acquisitions. The finding may be related to the need for a customer interface which restricts the possibilities for immediate restructuring. In the industrial sector the job separation hazard decreases in the second and third years following both foreign and domestic acquisitions, implying a one-off restructuring. The impact of a foreign acquisition does not vary by individual characteristics in either sector, whereas following a domestic merger there is an increase in the job separation hazard of university educated employees. Also older workers experience an increase in their job separation hazard following a domestic merger.

The remainder of the paper is structured as follows. Section 2 presents a brief overview of the related theoretical and empirical literature. Section 3 describes the data used in the analysis. Section 4 describes transitions of workers and presents the analysis of the effect of foreign acquisition on individual employment outcomes. Finally, Section 5 concludes.

2 Related literature

2.1 Theoretical background

The analysis of the effects of foreign acquisitions links two distinct strands of literature: theories of multinational enterprises (MNEs) and theories of mergers

and acquisitions (M&A). Theories of MNEs have implications for employment through different routes. Firstly, they imply that the skill structure of the labour force in MNEs may differ from that of purely domestic firms, with MNEs having a higher share of skilled employees (Markusen, 2002). This may lead to restructuring when a firm develops into a MNE. Secondly, MNEs may differ from purely domestic firms in terms of the speed and magnitude of employment adjustment due to their ability to relocate production on the one hand and the different skill structure of their labour force on the other (Barba Navaretti et al., 2003). The higher share of skilled workers implies more rigid labour demand[1] but the ability to relocate implies a speedier and potentially larger adjustment.

Both of the effects mentioned above arise from the differences between MNEs (both domestically or foreign owned) and purely domestic firms. The literature on mergers and acquisitions, on the other hand, considers the effects of the actual change of ownership as a one off event. This literature has discussed several different frameworks for thinking about the employment effects of foreign acquisitions. These models link ownership change to e.g. creative destruction, market competition, scale economies and synergies[2]. The hypotheses on the effects of ownership change on employment derived from these models vary and are related to the different motives behind the transactions. For instance, exploiting synergies may lead to higher employment if the rise in efficiency enables an expansion in market share. On the other hand, disposing of overlapping functions to improve efficiency may lead to downsizing. An acquisition may also have different effects on different types of employees. Eg. if an acquisition is undertaken with the intention of changing management practices, this will most likely affect management differently than the rest of the workforce (Shleifer and Vishny, 1988). To the extent that acquisitions in foreign and domestic markets may be undertaken for different reasons and may involve e.g. different degrees of overlapping functions between the firms involved in the transaction, the implications for employees may be quite different following a foreign rather than domestic acquisition.

[1] Hamermesh (1993).
[2] E.g. Jensen (1988), Bradley et al. (1983), Salant et al. (1985), Schleifer and Summers (1987).

When considering individual employment outcomes following foreign acquisitions, it is also worthwhile to consider the implications of the literature on MNEs and the literature on M&As in the context of workers flows. In models such as Jovanovic (1979), the job-matching process ensures that workers are optimally assigned to jobs. In such a framework acquisitions may be thought of as causing turnover, if they change the value of a worker-employer match. This may again depend on distinct characteristics of foreign vs. domestic acquisitions.

With increasingly integrated international markets it may be argued that some acquisitions by foreign firms may bear characteristics related more to pure acquisition effects than the multinational aspects of the transaction. All in all, the predictions in terms of employment effects of foreign acquisitions are not clear cut and empirical evidence must be consulted for clarification.

2.2 Previous empirical research

Empirical research on the employment effects of foreign acquisitions is still quite scarce and, as mentioned above, conducted on plant and firm level data. Studies that consider foreign acquisitions explicitly include Girma and Görg (2004) for the UK, Piscitello and Rabbiosi (2005) for Italy, Balsvik and Haller (2007) for Norway, Bellak et al. (2006) for Austria, Bandick and Karpaty (2007) for Sweden, and Böckerman and Lehto (2008) for Finland. The results from these studies are mixed. In the context of the current analysis, the most relevant is probably the previous on Finnish data by Böckerman and Lehto (2008) who find that acquisitions by foreign based firms have a negative effect on employment only in the manufacturing sector whereas takeovers by foreign-owned companies based in Finland have a substantially negative impact on employment in a group containing firms in construction and services. They also study domestic acquisitions and find that these have a negative effect on employment in all sectors.

Studies that do not take into account the nationality of the acquiring firm have been conducted using both US and European data, but again almost exclusively with plant and firm level data. Research on US data has found both negative and positive effects of employment[3], whereas European evidence implies mainly negative effects of M&A on employment[4]. Gugler and Yurtoglu (2004) compare the effects of M&A in the US and Europe using firm level data and find that in Europe mergers significantly reduce the demand for labour but in the US there is no evidence of significantly adverse effects. They also take into account cross border mergers and acquisitions but do not find significant differences compared to domestic acquisitions.

Individual level employment effects of M&A have previously been studied by Margolis (2006) using French data. He distinguishes between the effects on the acquiring and acquired firm and finds that employees of the acquired firm are less likely to remain with the new entity immediately after the takeover. He also observes that the workers with characteristics typically associated with the fastest subsequent job finding are overrepresented among those leaving a firm following a takeover. Gibbs et al. (2007) study post-merger organizational integration using individual level data from Denmark and find that if employees of the acquiring firm are dominant in the new firm, as measured by number of employees in the two groups, they experience lower turnover. Siegel and Simons. (2008) study individual level employment effects of M&A using Swedish manufacturing data. They find that M&As significantly increase the likelihood of inter-firm mobility and unemployment. These studies do not, however, distinguish between foreign and domestic M&A.

Individual level employment effects of foreign acquisitions are also related to the changes in the skill composition of employment. This issue has been studied using plant level data by Lipsey and Sjöholm (2002) for Indonesia, Almeida (2003) for

[3] See Brown and Medoff (1988), Bhagat et al. (1990), Lichtenberg and Siegel (1990), McGuckin et al. (1995) and McGuckin and Nguyen (2000).

[4] See Conyon et al. (2002), Siegel and Simons (2006).

Portugal and Huttunen (2007) for Finland. The results from these studies differ from one another, and in the context of the current analysis it is interesting to note that using Finnish manufacturing data, Huttunen (2007) finds that the share of highly educated workers decreases following a few years after a foreign acquisition. Considering the implications of the theory of MNEs this finding is slightly surprising, and provides a useful comparison for the current individual level analysis.

The previous literature discussed above gives rise to interesting issues that can be studied with the individual level data at hand. The theory on M&A does not provide clear predictions regarding the employment effects of foreign acquisitions. However, previous empirical findings give us reason to expect that the probability of a job separation will go up following a foreign acquisition and that there may be different effects for different types of employees. In addition, analysis of the destinations of workers who leave a firm following a foreign acquisition should shed some light on the severity of employment changes at the individual level.

3 Data

This study is based on a data set from Statistics Finland that links information on employers, i.e. firms and plants, and their employees. The data set is a 1/3 sample of individuals that were 16 to 69 years old in 1990. They are followed to year 2002 and the sample is extended each year by adding a 1/3 sample of 16 year old persons. The data set is formed by linking data from various Statistics Finland databases: Finnish Longitudinal Employer-Employee Data, Business Register, Industrial Statistics and Financial Statements Statistics. Information on the employer is linked to each individual based on the employer at the end of the year. Because of confidentiality, some of the firm level information is in the form of classified variables (firm size), ratios (value added per employee), growth rates (change in firm level employment), or binary variables (foreign ownership). These data are collected for all available years on all firms and plants that employ at

least one individual in the sample. The plant and firm panels thus cover most of the business sector in Finland[5].

Information on foreign ownership is available from 1994 onwards, which is not a severe restriction considering that foreign ownership in Finland was scarce before this time due to strict regulations that were not abolished until 1992 (Golub, 2003). Foreign acquisitions can first be identified in 1995, so when analyzing the effects of foreign acquisition on subsequent employment status the analysis years are 1996 to 2002. Job spells for employees with a plant code are studied, which basically concentrates the analysis on the business sector. The data set consists of 508 788 individuals who work in 114 996 plants giving a total of 1 871 277 person year observations.

Foreign ownership is defined on the basis of ultimate beneficiary owner (UBO) and a 20 % threshold is used in classifying a plant as foreign owned. Foreign acquisitions and foreign divestitures are identified on the basis of the ultimate beneficiary owner changing from domestic to foreign and vice versa. Many differences between foreign owned and domestic firms, such as the ability to shift production from one country to another, relate more to the multinationality of the firm than the actual nationality of ownership, and therefore it may be relevant to control for multinational status of the firm. We can identify domestic and foreign MNEs during the last years of our observation period, and use this information in robustness checks.

Identifying purely domestic mergers and acquisitions is slightly more difficult than identifying foreign acquisitions due to the nature of the data set. Plant codes are very stable and remain the same regardless of the ownership of the plant. Firm codes, however, may change due to other reasons than acquisitions (e.g. change of legal status of the firm). However, there are cases in which changes in firm codes

[5] The linking of the data set is described in detail in Ilmakunnas et al (2001).

can reasonably unambiguously be identified as mergers[6]. These types of changes are:

- The firm codes of two or more plants change to the same new firm code. Usually the old firm codes of these plants disappear, although it is possible that some part of one or both of the old firms remains outside the new entity.
- The firm code of one or more existing plants changes to an existing firm code previously related to one or more other plants. I.e. plants join another firm and their old firm code usually disappears.

This method is not completely flawless but should enable us to control for domestic mergers and acquisitions to a reasonable extent. As our primary focus is on the effects of foreign acquisitions, it is important to be able to control for effects of acquisitions in general, which this method can be argued to accomplish. Table 1 shows the number of firms and employees involved in different types of ownership during our observation period. The number of firms involved in foreign acquisitions is quite high compared to domestic mergers, as the definition of foreign acquisitions is broader. The number of foreign divestitures and employees involved in them is low, which should be kept in mind when analyzing the results.

[Table 1 here]

In this study we analyze transitions out of private sector plants and distinguish between transitions based on destination state. The different destination states considered are unemployment, outside the labour force, employed without a plant code, and employed with a new employer with a plant code. Employers without plant codes consist of e.g. most of the public sector whereas employers with plant codes cover effectively the whole business sector. Changing to a new employer is defined as a simultaneous change in a worker's plant code and the start of a new employment contract. In addition, if an employee's firm code does not change,

[6] I wish to thank Valerie Smeets for suggesting this method of identifying mergers.

then he/she is classified as staying with the same employer, i.e. changing plants within the same firm is generally not regarded as a job change.

The analysis includes a wide range of conditioning variables that previous studies have found to have an impact on employment transitions[7]. We include controls both at the individual and firm/plant level. The individual level variables include socioeconomic characteristics such as age, education, gender, marital status and under aged children. The job specific control variables we use are measured in the year prior to the year in which labour market status is evaluated. Tenure is included in order to control for duration dependence[8]. In addition, the log of taxable earnings is included as this may control for individual heterogeneity. Firms may also use the wage to lower quit rates.

The firm and plant level control variables include firm size, value added per worker, industry dummies as well as an indicator for declining employment in the year prior to the year in which we determine whether a plant has been acquired. This is done in order to account for reductions in employment that can not be attributed to the change of ownership. In addition we control for exporter and importer status of the firm so as to not confuse effects of this type of internationalization with the influence of a foreign acquisition.

The ownership variables included in the analysis are used to distinguish between the impact of different types of acquisitions. We include separate indicators for whether the employer was involved in a domestic M&A transaction, was subject to a foreign acquisition or was divested by a foreign firm in the previous period. As discussed above, if there are differences in the motives for foreign and domestic acquisitions, the consequences for the workforce may be quite different. We also include indicators for whether one's employer is in foreign ownership at some stage in the observation period or is involved in either a foreign or purely

[7] See e.g. Blau and Kahn (1981), Light and Ureta (1992), Lynch (1992), Royalty (1998), Anderson and Meyer (1994).
[8] The data are left censored, i.e. also job spells that begin before our observation period are included. The start date of each spell and thus tenure is, however, known also for those spells that begin prior to our observation period.

domestic M&A transaction at some point in the observation period. This enables us to control for persistent differences between these groups of firms.

In order to determine whether the consequences of M&A transactions differ for different types of employees, we interact the indicators for ownership change with individual education and age. We also include interactions of sector with the ownership change variables to take into account potential differences in the service sector as opposed to the industrial sector as found by Böckerman and Lehto (2008). As motives for acquisition may differ depending also on more detailed industry characteristics, we also conduct robustness checks with more detailed industry splits. Descriptive statistics of the control variables are displayed in Table 2 and Table 3, and a sectoral breakdown of employees affected by M&A transactions is presented in Table 4.

[Table 2, Table 3, Table 4]

4 Empirical analysis

In this section we first analyze the changes in the probability of separating from a job following foreign and domestic acquisitions. After this we disaggregate the job separations based on destination states in order to study the employment outcomes of workers involved in M&A transactions. Finally we conduct robustness checks on the chosen specifications.

4.1 Job separations following foreign acquisitions

To analyze job separations following foreign acquisitions we estimate a duration model in order to take into the differences in time in which workers are at risk of separating from their job. As we are using annual data, i.e. the data is grouped into intervals, we use a discrete time version of a proportional hazards model, the complementary log-log model. In this model the discrete time hazard of separating from a job can be expressed as:

$$h(t) = 1 - \exp\left[-\exp(x'\beta + \gamma_t)\right], \quad (1)$$

where $\boldsymbol{x}$ is a 1 x K vector of characteristic of the individual, $\boldsymbol{\beta}_j$ is K x 1, γ characterizes duration dependence and t refers to the time period. As we are dealing with discrete time, this hazard is the probability of having spell length t, conditional on survival up to time t.[9] We estimate the complementary log-log model assuming normally distributed unobserved heterogeneity at the plant level. It should be noted that acquisitions may be correlated with unobservable individual characteristics and due care needs to be taken when interpreting the results. However, the problem may be less severe than in similar plant-level studies. Using indicators for whether a firm is involved in a domestic or foreign M&A transaction at some stage during our observation period should control for persistent differences between firms that are targeted by acquirers and others, and plant level controls such as value added per worker may otherwise alleviate the problem. But interpreting the findings as strictly causal effects should be avoided.

Table 5 presents the results of estimation of different specifications of the complementary log-log model. Results are presented in the form of hazard ratios, with numbers greater than one indicating that the covariate has a positive proportional impact on the hazard and numbers less than one implying a negative proportional impact on the hazard. Column 1 of Table 5 shows results from a complementary log-log model where we take into account whether the firm was involved in an M&A transaction in the previous period and interact this with indicator for the firm being in the industrial sector (as opposed to services)[10]. The upper part of Table 5 shows the effects of the individual and firm/plant level control variables we include in the analysis. We will briefly discuss these first.

[Table 5 here]

[9] See e.g. Jenkins (2005).
[10] The industrial sector is defined as manufacturing, utilities, construction and mining and quarrying.

The effects of the control variables in column 1 are mostly as expected based on previous research. Females with young children are more likely to leave the firm, most likely reflecting transitions out of the labour force. This can be determined in more detail in the next section where flows are decomposed based on destination state. Employees with more tenure are slightly less likely to leave the firm which implies positive duration dependence. As discussed above, we include income to control for unobserved individual heterogeneity and the results show that individuals with higher earnings are less likely to separate from their job. This is consistent with search theory and findings in other empirical studies. Since earnings are potentially endogenous, we also ran the estimations without this variable, and our main results are robust to this change.

The plant and firm level control variables in column 1 also have expected impacts. To control for reductions in employment that are not related to ownership change, we include an indicator for declining employment at the plant between years t-2 and t-1. Unsurprisingly, previous downsizing increases the hazard of job separation. Higher labour productivity as measured by value added per worker decreases the job separation hazard. Firm size also has a significant effect on the job separation hazard, with employees in larger firms less likely to leave their job. This most likely reflects a broader range of employment possibilities within the firm and can be examined more closely using disaggregated flows in the next section.

To control for persistent differences between firms that are involved in foreign or domestic acquisitions and those that are not, we also include indicators for whether the firm in question is part of an M&A deal, be it foreign or domestic, at some point during our observation period and also an indicator for being foreign owned at some stage. These indicators therefore take the same value for a given firm during the whole observation period. We can see in column 1 in the first part of Table 5 that when the hazard of job separation is higher in firms that at some point are foreign owned. By contrast, firms targeted by acquirers, be they foreign

or domestic, do not appear persistently different from other firms in terms of job separation probabilities.

The primary variables of interest are those related to ownership change in the second part of Table 5. As discussed above, in the specification in column 1 we interact the indicators of ownership change with an indicator for the firm being in the industrial sector. The ownership variables without the interaction term therefore give the estimates for the service sector. In the service sector the job separation hazard actually decreases by following a purely domestic merger and a foreign divestiture, and there is no significant change after a foreign acquisition. With respect to foreign divestitures, it should be noted that the number of firms and employees involved in these transactions is very limited, as seen in Table 1, so the economic significance of the results concerning them is not substantial. We will therefore not concentrate on the impact of foreign divestitures in our analysis of the results.

By contrast, in the industrial sector the hazard of job separation increases following both domestic mergers and foreign acquisitions. For employees in industrial firms that are involved in a domestic merger, the hazard of exiting the job rises by approximately 12%[11] and for employees in firms subject to a foreign acquisition the increase is as high as 24%. In the industrial sector there does, therefore, appear to be restructuring taking place after both domestic and foreign M&A deals. The difference between the change in the job separation hazard following M&A transactions in services and the industrial sector may be related to e.g. requirements of a customer interface in certain service sector firms. In such cases, restructuring the workforce within a short time horizon may not be possible.

[11] The overall estimated impact of a domestic merger on the job separation hazard in the industrial sector is given by the hazard ratio for the indicator of a domestic merger (i.e. the impact in the service sector) multiplied by the hazard ratio of the interaction term of the domestic merger and the industrial sector dummy.

Since the potential impact of ownership change may take some time to materialize as implied by Huttunen's (2007) study, we also consider the effects of M&A deals two and three years after the transaction. The specification is otherwise similar to that in column 1 of Table 5. It should be noted, that as all individuals included in the estimation need to be observed for at least four periods, the number of observations available for estimation drops and the structure of the estimation sample also changes. The results are shown in column 2 of Table 5.

The results show that in the service sector there is a significant increase in the job separation hazard in the second and third years following both a purely domestic merger and a foreign acquisition. Employees in firms subject to a domestic merger experience a 10% increase in the job separation hazard in both the second and third years after the transaction. Workers in the service sector whose employer was subject to a foreign acquisition two to three years earlier have a job separation hazard that is 25% to 30% higher than the hazard for employees in firms not involved in such a transaction. As discussed above, the finding that there is no change in the service sector job separation hazard in the first year after an M&A transaction but an increase is observed in the following years may be related to the structure of some service businesses requiring a continuing customer interface.

In the industrial sector, on the other hand, following the first year increase in the job separation hazard that was found above to be related to both domestic and foreign acquisitions, there is actually a decrease in the job separation hazard in the second and third years following both domestic and foreign acquisitions. Taking into account the total change, i.e. the combination of the impact on the reference group of service sector employees and the interaction term, indicates that the decreases in the job separation hazard in the industrial sector are 3% and 6% in the second year after domestic and foreign acquisitions respectively and 15% and 10% in the third year. In this specification, the first year increase in the hazard appears slightly stronger following domestic mergers. These results indicate that in the industrial sector there is restructuring taking place in the first year following

the transaction, but following these initial changes, the job separation hazard of remaining employees actually decreases compared to their colleagues in other firms.

As we are using individual level data we are also able to examine the impact that different types of M&A have on particular groups of employees. The results in column 3 of show estimation of the same specification as in column 1, but with the ownership change variables additionally interacted with the education and age of the individual. As should be expected, the impacts of the individual level control variables in the first part of Table 5 are the same for the extended specification in column 3 as for the estimation shown in column 1.

Turning to the variables indicating ownership change in the lower part of Table 5, the interaction terms with the individual level characteristics now indicate differences in the consequences of M&A transactions for different types of employees. The results indicate that the increase in the job separation hazard following a domestic merger that was found above is driven by older employees. Comparing employees of similar age, there is actually a slight decrease in the job separation hazard following a domestic merger. However, the job separation hazard after a domestic merger increases with age, with the hazard ratio indicating a 0.4% increase per additional year of age. Following a foreign acquisition, there do not appear to be differences in job separation hazards between employees of different age.

Education also appears to make a difference for job separation probabilities following a domestic merger. Having a university education increases the job separation hazard by 15% compared to colleagues of similar age following a domestic merger. This would indicate restructuring at more skill intensive levels of the organization. By contrast, education does not appear to affect the job separation hazard following a foreign acquisition. There may, of course, be a longer term effect as found in Huttunen (2007).

4.2 Exits to different labour market states following foreign acquisitions

Next, we estimate a multinomial logit model to analyze the effect that a foreign acquisition has on the probability of exiting a job to different labour market states compared to staying with the same employer. This estimation method is essentially a competing risks duration model for discrete time data with the somewhat restrictive assumption that spell length is intrinsically discrete rather than continuous but grouped into intervals[12].

The alternative destination states are those described above, i.e. unemployment, outside the labour force, employed outside the business sector, employed with a new business sector employer and employed with the same employer[13]. The destination-specific hazards are:

$$\Pr(y = j) = \frac{\exp(x'\beta_j)}{\sum_{h=1}^{J} \exp(x'\beta_h)}, \tag{2}$$

where $\boldsymbol{x}$ is a 1 x K vector, $\boldsymbol{\beta}_j$ is K x 1, j=1, …, *J*. To identify the model, we set the parameter vector related to the outcome "Same employer" to 0, i.e. $\boldsymbol{\beta}_1 = 0$. Thus the remaining coefficients will measure the change relative to the group who stay with the same employer. We will discuss the results in the form of the relative probability of a certain transition to the probability of staying at the same firm, i.e. odds ratios (or ratios of relative risk). These are defined as:

$$\frac{\Pr(y = j)}{\Pr(y = 1)} = \exp(x'\beta_j) \tag{3}$$

With this model, the ratio of relative risk for a one unit change in $x^{(i)}$ is

[12] See Jenkins (2005) for a discussion.
[13] Transitions into self-employment are excluded from the current analysis. Observations on these are very infrequent and do not affect the results.

$$\frac{\exp(\beta_j^{(1)}x^{(1)}+\ldots+\beta_j^{(i)}(x^{(i)}+1)+\ldots+\beta_j^{(k)}x^{(k)})}{\exp(\beta_j^{(1)}x^{(1)}+\ldots+\beta_j^{(i)}x^{(i)}+\ldots+\beta_j^{(k)}x^{(k)})}=\exp(\beta_j^{(i)}) \quad (4)$$

and subsequently the ratio of relative risk for one unit changes in two variables is obtained by multiplying the exponentiated coefficients for these variables.

Table 6 presents the results from the estimation of the multinomial logit model comparing the probability of exiting to different destination states vs. staying with the same employer. The results are presented in the form of odds ratios as described above[14]. We include interactions with individual characteristics, i.e. in terms of covariates the specification corresponds to that in column 3 of Table 5.

[Table 6 here]

The main variables of interest are those related to ownership change in the second part of Table 6. Similar to the estimations above, to control for persistent differences between firms that at some point are foreign owned or subject to an acquisition, we include an indicator for both of these groups. Employees in firms that are involved in an M&A transaction do not differ to a large extent in terms of their likelihood to leave their job rather than stay at their current job. They appear about 6 % less likely to change to a job outside the business sector than to stay with the same employer. However, being employed in a firm that at some point is foreign owned has quite a large impact on the relative risk of exiting a job to several different destination states, with an increase of 21% to 40% in the likelihood of changing jobs and an increase of 16% in the likelihood of becoming unemployed compared to staying with their current employer. Consistent with the results above, these findings imply that worker mobility from firms that become foreign owned is different from mobility from other firms in addition to the possible one off effect of the actual acquisition.

[14] The standard errors are corrected for clustering at the individual level.

Looking at the results on transitions to different states following M&A transactions we first compare employees of similar age and education and then turn to the effects of individual characteristics. The results show that in the service sector there is a decrease in the probability of changing jobs compared to staying at the same firm after both domestic and foreign acquisitions. There is also a decrease in the probability of moving into unemployment following a purely domestic merger. For employees in the industrial sector, there is again a slight decrease in the job separation hazard following domestic mergers when comparing employees of similar age as was found in column 3 of Table 5 and this appears to be due to a decreased likelihood of transitions to employment outside the business sector[15]. Following foreign acquisitions the increase in the job separation hazard found above consists of increased probabilities of exit to both other jobs, unemployment and out of the labour force. However, when using different reference outcomes[16], we find that the likelihood of changing jobs either within the business sector or to an employer outside the business sector increases more than the likelihood of non-employment.

Considering next the influence of individual characteristics on the impact that M&A transactions have, we see that increase in the job separation hazard of university educated employees following a domestic merger is related to an increased likelihood of changing to other jobs. The likelihood of becoming unemployed or moving out of the labour force compared to the likelihood os staying at the same firm does not change significantly. This would indicate that despite the increased job separation hazard, educated employees are not too adversely affected by the transaction. Consistent with the findings above, education does not have much influence on labour market transitions following a foreign acquisition. The only change shows up in a decreased likelihood of becoming unemployed.

[15] As we are studying ratios of relative risk, the combined effect of two control variables is obtained by multiplying the two ratios. So the total impact for industrial sector employees is the odds ratio for ownership change in the service sector times the odds ratio for the industrial sector interaction.

[16] Results not shown, available on request.

The increased job separation hazard following domestic mergers that was found above for older workers in the single risk model also shows up in this estimation. The increase is driven by higher probabilities of changing jobs and becoming unemployed. Transitions out of the labour force do not change significantly indicating that the increased job separation hazard is not to a great extent related to the oldest employees moving into early retirement. In line with the results above, age does not have a significant impact on transitions following foreign acquisitions, with only marginally significant changes in exit probabilities.

The effects of the other covariates can also be interpreted in more detail when considering various destination states. The results in the first part of Table 6 show that e.g. older employees are slightly less likely to change jobs than to stay at the same firm. They are, however, more likely to become unemployed than to remain with the same employer. Also, compared to their male colleagues, women are more likely to become unemployed and change to a firm outside the business sector, but less likely to change to other business sector jobs. Women on average are also less likely to move out of the labour force, but this effect changes drastically when interacted with an indicator for having children under the age of 7. These women are unsurprisingly much more likely to move out of the labour force than to stay at the same firm compared to their colleagues. More educated employees are more likely to change jobs and less likely to become unemployed or move out of the labour force than stay at their existing job. Employees with higher tenure are less likely to exit a firm to any destination state, implying positive duration dependence. Higher earnings also reduce the likelihood of exiting a firm. Again, since earnings are likely to be endogenous, the model was also estimated without this variable. The effects of interest were robust to this change. Compared to employees in small firms, employees of larger firms are less likely to change jobs, which provides support to the hypothesis that the lower separation hazard in larger firms that was found in the single risk model reflects a broader range of job opportunities within large firms. As found above, declining employment implies that also in the following year employees are more likely to

exit than stay in the same firm and this effect extends to all the different destinations considered.

4.3 Robustness checks

In this section we consider some alternative specifications and extensions to the analysis. First, we analyze the effects of a different sectoral division on the results. Since our main results differ depending on whether a firm is in the service or industrial sector, we attempt to deepen the analysis by splitting the firms into narrower sectors and then interacting these with the variables indicating ownership change. As argued above, it could be that certain service sector firms need to maintain a customer interface, which could influence the ability of the firm to restructure its workforce in the short run. In addition, in the industrial sector, there may be differences in the motives of acquisitions in different sectors, as e.g. Ali-Yrkkö et al. (2004) report survey evidence indicating that technological know-how is an important reason for foreign acquisitions in some sectors. We use alternative sectoral divisions attempting to capture differences in the need for a customer interface in services on the one hand and importance of technological know-how in the industrial sector on the other (see Table 4).

The results show[17] that the impact of M&A transactions is similar in different service sectors, which may indicate that if the results reported above are driven by time needed to cope with the need for a customer interface, then this is true on a broad scale in the service sector. It should be noted, that our information on sectors is not very detailed (see Table 4) which may also influence the results. By contrast, when studying differences in the impact that foreign acquisitions have in different sectors in industry, we find that in sectors Manufacturing of machinery and equipment n.e.c and Manufacturing of electrical and optical equipment, the increase in the job separation hazard found in the rest of industry is absent[18]. No such difference between industrial sectors is found following domestic mergers.

[17] Results not shown, available on request.
[18] In this specification, the industrial sectors are split in two: Manufacturing of machinery and equipment n.e.c and Manufacturing of electrical and optical equipment form one group and the rest of the industrial sectors form the other. A further division becomes problematic due to limited numbers of observations.

This finding indicates that the motives for foreign acquisitions in these sectors may differ from motives in other sectors, e.g. by having to do with access to technological know-how. This in turn is likely to influence the impact that foreign acquisitions have on employment outcomes in these sectors.

Next, we consider the possibility that foreign acquisitions may have a different impact in cases where the acquired firm is already a multinational. This is related to the discussion that it is primarily differences between multinational and purely domestic firms rather than foreign and domestic firms that are relevant. In the context of foreign and domestic acquisitions this may not be as important, as many potential differences in the impacts of these transactions may be argued to mostly be related to whether the acquisition takes place in the local or foreign market. In any case, we run a similar estimation as that presented in column 3 of Table 5 but including interactions of the indicator for a foreign acquisition with an indicator for whether the firm is a multinational. We only have information on multinational status for the last years of our observation period, so this analysis includes data from 1999 onwards. The results show[19] that in industrial sector firms that are already multinational, the job separation hazard of employees increases by slightly less than in purely domestic firms. This may obviously also be related to the prevalence of multinationals in the technologically intensive sectors discussed above. We also consider the possibility that the influence that an acquisition has on job separations may be related to the size of the acquired firm. This is related to multinational status in that multinationals are typically larger. The results show that in the largest firms the job separation hazard actually increases more than in smaller firms following a foreign acquisition. There is no difference following a domestic merger.

Finally, we also conduct a robustness check using a linear probability model to describe job separations as opposed to the duration model we have discussed above. We run an OLS specification with covariates similar to those in the specification presented in column 3 of Table 5. We include plant fixed effects

[19] Results not shown, available on request.

which may to some extent also alleviate the problem of the endogeneity of acquisitions. The results from this specification are qualitatively similar to the results obtained using the duration model[20], and thereby support our earlier findings.

5 Conclusions

The purpose of this study was to examine the individual level employment effects of foreign acquisitions. The analysis shows that firms that become foreign owned are persistently different from firms that are continuously in domestic ownership, and employees in the firms that are, were previously, or will later be foreign owned are more likely to separate from their job. In the industrial sector, the job separation hazard increases in the year following a foreign or domestic acquisition. In the case of foreign acquisitions exits to both other jobs and non-employment become more likely with the probability of changing jobs increasing more than the probability of moving to non-employment. However, in certain industrial sectors, where technological know-how may be argued to be important, the job separation hazard does not increase following foreign acquisitions. There is no such difference between different types of industrial sectors following domestic mergers. M&A transactions do not appear to influence the job separation hazard of service sector employees in the first year following the acquisition, but in the second and third years after the transaction the job separation hazard increases with a larger change following foreign than domestic acquisitions. In the industrial sector the job separation hazard decreases in the second and third years following both foreign and domestic acquisitions, implying a one-off restructuring.

The impact of a foreign acquisition does not vary by individual characteristics in either sector, whereas following a domestic merger there is an increase in the job separation hazard of university educated employees. Also older workers experience an increase in their job separation hazard following a domestic merger.

[20] Results not shown, available on request.

All in all, the largest differences between changes in job separation hazards after M&A transactions appear to be related to sectoral differences. The changes observed following domestic and foreign acquisitions indicate similar types of restructuring, but the magnitudes of the changes are somewhat larger in the case of foreign acquisitions. The finding that the job separation hazard does not increase following foreign acquisitions in certain industrial sectors that may be considered knowledge intensive may well be indicative of different motives for these transactions compared to purely domestic mergers. In addition, the fact that the development of job separation hazards varies based on individual characteristics following domestic mergers but no such difference is found following foreign acquisitions, may be indicative of slightly different motives behind the transactions. Contrary to commonly expressed views in the public debate, the consequences of foreign acquisitions do not appear strictly more adverse than the consequences of purely domestic acquisitions.

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Table 1 Firms involved in M&A

	Firms	%	Employees	%
Firm NOT involved in M&A deal during observation period	83 552	98.8 %	1 199 767	92.5 %
Firm involved in domestic merger in previous year	572	0.7 %	58 981	4.5 %
Firm subject to foreign acquisition in previous year	386	0.5 %	31 926	2.5 %
Firm subject to foreign divestiture in previous year	93	0.1 %	6 931	0.5 %
Total	84 603	100.0 %	1 297 605	100.0 %

Table 2 Descriptive statistics

Variable	Mean	Std. Dev
Age	39.836	11.128
Female	0.366	0.482
Married	0.363	0.481
Children under age 7	0.197	0.397
Female* Children under age 7	0.064	0.244
Schooling years	11.364	2.141
Tenure (months)	98.248	108.223
Log of taxable income	9.996	0.642
Declining employment	0.367	0.482
Log of firm labour productivity	10.631	0.631
Exporting firm	0.501	0.500
Importing firm	0.572	0.495
Employer involved in domestic merger in previous year	0.032	0.175
Employer subject to foreign acquisition in previous year	0.017	0.129
Employer subject to foreign divestiture in previous year	0.004	0.061
Employer foreign owned at some point	0.188	0.391
Employer involved in M&A deal at some point	0.359	0.480
Employer in industrial sector	0.495	0.500
* employer subject to domestic merger in previous year	0.032	0.175
* employer subject to foreign acquisition in previous year	0.017	0.129
* employer subject to foreign divestiture in previous year	0.004	0.061
# of observations	1871277	

Table 3 Descriptive statistics: firm size

Size of firm	Firms	%	Employees	%
Under 5 employees	52,903	57.6	240,498	12.9
5-9 employees	14,301	15.57	143,628	7.7
10-19 employees	8,938	9.73	156,274	8.4
20-49 employees	6,339	6.9	202,312	10.8
50-99 employees	2,622	2.85	141,898	7.6
100-299 employees	2,632	2.87	232,570	12.4
Over 300 employees	4,105	4.47	754,097	40.3
Total	91,840	100	1,871,277	100

Table 4 Firms involved in M&A by sector

	Employer NOT involved in M&A deal during observation period		Employer involved in domestic merger in previous year		Employer subject to foreign acquisition in previous year		Employer subject to foreign divestiture in previous year		Total	
Industry	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Mining and Quarrying	3 901	0.33	206	0.35	72	0.23	7	0.10	4 186	0.3 %
Manufacture of food products, beverages and tobacco	26 240	2.19	7 829	13.27	3 215	10.07	745	10.75	38 029	2.9 %
Manufacture of textiles	8 351	0.70	316	0.54	299	0.94	52	0.75	9 018	0.7 %
Manufacture of wearing apparel, leather and leather products	13 795	1.15	157	0.27	273	0.86	0	0.00	14 225	1.1 %
Manufacture of wood, wood products, pulp, paper and paper products	37 441	3.12	12 152	20.60	816	2.56	126	1.82	50 535	3.9 %
Publishing, printing	38 390	3.20	1 850	3.14	1 031	3.23	24	0.35	41 295	3.2 %
Manufacture of coke, refined petroleum products, nuclear fuel, chemicals, chemical products and man-made fibres	12 015	1.00	2 475	4.20	696	2.18	112	1.62	15 298	1.2 %
Manufacture of rubber and plastic products	14 928	1.24	606	1.03	816	2.56	742	10.71	17 092	1.3 %
Manufacture of other non-metallic mineral products	10 024	0.84	2 122	3.60	639	2.00	374	5.40	13 159	1.0 %
Manufacture of basic metals	12 925	1.08	167	0.28	625	1.96	0	0.00	13 717	1.1 %
Manufacture of fabricated metal products	44 043	3.67	1 526	2.59	741	2.32	294	4.24	46 604	3.6 %
Manufacture of machinery and equipment n.e.c, electrical and optical equipment	101 363	8.45	5 363	9.10	5 424	16.98	1 365	19.69	113 515	8.7 %
Manufacture of transport equipment	22 864	1.91	409	0.69	1 260	3.95	161	2.32	24 694	1.9 %
Manufacturing n.e.c.	20 487	1.71	599	1.02	292	0.91	101	1.46	21 479	1.7 %
Electricity, gas and water supply, Construction	148 068	12.34	3 773	6.40	1 411	4.42	183	2.64	153 435	11.8 %
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, Hotels and restaurants	307 373	25.62	13 280	22.52	6 106	19.12	1 869	26.96	328 628	25.3 %
Transport, storage and communication	189 146	15.77	3 054	5.18	1 450	4.54	92	1.33	193 742	14.9 %
Financial intermediation	11 143	0.93	34	0.06	2 579	8.08	30	0.43	13 786	1.1 %
Real estate, renting and business activities	177 270	14.77	3 063	5.20	4 181	13.10	654	9.44	185 168	14.3 %
Total	1 199 767	100	58 981	100	31 926	100	6 931	100	1 297 605	100 %

Table 5 Estimation results: single risk duration model

Hazard ratio estimates	(1)	(2)	(3)
Age	0.996***	0.999***	0.996***
	(0.000)	(0.000)	(0.000)
Female	0.939***	0.920***	0.939***
	(0.005)	(0.009)	(0.005)
Married	1.081***	1.068***	1.081***
	(0.006)	(0.010)	(0.006)
Children under age 7	0.920***	0.968***	0.920***
	(0.006)	(0.011)	(0.006)
Female* Children under age 7	1.141***	1.276***	1.141***
	(0.011)	(0.023)	(0.011)
Schooling years	1.021***	1.018***	1.020***
	(0.001)	(0.002)	(0.001)
Tenure	0.987***	0.989***	0.987***
	(0.000)	(0.000)	(0.000)
Tenure squared	1.000***	1.000***	1.000***
	(0.000)	(0.000)	(0.000)
Log of taxable income	0.646***	0.604***	0.646***
	(0.002)	(0.004)	(0.002)
Declining employment	1.053***	1.078***	1.053***
	(0.004)	(0.009)	(0.004)
Log of firm labour productivity	0.932***	0.886***	0.931***
	(0.004)	(0.007)	(0.004)
Exporting firm	1.008	0.928***	1.008
	(0.009)	(0.016)	(0.009)
Importing firm	0.946***	0.894***	0.946***
	(0.007)	(0.014)	(0.007)
Firm size 5-9 employees	1.027***	1.038**	1.027***
	(0.009)	(0.017)	(0.009)
Firm size 10-19 employees	0.999	1.018	0.999
	(0.010)	(0.017)	(0.010)
Firm size 20-49 employees	0.980*	0.981	0.980*
	(0.010)	(0.018)	(0.010)
Firm size 50-99 employees	0.934***	0.928***	0.934***
	(0.012)	(0.021)	(0.012)
Firm size 100-299 employees	0.860***	0.834***	0.861***
	(0.012)	(0.019)	(0.012)
Firm size over 300 employees	0.811***	0.755***	0.812***
	(0.010)	(0.016)	(0.010)
Employer foreign owned at some point	1.061***	1.127***	1.061***
	(0.016)	(0.027)	(0.016)
Employer involved in M&A deal at some point	1.02	1.01	1.021
	(0.013)	(0.020)	(0.013)

Table continues on next page

Table 5 continued

Hazard ratio estimates			
Employer involved in domestic M&A deal			
1 year ago	0.945***	1.056	0.815***
	(0.019)	(0.040)	(0.034)
2 years ago		1.096**	
		(0.050)	
3 years ago		1.100*	
		(0.055)	
Employer involved in foreign acquisition			
1 year ago	0.971	0.924*	0.895**
	(0.023)	(0.044)	(0.047)
2 years ago		1.259***	
		(0.060)	
3 years ago		1.317***	
		(0.068)	
Employer involved in foreign divestiture			
1 year ago	0.902*	0.759***	0.992
	(0.047)	(0.069)	(0.120)
2 years ago		0.894	
		(0.091)	
3 years ago		1.08	
		(0.103)	
Employer in industrial sector			
* employer involved in domestic M&A deal			
1 year ago	1.182***	1.225***	1.161***
	(0.033)	(0.065)	(0.032)
2 years ago		0.887*	
		(0.055)	
3 years ago		0.766***	
		(0.049)	
* employer involved in foreign acquisition			
1 year ago	1.245***	1.223***	1.240***
	(0.041)	(0.078)	(0.041)
2 years ago		0.745***	
		(0.051)	
3 years ago		0.688***	
		(0.050)	
* employer involved in foreign divestiture			
1 year ago	1.044	1.124	1.044
	(0.076)	(0.148)	(0.076)
2 years ago		1.404**	
		(0.206)	
3 years ago		0.865	
		(0.133)	
University education			
* employer involved in domestic M&A deal 1 year ago			1.153***
			(0.045)
* employer involved in foreign acquisition 1 year ago			1.045
			(0.047)
* employer involved in foreign divestiture 1 year ago			1.049
			(0.105)
Age			
* employer involved in domestic M&A deal 1 year ago			1.004***
			(0.001)
* employer involved in foreign acquisition 1 year ago			1.002
			(0.001)
* employer involved in foreign divestiture 1 year ago			0.997
			(0.003)
Observations	1871277	725386	1871277
Sectors	All	All	All
Unobserved heterogeneity	Gaussian	Gaussian	Gaussian

Notes

1. Reference category for firm size is under 5 employees

2. Standard errors in parentheses: * significant at 10%; ** significant at 5%, *** significant at 1%.

3. Coefficients for industry, region and year dummies as well as 2nd and 3rd lags of labour productivity, export and import status in model (2) not reported

Table 6 Estimation results: multinomial logit model

Odds ratio estimates with reference category "Same employer"	Unemployment	Out of the labour force	New employer outside business sector	New business sector employer
Age	1.0321***	0.9982**	0.9906***	0.9674***
	(63.31)	(-2.65)	(-16.65)	(-68.94)
Female	1.0351***	0.8613***	1.1029***	0.8664***
	(3.37)	(-14.02)	(9.29)	(-16.16)
Married	1.3567***	1.4070***	0.9315***	0.9179***
	(28.43)	(32.39)	(-6.33)	(-9.14)
Children under age 7	0.8600***	0.4507***	0.9777	1.0390***
	(-10.30)	(-38.74)	(-1.56)	(3.61)
Female* Children under age 7	1.0459	5.3053***	0.8308***	0.6497***
	(1.95)	(68.85)	(-8.55)	(-23.54)
Schooling years	0.9102***	0.9731***	1.0950***	1.0497***
	(-37.43)	(-10.83)	(40.45)	(26.58)
Tenure	0.9841***	0.9838***	0.9914***	0.9836***
	(-121.13)	(-104.02)	(-57.12)	(-109.06)
Tenure squared	1.0000***	1.0000***	1.0000***	1.0000***
	(107.05)	(109.51)	(45.47)	(69.57)
Log of taxable income	0.5725***	0.3273***	0.6258***	0.7531***
	(-78.44)	(-154.03)	(-57.09)	(-42.25)
Declining employment	1.1054***	1.1039***	1.1148***	1.1382***
	(12.45)	(11.27)	(12.37)	(18.31)
Log of firm labour productivity	0.7744***	0.9431***	0.8782***	0.8175***
	(-38.05)	(-7.60)	(-17.83)	(-36.81)
Exporting firm	1.0520***	1.0472***	0.9245***	0.9264***
	(3.75)	(3.31)	(-5.50)	(-6.64)
Importing firm	0.8957***	0.9898	0.9031***	0.8700***
	(-8.42)	(-0.77)	(-7.38)	(-12.80)
Firm size 5-9 employees	1.1883***	1.0995***	0.8886***	1.0908***
	(10.93)	(5.47)	(-6.63)	(6.78)
Firm size 10-19 employees	1.0932***	1.1040***	0.8826***	1.0723***
	(5.49)	(5.69)	(-7.02)	(5.40)
Firm size 20-49 employees	1.1241***	1.1398***	0.9331***	1.0284*
	(7.41)	(7.83)	(-4.12)	(2.21)
Firm size 50-99 employees	1.0885***	1.1617***	0.9580*	1.0328*
	(4.51)	(7.61)	(-2.18)	(2.14)
Firm size 100-299 employees	1.0085	1.0535**	0.8844***	0.8605***
	(0.46)	(2.73)	(-6.59)	(-10.03)
Firm size over 300 employees	0.8687***	1.0816***	0.8874***	0.6641***
	(-7.98)	(4.45)	(-6.82)	(-28.39)

Table continues on next page

Table 6 continued

Odds ratio estimates with reference category "Same employer"	Unemployment	Out of the labour force	New employer outside business sector	New business sector employer
Employer foreign owned at some point	1.1601***	1.0261	1.3960***	1.2066***
	(9.88)	(1.67)	(21.44)	(14.51)
Employer involved in M&A deal at some point	1.0145	1.0075	0.9583**	1.0246*
	(1.10)	(0.57)	(-3.01)	(2.11)
Employer involved in domestic M&A deal in previous year	0.8339*	0.9428	0.7080***	0.8944
	(-1.99)	(-0.62)	(-3.56)	(-1.42)
Employer involved in foreign acquisition in previous year	0.8782	1.2528	0.8792	0.7007***
	(-1.12)	(1.72)	(-1.17)	(-3.72)
Employer involved in foreign divestiture in previous year	0.4824*	1.2497	1.1915	0.7792
	(-2.40)	(0.77)	(0.62)	(-1.12)
Employer in industrial sector				
* employer involved in domestic M&A deal in previous year	1.0770	0.9729	1.3409***	0.9869
	(1.37)	(-0.49)	(5.43)	(-0.28)
* employer involved in foreign acquisition in previous year	1.3196***	1.1998**	1.4186***	1.6308***
	(4.18)	(2.59)	(5.53)	(9.06)
* employer involved in foreign divestiture in previous year	0.8205	0.9992	1.6959***	0.9463
	(-1.29)	(-0.01)	(3.48)	(-0.45)
University education				
* employer involved in domestic M&A deal in previous year	1.0083	1.0924	1.1747*	1.3736***
	(0.08)	(0.86)	(2.21)	(5.02)
* employer involved in foreign acquisition in previous year	0.6769**	1.2220	0.9127	1.0727
	(-2.73)	(1.69)	(-1.09)	(0.98)
* employer involved in foreign divestiture in previous year	0.9373	1.1928	0.9540	1.2283
	(-0.21)	(0.67)	(-0.23)	(1.32)
Age				
* employer involved in domestic M&A deal in previous year	1.0047*	1.0025	1.0066**	1.0055*
	(2.23)	(0.94)	(2.77)	(2.55)
* employer involved in foreign acquisition in previous year	1.0048	0.9921*	1.0021	1.0061*
	(1.81)	(-2.20)	(0.79)	(2.40)
* employer involved in foreign divestiture in previous year	1.0179**	0.9919	0.9805**	1.0015
	(2.62)	(-0.99)	(-2.69)	(0.24)
Observations	1871277			
Pseudo R-Square	0.1232			

Notes

1. The reference category is "Same employer"

2. Reference category for firm size is under 5 employees

3. Cluster robust (by individual) t-statistics in parentheses: * significant at 5%; ** significant at 1%, *** significant at 0.1%.

4. Coefficients for industry, region and year dummies not reported