Leaving the multinational: the likelihood and nature of employee mobility from MNEs

Article

Accepted Version

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

Leaving the Multinational
The Likelihood and Nature of Employee Mobility from MNEs

Short title suggestion (40 characters): Leaving the Multinational

Authors:
Martin Andersson[1]
Davide Castellani[2]
Claudio Fassio[3]
Viroj Jienwatcharamongkhol[4]

Abstract

The mobility of workers from multinational enterprises (MNEs) to other local firms is increasingly recognized as an important externality mechanism. However. MNEs have strong incentives to curb this mobility to prevent leakage of firm-specific assets (FSAs). This research note investigates the likelihood and nature of such mobility patterns. Using longitudinal, matched employer-employee data for Sweden with detailed information on individuals, establishments, and firms, we find that workers employed in MNEs are more likely to leave their employers, compared to similar workers employed in non-MNEs with similar characteristics. This effect is particularly strong for high-wage workers and managers. While we find that workers who leave MNEs are more likely to move to other MNEs, our results identify significant mobility toward start-ups, thus leading to important industrial dynamics in the host country. We discuss the implications of these results for research on the externalities from MNEs, and international business theory.

Keywords: Multinational Enterprises, Firm-Specific Advantages, Strategic Human Capital, Labor

Mobility, Externalities, Start-ups, Logit.

JEL: F23, J24, J60, L26, D22

[1]Department of Industrial Economics, Blekinge Institute of Technology (BTH), 371 79, Karlskrona, Sweden / Swedish Entrepreneurship Forum, Stockholm, Sweden / Research Institute of Industrial Economics, Stockholm, Sweden / CIRCLE, Lund University, Sweden, Tel: 0455-385657; E-mail: martin.andersson@bth.se
[2]Henley Business School, University of Reading, UK / CIRCLE, Lund University, Sweden / Department of Economics, University of Perugia, Italy; Tel: +44-118 378 8846; E-mail: davide.castellani@henley.ac.uk.
[3]Department of Business Administration, Lund University, Sweden; address: Scheelevägen 15B, 223 63 Lund, Sweden / CIRCLE, Lund University, Sweden; Tel: +46-462220198; E-mail: claudio.fassio@fek.lu.se
[4]Department of Industrial Economics, Blekinge Institute of Technology (BTH), 371 79, Karlskrona, Sweden; Tel: +46- 455-385603E-mail: viroj.jienwatcharamongkhol@bth.se

INTRODUCTION

Labor mobility is one of the main ways through which experience and skills developed in multinational enterprises (MNEs) may become available to other firms and help strengthen and develop their capabilities (Castellani & Zanfei, 2006; Girma, Gong, Görg & Lancheros, 2015; Girma, Görg & Kersting, 2019; Meyer & Sinani, 2009; Rojec & Knell, 2018). Because employees in MNEs are likely to acquire specific skills and experiences that make them especially attractive on the labor market, one could expect that MNE employees are more likely to leave their employers, than similar employees in other types of firms. At the same time, the human capital of MNE employees is an important component of firm-specific assets (FSAs), which creates strong incentives for MNEs to curb labor mobility, by increasing the opportunity cost of workers leaving the firm to avoid dissipation of their intangible assets (Fosfuri, Motta & Ronde, 2001). Indeed, MNEs are known to pay higher wages (Globerman, Ries & Vertinsky, 1994; Heyman, Sjöholm & Tingvall, 2007; Hijzen, Martins, Schank & Upward, 2013; van der Straaten, Pisani & Kolk, 2020), to engage in various human capital retention strategies pertaining to both extrinsic and intrinsic incentives (Collings, Mellahi & Cascio, 2019; Kryscynski, Coff & Campbell, 2021, Tarique & Schuler, 2010; Tarique, Briscoe & Schuler, 2015), and to use measures like non-compete clauses (Garber, 2013).

These competing forces leave us with the empirical question: are workers employed in MNEs more likely than non-MNE workers to leave their firms? This research note addresses this question by studying the *likelihood* of employee mobility, based on detailed Swedish, matched employer-employee data for the period 2010–2014. In line with Campbell, Ganco, Franco and Agarwal (2012), we propose that to fully understand this phenomenon, it is necessary to study also the *nature* of labor mobility. In our empirical context, we first ask, "Who leaves the MNE?" and uncover the key characteristics of workers that leave MNEs. Thereafter, we seek to ask, "Where do workers go when they leave?". We consider workers leaving a firm to (i) become an employee in another MNE (ii) become an employee in an incumbent domestic (non-MNE) firm, (iii) join a start-up as an employee or entrepreneur.

Our results show that employees in MNEs are on average more likely to leave their employers when compared with workers from non-MNEs with very similar characteristics. Additionally, we also show that skilled workers with higher wages and engaged in higher-level occupations, such as managers, are the most likely to leave MNEs. Finally, we find that MNE employees are much more likely than non-MNE workers to move to other MNEs and start-ups.

Our study contributes to the literature that studies the externalities of foreign direct investments (FDI). Several studies have highlighted the significant footprint that the recruitment of skilled workers from MNEs leaves on the hiring firms' performance, in the form of productivity, exports, innovation, and growth (Andersson & Klepper, 2013; Balsvik, 2011; Csáfordi, Lőrincz, Lengyel & Kiss, 2018; Görg & Strobl, 2005; Poole, 2013; Song, Almeida & Wu, 2003). Other studies stressed the important role played by MNEs as anchor-tenant firms, whose local presence thickens factor markets by increasing the local availability of workers with specific skills and experience, that would not be available or developed without the presence of MNEs (Agrawal & Cockburn, 2003; Castellani, 2012; Giarratana, Pagano & Torrisi, 2005). While this literature has highlighted the important contribution of MNE workers for the hiring firms, it does not clarify whether this type of mobility is a common pattern or a relatively rare event among MNE workers. Our results show that employee mobility from MNEs is not a rare phenomenon: MNE workers are more likely than similar workers in non-MNEs to leave their firms. Moreover, we show that this is especially true for managers and highly paid workers: this implies that not only is mobility from MNEs a relatively common occurrence, but it also involves employees with very high levels of human capital, hence adding to its relevance as an externality mechanism. Finally, through our findings we demonstrate that there is a significant flow of MNE workers moving to start-up firms, a channel of mobility that to our knowledge, has not been fully explored by the existing literature.

Our findings also contribute to the literature that studies the relationship between FSAs in MNEs, human capital and employee mobility. Building on the resource-based view of the firm, it has been highlighted that to contribute to MNEs' FSAs, human capital should be highly firm-specific and provide limited value outside the MNE. Conversely our results are consistent with the view that the human capital of MNE workers is instead very attractive for other firms, and hence transferable. In this respect, our results

provide some confirmation of recent theorizations of MNEs, which point out that MNEs' competitive advantages build to a large extent on asset orchestration (Lessard, Teece & Laih, 2016; Pitelis & Teece, 2018) and FSAs emerge from the combination and re-combination of proprietary assets (such as technology, marketing capabilities, and managerial routines) with some key transferable abilities like human capital, possessed by the employees (Narula & Verbeke, 2015; Narula, Asmussen, Chi & Kundu, 2019). Human resources hence lead to a competitive advantage when they can be usefully combined with other capabilities that enable the firm to effectively orchestrate them for productive use (Collins, 2021; Helfat, 1994; Huckman & Pisano, 2006; Teece, 2011). According to this perspective, human capital is only one component of a bundle of assets orchestrated by the MNE, and employee mobility may not undermine the FSAs of MNEs, even if relevant expertise and knowledge leak out when employees leave the firm.

The remainder of this research note is organized as follows. Section 2 presents the data and methodology that are used in the empirical analysis. Section 3 presents the econometric results, while Section 4 discusses the contribution of our analysis. We highlight that our study can inform research on MNE externalities, the policy-making discussion on the potential impact of attracting and fostering MNE activity, and international business (IB) research on human capital as a source of FSAs, and knowledge leakage through worker mobility.

DATA AND METHODOLOGY

Data

We empirically investigate the likelihood and nature of worker mobility by exploiting a compilation of several databases maintained by Statistics Sweden. Mobility at the individual level is measured through the Register for firms and establishments dynamics (FAD), which allows us to track employees in a firm over time. This data is combined with the Longitudinal Individual database (LISA), which provides a

wide array of individual-level variables such as employment status, occupation, education, gender, age, family conditions, income, and several others. Firm-level variables are obtained from the Structural Business Statistics (FEK). The variables in the FEK database include employment, turnover, value-added, profits, and sector of operation. To identify an MNE we used the Register of Company Groups: from these data, we can distinguish between Swedish-owned firms that have affiliates abroad (Swedish MNEs) and foreign-owned companies with affiliates in Sweden (Foreign MNEs). In our analyses, we consider both types of companies as MNEs, regardless of their ownership.[i] However, in our empirical analysis, we will also check whether relevant differences between Swedish and Foreign MNEs exist when it comes to the mobility of their employees. Finally, firm-level exports and imports are taken from the Foreign trade in goods database (UHV). All these databases include a unique firm identification number, which allows dataset mergers.

Our sample includes all individuals in Sweden between 25–60 years of age with the status of "employee" at a company with at least ten employees within the private sector. This means that we have excluded individuals who receive unemployment benefits from the government in both year t and $t+1$, and civil servants employed in public institutions or state-owned enterprises. Moreover, we restrict our dataset to workers who have earned an annual income above the 100,000 SEK (10,000 USD) threshold, to exclude workers that may have some wage income, but are weakly connected to the labor market (Antelius & Björklund, 2000). The dataset also excludes individuals engaged in agriculture and the army. Last, we include only individuals who have had at least a two-year tenure at a firm. The Swedish labor market regulation allows firms to hire employees on a fixed-term employment contract for a maximum of two years. By only including individuals with more than two years of tenure at the same firm, we can safely assume that the decision to leave the firm is not due to the termination of short-term employment. The dataset has yearly data from 2010 through 2014. The total number of individuals included in our analysis is 1,295,339, which results in 4,004,227 observations.

Variables and Methodology

To analyze if the likelihood that an employee leaves an MNE is different from the likelihood that a similar employee leaves a non-MNE, we estimate the following logit model:

$$(y|X) = \Lambda(X'\beta) = \frac{e^{X'\beta}}{1+e^{X'\beta}} \qquad (1)$$

where the dependent variable y is equal to one if an employee changes employer between year t and $t+1$, and zero otherwise. Since the focus of this research note is on the mobility of employees across firms, we ensured to avoid the possibility that an employee changes employer but remains within the same group.[ii] The operator Λ denotes the logistic distribution.

Our main explanatory variable is a dummy which indicates whether in year t the individual is employed by a firm that is part of a multinational group (Swedish or Foreign-owned). Unfortunately, the nationality of foreign multinational owners cannot be identified; hence we cannot distinguish between MNEs from advanced or emerging countries, a distinction that could provide additional, interesting insights for our analysis. We control for many individual-level characteristics such as age, gender, number of children, years of education, occupation, and salary, to capture as much individual heterogeneity as possible. Most importantly we are also able to identify individuals with a long tertiary education (more than three years), and those with a Science, Technology, Engineering and Mathematics (STEM) education. We also create three dummies for managers, professionals, and technicians, using the International Standard Classification of Occupations (ISCO) occupation classification, keeping blue-collar workers as our baseline. We include tenure at the same firm, measured as the number of years that an employee has worked for the firm. We also created a variable that measures the number of prior moves of each employee in the last five years. As more mobile employees may self-select into a specific type of employment, such as jobs at MNEs, it is important to reduce the possible impact of such self-selection on the propensity of MNE workers to leave their firms.

As for firm-level variables, we use a vector of controls which include: firm and group size (number of employees); industry (using a set of three-digit dummies); and variables that allow us to measure the "quality" of a firm, such as value-added, sales, number of employees, level of internationalization

(whether the firm exports or imports), and the share of R&D managers in the total labor force, the share of STEM-educated workers and of employees holding PhDs[iii]. These last three variables should proxy for the innovativeness of the companies and their overall knowledge capabilities. We also create a dummy variable that indicates whether a firm exits the market in year *t*. This allows us to account for the fact that some job switches may not be voluntary but rather driven by the need to find another job in response to firm closures. Since we exclude individuals who are unemployed in year *t+1*, it is quite likely that we capture mostly voluntary moves, rather than layoffs. Last, we include a measure of the number of people employed in the same labor market region where the individual works (excluding the number of individuals employed in the same firm).[iv] A full list of variables with a brief description and the source database is provided in Table A1 in the Online Appendix. In all our estimations, standard errors are robust to heteroskedasticity. For robustness purposes, we will also test our model on two sub-samples: i) individuals with a long (more than three years) tertiary education and ii) individuals with tertiary education in a STEM discipline. Results on these sub-samples are available in the Online Appendix.

We empirically investigate the *nature* of labor mobility by studying, a) which characteristics of workers are more strongly associated with the probability of leaving an MNE, via an interaction of the MNE dummy with all variables included in the vector X, and b) which firms workers are moving to. To test for the latter, we identify different types of mobility by creating a new dependent variable that takes the value of zero if in year *t+1* an employee *stays* in the same firm (baseline category); the value of one if an employee *moves to an MNE;* value of two if they instead *move to a non-MNE incumbent* (already existing) firm; and a value of three if they *move to a start-up* firm as an employee or entrepreneur.[v] We define start-ups as firms that did not exist in year *t* and have hence been founded between year *t* and *t+1*. We use a multinomial logit model to estimate the probability of leaving a firm and joining either of these types of firms. The independent variables and the sample used are the same as in equation (1).

ECONOMETRIC RESULTS

Figure 1 compares MNE and non-MNE firms in the Swedish economy. MNEs are on average less likely to experience outflows of workers. The more detailed descriptive statistics presented in the Online Appendix (Tables A.2 and A.3) show that on average 5.6% of workers leave MNEs every year vs. 7.5% leaving non-MNEs. It is also clear that MNEs are different from other firms in many respects, e.g., they are larger, more productive, more likely to export, less likely to exit the market, pay higher wages, employ more workers with higher education, and engaged in relatively higher-level occupations.

INSERT FIGURE 1 ABOUT HERE

Because of these differences, it is important to control for all relevant firm- and individual-level factors that may influence employee mobility. The econometric analysis presented in this section allows us to compare the mobility of individuals with similar characteristics who work in firms with very similar features; employment in an MNE being the only major difference.

The likelihood of MNE employees' mobility (baseline model). In Table 1 we present the main results from the estimation of equation (1), which allow us to investigate what determines the likelihood of mobility from MNEs. The point estimates reported in the table are odds-ratios, hence a value lower than one implies a negative effect of an independent variable on the probability to move, and vice versa for values higher than one.

INSERT TABLE 1 ABOUT HERE

The results suggest that workers indeed differ in their propensity to change jobs. Female workers are less likely to move. Younger workers and those with shorter tenures at their firms are more likely to leave, while workers with children tend to move less. The number of years of education, especially when workers have social science degrees, is positively associated with mobility, while workers holding PhDs are less mobile. Some individuals also have an innate propensity to change jobs. The number of job

8

moves in the past five years is positively associated with the probability to leave the firm. Finally, mobility is markedly higher among workers with higher-level occupations, such as managers, professionals, and technicians.

A distinct result in column (1) is that workers employed in MNEs are *less likely* to change employers. The estimated effect is substantial: conditional on worker-level characteristics, MNE workers are 27.3% less likely to change employers compared to workers in non-MNEs. In this respect, this model confirms the overall patterns reported in Figure 1.

However, when we add firm-level characteristics, the results change dramatically. Results in column (2) reveal that certain firms do experience lower mobility of workers. These are larger, more productive[vi] and vertically integrated[vii] firms, that have a higher share of R&D and are engaged in importing and exporting activities. Once we control for these factors the MNE dummy turns positive. That is, workers at MNEs are *more likely* to switch to another employer. As can be seen in Table A.4, this result also holds for workers with longer university education, and those with STEM degrees. The order of magnitude of the effect is sizable and rather stable across specifications, suggesting that MNE workers are approximately 40–50% (according to the sub-sample of workers) more likely to leave their firms, relative to workers with similar characteristics working in similar firms, but which are not part of a multinational group.

Column (3) replicates column (2) but checks whether the results are robust to the fact that MNE workers may be more skilled before they joined the MNE, by adding the average of their high school grades (Grade Point Average) as an additional control variable. The inclusion of grades reduces the number of observations by more than 30% and makes the estimated effect of the MNE dummy slightly larger, implying that the results without grades are more conservative.

These results suggest that the difference in mobility between MNE and non-MNE employees (Figure 1 shows that mobility is lower from MNEs), has nothing to do with the fact that these firms are MNEs. Instead, mobility from MNEs is low because MNEs are large, more productive, and successful. When we account for the relevant confounding factors, our results show that workers in MNEs are more likely to leave, compared to similar workers employed in non-MNEs.

Robustness analysis. To probe the robustness of the baseline results in Table 1, we test whether the positive influence of working in MNEs on employee mobility is: i) different between domestic and foreign MNEs and ii) driven by high mobility from firms that recently became MNEs through acquisitions. We also control iii) for the growth in salary between year *t* and *t+1* to account for the fact that workers leaving MNEs may be offered higher wages (Sofka, Preto & de Faria, 2014). As shown in Tables A.5, A.6, and A.7, our baseline results are robust to these additional controls. It is worth noting that the positive effect for Foreign MNEs is significantly higher than for Swedish MNEs, even if workers in Swedish MNEs are still significantly more likely to leave their firms than other similar workers employed in similar non-MNE firms. This is consistent with the idea that Foreign MNEs can indeed be an important source of externality for the local economy, by providing significant opportunities for local firms to hire highly valuable skilled workers.

Who leaves the MNE? To investigate which types of workers are more likely to leave an MNE, we interact the MNE indicator with all the individual-level variables; this allows us to identify whether the effect of each of these characteristics is different between MNE and non-MNE employees. We are especially interested in the variables that identify high-wage workers, employees with managerial occupations, professionals, and technicians.

In Table 2 we present the interacted coefficients for our main variables of interest, while in the Appendix we report all the coefficients of the interacted model (Table A.8). It is evident from these results that all the interacted odds ratios of highly qualified occupations (managers, professionals, and technicians) and wage variables are positive. Among MNE workers, managers are by far more likely to move. High-wage workers, irrespective of their position within the firm, are also quite likely to move, but the odds ratio is lower than for managers. The difference in the probability to leave an MNE is indeed sizable: managers of MNEs are 37% more likely to leave their firms than other managers with similar individual characteristics working in similar non-MNE firms. This percentage reaches 46% among managers with STEM degrees (see column (3) of Table A.8).

INSERT TABLE 2 ABOUT HERE

Where do workers go when they leave? To test for the direction of MNE workers' mobility, we estimate a multinomial logit model as described in the previous section. In Table 3 we report the results from a multinomial logit regression estimated on a restricted sample, using only individuals with a long tertiary education. Table 3 is based on knowledge from Table A.4 that the results are not sensitive to the choice of worker subsample, and from Table 2 that high-level employees are more likely to leave MNEs. This also allows us to overcome some convergence and computational issues that we experience with the application of multinomial logit on the whole sample. Reducing the sample to tertiary-educated workers makes computation much easier. In Table A.9 we also report estimates for individuals with a STEM degree.

INSERT TABLE 3 ABOUT HERE

MNE employees are much more likely to move to other MNEs than non-MNE workers with similar individual characteristics and who work for similar firms. The odds ratio of 1.87 implies that MNE workers are 87% more likely to move to other MNEs relative to non-MNE workers. This is consistent with the notion that the skills accumulated within MNEs have a significantly higher value for other MNEs. However, MNE workers are also more likely to move to start-ups relative to non-MNE workers. The magnitude of this effect is also startling: MNE workers are 25% more likely to move to start-ups than non-MNE workers. Last, MNE workers are also more likely than non-MNE workers to move to incumbent firms, although the magnitude of this propensity is smaller. Notably, when we focus on STEM workers only (Table A.9), MNE workers are 31% more likely to join a start-up, 69% more likely to join other MNEs, and only 7% more likely to join other incumbents.

DISCUSSION

11

Relying on detailed Swedish, matched employer-employee data for the period 2010–2014, we find that employees in MNEs are on average more likely to leave their employers, than employees with similar individual characteristics working in similar, non-MNE firms. We also show that workers with higher wages and in higher-level occupations, such as managers, are the most likely to leave MNEs compared to similar workers in non-MNEs. These results are consistent with a well-established literature that shows that MNEs are better managed than non-MNEs (Bloom & Van Reenen, 2010; Bloom, Genakos, Sadun & Van Reenen, 2012), and that managerial capabilities are transferable to other firms through the inter-firm mobility of high-level workers, such as managers (Bloom et al., 2019). Managerial capabilities—which refer both to individual-level competences (such as skills to lead international teams spanning various languages and cultures) and firm-level management practices (such as performance management systems or organizational design)—can thus reflect human capital that is valuable for other organizations. MNE managers can be attractive for other firms because they are in a better position to develop relatively rare skills. Managers are involved in a broad set of decision-making tasks, which involve leadership, coordination, and communication skills and are difficult to codify. In contrast, knowledge and skills acquired by manual workers can be taught quickly either through codified manuals or short training sessions (Lecuona & Reitzig, 2014). Managers of MNEs face the challenge of managing a complex organizational structure that requires consistency in the practices and procedures for technologies, accounting, and goal setting across geographically dispersed units (Almeida & Phene, 2004). The transferability of the human capital of managers and other high-level workers, who are sometimes referred to as "star employees", has been questioned by studies on individual workers' performance after a move (Bidwell, 2011; Groysberg, Lee & Nanda, 2008; Groysberg, McLean & Nohria, 2006; Groysberg, Sant & Abrahams, 2008). However, recent empirical evidence suggests that managerial human capital is indeed transferable (Sofka et al., 2014).

We also find that MNE workers are much more likely than non-MNE workers to move to other MNEs and start-ups. These findings are in line with the person-organization (P-O) fit literature (Cable & Edwards, 2004; Kristof, 1996; Raffiee & Buyn, 2020). MNE employees are particularly sought-after by organizations with a high degree of similarity or complementarity due to the array of skills that the

employees develop during their tenures at the MNE. This implies that MNE workers will be more likely to join other organizations that share similar challenges and routines (similarity effect), like other MNEs. They may also gravitate toward organizations, such as start-ups, which typically lack managerial skills and have lower organizational inertia which helps leverage external managerial resources (complementarity effect).

CONCLUSIONS

Our results have important implications for the literature on externalities from MNEs, and international business theory. First, while previous studies have pointed out that the mobility of skilled workers is a relevant mechanism to transfer benefits to the local economy (Andersson & Klepper, 2013; Balsvik, 2011; Görg & Strobl, 2005; Liu, Lu & Zhang, 2014; Lodefalk & Gidehag, 2016; Poole, 2013), the extent to which these workers leave MNEs to join other firms has not been fully understood. In demonstrating a higher likelihood of mobility of MNE employees, our results reveal that in a local context, this may lead to more opportunities for local firms to hire highly skilled workers, particularly those with managerial competence, who can contribute significantly to the performance of the hiring firms. One implication of our results—which is consistent with Holm, Timmermans, Østergaard, Coad, Grassano and Vezzani (2020)—is that these patterns of mobility disproportionally benefit other MNEs. Hence the actual externality for local domestic firms may be limited. However, on the bright side, our results also show sizable mobility toward start-ups. This result relates to the broader literature on entrepreneurship that focuses on the role of established large businesses as the origin and source of new successful firms (Agarwal, Echambadi, Franco & Sarkar, 2004; Andersson & Klepper, 2013; Klepper, 2009). This literature emphasizes that large resourceful firms are breeding grounds for new high-quality entrepreneurs. Our results suggest that MNEs may also be important breeding grounds for high-level employees that can feed start-ups with the human capital they require for scaling-up and growth. This potential indirect link between the presence of MNEs and industrial dynamics in the form of start-ups has not been fully explored in extant literature.

Second, this study adds to our understanding of the relationship between FSAs in MNEs and employee mobility. A key argument in IB theory is that MNEs have FSAs, which consist of superior capabilities

and resources compared to other firms (Dunning, 1977; Narula et al., 2019; Rugman & Verbeke, 2003). Employees in MNEs can therefore be expected to acquire valuable knowledge, skills, and experiences that are difficult to develop in other types of firms. This relates to the idea, well-rooted in a resource-based view of the firm, that human resources can be a source of firms' sustained competitive advantage. In strategy research, this corresponds to the view that human capital can be a source of firms' sustained competitive advantage to the extent that workers can be prevented from bringing their valuable skills, and experiences to rival firms (Campbell et al., 2012; Coff, 1997). This creates an incentive for firms to have their workers develop firm-specific rather than general human capital (Becker, 1964; Coff, 1997; Wang, He & Mahoney, 2009)[viii] and, "strategy scholars have often eschewed the notion of general human capital as a source of comparative advantage" (Kryscynski et al., 2021: 405). By following this logic, to contribute to MNEs' FSAs, human capital should be highly firm-specific and provide limited value outside the MNE. Hence, MNE workers would not be very attractive for other firms, implying that employee mobility should be lower in MNEs compared to other firms.

However, our results suggest the opposite: MNE employees are more likely to leave, than employees in other types of firms. This is consistent with the idea that MNE workers, managers in particular, are in a better position than employees in other firms to develop transferable skills, such as knowledge of state-of-the-art production technology, IT systems, managerial capabilities—including skills to lead international teams spanning various languages and cultures—and experience of coordination of production and global sales in geographically dispersed organizations (Bakhshi, Downing, Osborne & Schneider, 2017; Nesta, 2019). These skills constitute general human capital to a large extent, and are extremely valuable for other firms (Sofka et al., 2014). Then the question is, how general and transferable skills can be reconciled with the fact that MNEs rely on FSAs which are supposed to be difficult to transfer between firms.

As noted by Campbell et al. (2012), the very notion of general human capital must be reconsidered from contemporary perspectives based on the resource-based view of the firm. These theorizations highlight that firms have unique portfolios of resources and capabilities, and are increasingly becoming orchestrators of a wide range of complementary assets (Teece, 2016). From this perspective, human resources lead to a competitive advantage when they match with other capabilities that enable the firm

to effectively orchestrate them for productive use (Collins, 2021; Helfat, 1994; Huckman & Pisano, 2006; Teece, 2011). This view recognizes that asset orchestration is becoming necessary for sustaining MNEs' competitive advantages (Lessard et al., 2016; Pitelis & Teece, 2018); and that FSAs increasingly stem from the combination and re-combination of proprietary assets (such as technology, marketing capabilities, and managerial routines) with some of the abilities possessed by employees (Narula & Verbeke, 2015; Narula et al., 2019). This line of argument supports the view that human capital is only one component of a bundle of assets orchestrated by the MNE, and employee mobility may not deplete FSAs, even if the relevant knowledge and experience leak out when employees leave the MNE.

Third, and related to the above, our results align with emerging views in the literature that suggest that some knowledge leakage due to employee mobility is unavoidable and that MNEs should develop strategies to exploit potential benefits associated with employee mobility. Instead of engaging in defensive actions for minimizing mobility, firms may need to adopt a more relational approach and leverage the benefits that employment mobility can bring in terms of access to clients, and the opportunity to generate goodwill assets (Inkpen, Minbaeva & Tsang, 2019; Minbaeva & Collings, 2013). Indeed, this may be particularly true in the case of mobility toward start-ups. Inkpen et al. (2019: 254) propose that "if employees leave to join a co-operator, there may be significant merit in maintaining relationships with those employees". For example, consulting firms invest in their alumni networks with the goal of "maintaining links, building potential working relationships with the new firms, and exchanging knowledge". Giarratana et al. (2005) discuss the cases of several MNEs, like Lotus, Siemens, and Texas Instruments, whose employees have left their companies to exploit their knowledge—mainly of organizational and managerial practices, or more generally "business sense"— and founded or joined start-ups in Ireland and India. These workers maintained close collaborative ties with their former employers, and these links with former employees also acted as some kind of "monitoring device" that allowed the MNE to know in advance when a new company was engaging in something promising (Giarratana et al., 2005). Similarly, Brewster and Connock (1985) refer to the "networking" concept adopted by Rank Xerox more than three decades ago, which offered contracts to limited liability companies formed by former employees. These workers were even offered training to help them develop marketing, sales, and IT skills: these networking contracts were designed in a way

that the workers would not work more than half their time on Rank Xerox business, so that their independence was maintained.

Our empirical analysis is not free from limitations. First, while focusing on Sweden allows us to rely on very rich and detailed data on a large number of individuals and firms for several years, the specificities of the country may limit the generalizability of our results. Sweden is a relatively small country, where the share of employment in MNEs is quite high, along with the education level of the workers, and the number of start-ups. These features are certainly not unique, but they could in some way affect our results. However, one may also point out that human capital in Sweden is quite well developed and managerial capabilities are relatively advanced in non-MNEs too (Bloom et al., 2012), so local firms may perceive less of a need to hire MNE workers to access to high-quality skills. It may well be that, for example, emerging markets' MNEs operating in Sweden—which we cannot control for, since we lack information on the country of origin of the foreign MNEs—have similar or even lower capabilities than domestic firms. From this perspective, we posit that our results could be interpreted as a lower bound, and in other contexts, with less advanced human capital, the contribution of MNEs to the supply of high-skilled workers may even be higher. Second, our empirical design is unable to distinguish different types of worker-firm separation. We lean toward the interpretation that workers leave for greener pastures, but we cannot exclude layoffs. We take this into account in our empirical analyses by excluding workers transitioning into unemployment, controlling for firms that exit the market, and identifying MNEs that have recently changed owners, and hence more likely to restructure their workforce. Our results seem to be robust, but more precise information on the motives of workers leaving the MNE would allow a finer analysis. Third, even in the case of voluntary mobility, we are unable to discern either the workers' motivations for leaving the MNE, or the motivations of local firms to hire them. We have argued that our results are consistent with the idea that MNE workers accumulate transferable skills that are valuable for the hiring firms, but we are unable to measure whether these skills are accumulated, or if they are transfered. An alternative explanation could be based on a signaling argument. MNE workers may be "basking in their firm's glory" or, signaling individual capability by the mere fact of their previous employment in an MNE. Notably, if this was the case, other firms would

still attempt to recruit MNE workers, perhaps without realizing positive externalities.[ix] Fourth, and related to this last point, the view of this research note is that mobility of skilled workers in high-level occupations is positive for the receiving firms. However, these workers come at the cost of a higher wage (Becker, Driffield, Lancheros & Love, 2020; Sofka et al., 2014), so the effective economic success of local incumbents and start-ups hiring MNE employees may not necessarily translate into higher performance or survival. A natural extension of this work is to investigate this issue from the perspective of local firms, with special reference to the contribution of managers and high-level employees with MNE experience, to start-ups' growth and economic success.

REFERENCES

Agrawal, A., & Cockburn, I. 2003. The anchor tenant hypothesis: exploring the role of large, local, R&D-intensive firms in regional innovation systems. *International Journal of Industrial Organization*, *21*(9), 1227-1253.

Agarwal, R., Echambadi, R., Franco, A. M., & Sarkar, M. B. 2004. Knowledge transfer through inheritance: Spin-out generation, development, and survival. *Academy of Management Journal*, 47(4): 501-522.

Almeida, P., & Phene, A. 2004. Subsidiaries and knowledge creation: The influence of the MNC and host country on innovation. *Strategic Management Journal*, 25(8-9): 847-864.

Andersson, M., & Klepper, S. 2013. Characteristics and performance of new firms and spinoffs in Sweden. *Industrial and Corporate Change*, 22(1): 245-280.

Andersson, M., & Thulin, P. 2013. Does spatial employment density spur inter-firm job switching? *The Annals of Regional Science*, 51(1): 245-272.

Antelius, J., & Björklund, A. 2000. How reliable are register data for studies of the return on schooling? An examination of Swedish data. *Scandinavian Journal of Educational Research*, 44(4): 341-355

Bakhshi, H., Downing, J., Osborne, M. & Schneider, P. 2017. *The Future of Skills: Employment in 2030*. London: Pearson and Nesta.

Balsvik, R. 2011. Is labor mobility a channel for spillovers from multinationals? Evidence from Norwegian manufacturing. *The Review of Economics and Statistics*, 93(1): 285-297.

Becker, B., Driffield, N., Lancheros, S., & Love, J. H. 2020. FDI in hot labour markets: The implications of the war for talent. *Journal of International Business Policy*, 1-27.

Becker, G. S. 1964. *Human capital: A theoretical and empirical analysis, with special reference to education*. University of Chicago press.

Bidwell, M. 2011. Paying more to get less: The effects of external hiring versus internal mobility. *Administrative Science Quarterly*, 56(3): 369-407.

Bloom, N., & Van Reenen, J. 2010. Why do management practices differ across firms and countries? *Journal of Economic Perspectives*, 24(1): 203-224.

Bloom, N., Brynjolfsson, E., Foster, L., Jarmin, R., Patnaik, M., Saporta-Eksten, I., & Van Reenen, J. 2019. What drives differences in management practices? *American Economic Review*, 109(5): 1648-1683.

Bloom, N., Genakos, C., Sadun, R., & Van Reenen, J. 2012. Management practices across firms and countries. *Academy of Management Perspectives*, 26(1): 12-33

Brewster, C. & Connock, S. L. 1985. *Industrial relations: Cost-effective strategies*. London: Hutchinson Business Books.

Cable, D. M., & Edwards, J. R. 2004. Complementary and supplementary fit: A theoretical and empirical integration. *Journal of Applied Psychology*, 89: 822-834

Campbell, B. A., Ganco, M., Franco, A. M., & Agarwal, R. 2012. Who leaves, where to, and why worry? Employee mobility, entrepreneurship and effects on source firm performance. *Strategic Management Journal*, 33(1), 65-87.

Castellani, D. (2012). In praise of pecuniary externalities. *The European Journal of Development Research*, 24(1): 15-19.

Castellani, D., & Zanfei, A. 2006. *Multinational firms, innovation and productivity*. Edward Elgar Publishing.

Coff, R. (1997). Human assets and management dilemmas: Coping with hazards on the road to resource-based theory. *Academy of Management Review,* 22(2): 374-402.

Coff, R., & Raffiee, J. 2015. Toward a theory of perceived firm-specific human capital. *Academy of Management Perspectives*, 29(3): 326-341.

Collins, C. J. 2021. Expanding the resource based view model of strategic human resource management. *The International Journal of Human Resource Management*, 32(2): 331-358,

Collings, D. G., Mellahi, K., & Cascio, W. F. 2019. Global talent management and performance in multinational enterprises: A multilevel perspective. *Journal of Management*, 45(2): 540-566.

Csáfordi, Z., Lőrincz, L., Lengyel, B., & Kiss, K. M. 2018. Productivity spillovers through labor flows: Productivity gap, multinational experience and industry relatedness. *The Journal of Technology Transfer*, 1-36.

Dunning, J. H. 1977. Trade, location of economic activity and the MNE: A search for an eclectic approach. In *The international allocation of economic activity*: 395-418. London: Palgrave Macmillan.

Finney, M. M., & Kohlhase, J. E. 2008. The effect of urbanization on labor turnover. *Journal of Regional Science*, 48(2): 311-328

Fosfuri, A., Motta, M., & Rønde, T. 2001. Foreign direct investment and spillovers through workers' mobility. *Journal of International Economics*, 53(1): 205-222.

Garber, G. R. 2013. Noncompete clauses: Employee mobility, innovation ecosystems, and multinational R&D offshoring. *Berkeley Tech. LJ*, 28: 1079.

Giarratana, M., Pagano, A., & Torrisi, S. 2005. The role of the multinational companies. In A. Arora, & A. Gambardella (Eds), *From underdogs to tigers: The rise and growth of the software*. Oxford University Press.

Girma, S., Gong, Y., Görg, H., & Lancheros, S. 2015. Estimating direct and indirect effects of foreign direct investment on firm productivity in the presence of interactions between firms. *Journal of International Economics*, 95(1): 157-169.

Girma, S., Görg, H., & Kersting, E. 2019 Which boats are lifted by a foreign tide? Direct and indirect wage effects of foreign ownership. *Journal of International Business Studies*, 50: 923. https://doi.org/10.1057/s41267-019-00248-2

Globerman, S., Ries, J. C., & Vertinsky, I. 1994. The economic performance of foreign affiliates in Canada. *Canadian Journal of Economics*, 27(1): 143-156.

Görg, H., & Strobl, E. 2005. Spillovers from foreign firms through worker mobility: An empirical investigation. *Scandinavian Journal of Economics*, 107(4): 693-709.

Groysberg, B., Lee, L. E., & Nanda, A. 2008. Can they take it with them? The portability of star knowledge workers' performance. *Management Science*, 54(7): 1213-1230.

Groysberg, B., McLean, A. N., & Nohria, N. 2006. Are leaders portable? *Harvard Business Review*, 84(5): 92.

Groysberg, B., Sant, L., & Abrahams, R. 2008. When 'stars' migrate, do they still perform like stars? *MIT Sloan Management Review*, 50(1): 41.

Helfat, C. E. 1994. Firm-specificity in corporate applied R&D. *Organization Science*, 5(2): 173-184.

Heyman, F., Sjöholm, F., & Tingvall, P. G. 2007. Is there really a foreign ownership wage premium? Evidence from matched employer–employee data. *Journal of International Economics*, 73(2): 355-376.

Hijzen, A., Martins, P. S., Schank, T., & Upward, R. 2013. Foreign-owned firms around the world: A comparative analysis of wages and employment at the micro-level. *European Economic Review*, 60(C): 170-188.

Holm, J. R., Timmermans, B., Østergaard, C. R., Coad, A., Grassano, N., & Vezzani, A. 2020. Labor mobility from R&D-intensive multinational companies: Implications for knowledge and technology transfer. *The Journal of Technology Transfer*, 1-23.

Huckman, R. S., & Pisano, G. P. 2006. The firm specificity of individual performance: Evidence from cardiac surgery. *Management Science*, 52(4): 473-488.

Inkpen, A., Minbaeva, D., & Tsang, E. W. 2019. Unintentional, unavoidable, and beneficial knowledge leakage from the multinational enterprise. *Journal of International Business Studies*, 50(2): 250-260.

Klepper, S. 2009. Spinoffs: A review and synthesis. *European Management Review*, 6(3): 159-171

Kristof, A. L. 1996. Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, 49: 1-49.

Lecuona, J. R., & Reitzig, M. 2014. Knowledge worth having in 'excess': The value of tacit and firm-specific human resource slack. *Strategic Management Journal*, 35(7): 954-973.

Lessard, D., Teece, D. J., & Leih, S. 2016. The dynamic capabilities of Meta-multinationals. *Global Strategy Journal*, 6(3): 211-224.

Liu, Q., Lu, R., & Zhang, C. 2014. Entrepreneurship and spillovers from multinationals: Evidence from Chinese private firms. *China Economic Review*, 29: 95-106

Lodefalk, M. & Gidehag, R. 2016. *Kunskapsöverföring för tillväxt: Sambanden mellan produktivitet och rekrytering av nyckelkompetens hos små och medelstora företag*. Tillväxtanalys.

Kryscynski, D., Coff, R., & Campbell, B. 2021. Charting a path between firm-specific incentives and human capital-based competitive advantage. *Strategic Management Journal*, 42(2): 386-412.

Meyer, K. E., & Sinani, E. 2009. When and where does foreign direct investment generate positive spillovers? A meta-analysis. *Journal of International Business Studies*, 40(7): 1075-1094.

Minbaeva, D., & Collings, D. G. 2013. Seven myths of global talent management. *The International Journal of Human Resource Management*, 24(9): 1762-1776.

Narula, R., & Verbeke, A. 2015. Making internalization theory good for practice: The essence of Alan Rugman's contributions to international business. *Journal of World Business*, 50(4): 612-622.

Narula, R., Asmussen, C. G., Chi, T., & Kundu, S. K. 2019. Applying and advancing internalization theory: The multinational enterprise in the twenty-first century. *Journal of International Business Studies*, 50(8): 1231-1252.

Nesta. 2019. Transferable skills in the workplace. Key findings from a survey of UK employers, Report commissioned by the City of London Corporation, June 2019. https://www.nesta.org.uk/blog/transferable-skills-workplace/

Pitelis, C. N., & Teece, D. J. 2018. The new MNE: 'Orchestration' theory as envelope of 'Internalisation' theory. *Management International Review*, 58(4): 523-539.

Poole, J. P. 2013. Knowledge transfers from multinational to domestic firms: Evidence from worker mobility. *Review of Economics and Statistics*, 95(2): 393-406

Raffiee, J., & Byun, H. 2020. Revisiting the portability of performance paradox: Employee mobility and the utilization of human and social capital resources. *Academy of Management Journal*, 63(1): 34-63.

Rojec, M., & Knell, M. 2018. Why is there a lack of evidence on knowledge spillovers from foreign direct investment? *Journal of Economic Surveys*, 32(3): 579-612.

Rugman, A. M., & Verbeke, A. 2003. Extending the theory of the multinational enterprise: Internalization and strategic management perspectives. *Journal of International Business Studies*, 34(2): 125-137.

Sofka, W., Preto, M. T., & De Faria, P. 2014. MNC subsidiary closures: What is the value of employees' human capital in new jobs? *Journal of International Business Studies*, 45(6): 723-750.

Song, J., Almeida, P., & Wu, G. 2003. Learning–by–hiring: When is mobility more likely to facilitate interfirm knowledge transfer? *Management Science*, 49(4): 351-365.

Tarique, I., & Schuler, R. S. 2010. Global talent management: Literature review, integrative framework, and suggestions for further research. *Journal of World Business*, 45(2): 122-133.

Tarique, I., Briscoe, D. R., & Schuler, R. S. 2015. *International human resource management: Policies and practices for multinational enterprises*. Routledge.

Teece, D. J. 2016. Dynamic capabilities and entrepreneurial management in large organizations: Toward a theory of the (entrepreneurial) firm. *European Economic Review*, 86: 202-216.

Teece, D. J. 2011. Human capital, capabilities, and the firm. In A. Burton-Jones & J.-C. Spender (Eds), *The Oxford Handbook of Human Capital*. Oxford: Oxford University Press.

van Der Straaten, K., Pisani N., & Kolk A. 2020. Unraveling the MNE wage premium. *Journal of International Business Studies*, 51(9): 1355-1390. https://doi.org/10.1057/s41267-019-00285-x

Wang, H. C., He, J., & Mahoney, J. 2009. Firm-specific knowledge resources and competitive advantage: The roles of economic- and relationship-based employee governance mechanisms. *Strategic Management Journal*, 30: 1265-1285.

Figure 1. *Percentage difference in the mean value of individual characteristics of workers employed in MNEs vs. non-MNEs 2010–2014.*

Mean values for MNE vs. non-MNE

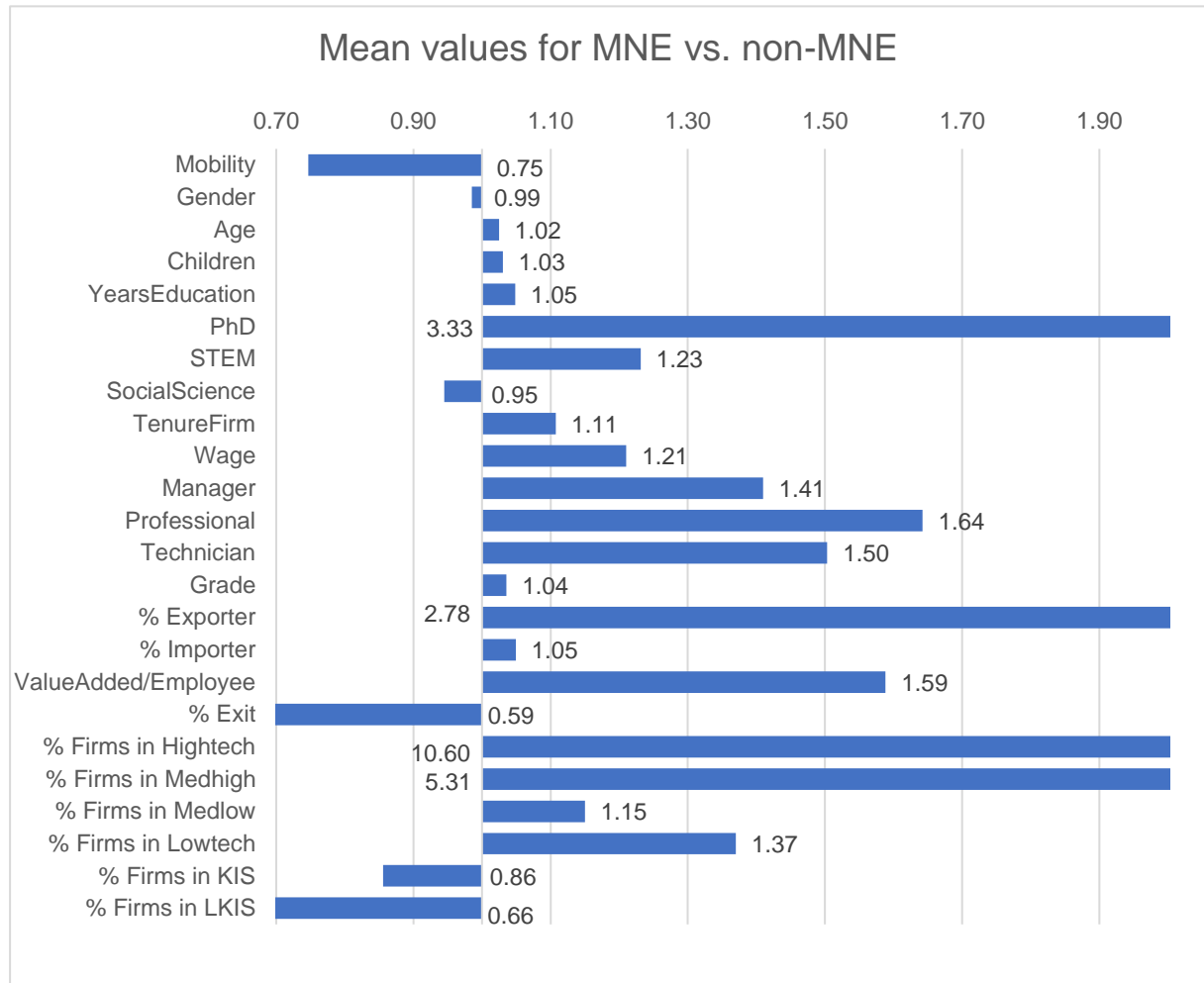| Characteristic	Value
Mobility	0.75
Gender	0.99
Age	1.02
Children	1.03
YearsEducation	1.05
PhD	3.33
STEM	1.23
SocialScience	0.95
TenureFirm	1.11
Wage	1.21
Manager	1.41
Professional	1.64
Technician	1.50
Grade	1.04
% Exporter	2.78
% Importer	1.05
ValueAdded/Employee	1.59
% Exit	0.59
% Firms in Hightech	10.60
% Firms in Medhigh	5.31
% Firms in Medlow	1.15
% Firms in Lowtech	1.37
% Firms in KIS	0.86
% Firms in LKIS	0.66

Table 1. *Probability of leaving the current firm (only individuals with tenure longer than two years at the same firm): Logit estimation*

VARIABLES	(1) All workers Odds ratio	se	p-value	(2) All workers Odds ratio	se	p-value	(3) All workers Odds ratio	se	p-value
MNE	0.88	0.00	0.00	1.40	0.02	0.00	1.44	0.02	0.00
Individual-level variables									
Grade	-	-	-	-	-	-	1.00	0.00	0.52
Gender	0.94	0.01	0.00	0.95	0.01	0.00	0.96	0.01	0.00
Age	0.97	0.00	0.00	0.97	0.00	0.00	0.97	0.00	0.00
Children	1.08	0.00	0.00	1.09	0.00	0.00	1.09	0.01	0.00
Education	1.05	0.00	0.00	1.05	0.00	0.00	1.08	0.00	0.00
PhD	0.84	0.02	0.00	0.86	0.02	0.00	0.79	0.02	0.00
STEM	1.03	0.01	0.00	1.04	0.01	0.00	1.04	0.01	0.00
Social Science	1.06	0.01	0.00	1.06	0.01	0.00	1.04	0.01	0.00
Tenure	0.94	0.00	0.00	0.94	0.00	0.00	0.94	0.00	0.00
lnWage	1.04	0.01	0.00	1.09	0.01	0.00	1.04	0.01	0.00
Manager	1.35	0.01	0.00	1.32	0.01	0.00	1.26	0.01	0.00
Professional	1.34	0.01	0.00	1.40	0.01	0.00	1.30	0.01	0.00
Technician	1.32	0.01	0.00	1.35	0.01	0.00	1.27	0.01	0.00
Prior Moves	1.12	0.00	0.00	1.12	0.00	0.00	1.10	0.00	0.00
Firm-level variables									
lnFirmEmployees	-	-	-	1.18	0.01	0.00	1.19	0.01	0.00
lnGroupEmployees	-	-	-	0.95	0.00	0.00	0.94	0.00	0.00
lnValueadd	-	-	-	0.84	0.00	0.00	0.84	0.01	0.00
Share of R&D Managers	-	-	-	0.53	0.17	0.04	0.49	0.17	0.04
Share of STEM	-	-	-	0.92	0.02	0.00	0.90	0.02	0.00
Share of PhD	-	-	-	0.97	0.09	0.75	0.81	0.08	0.05
Exporter	-	-	-	0.96	0.01	0.00	0.96	0.01	0.00
Importer	-	-	-	0.90	0.01	0.00	0.90	0.01	0.00
lnSales	-	-	-	1.00	0.00	0.98	0.99	0.01	0.07
Exit	-	-	-	4.98	0.04	0.00	4.62	0.05	0.00
lnRegionSize	1.07	0.00	0.00	1.07	0.00	0.00	1.08	0.00	0.00
Y2010	1.05	0.01	0.00	1.03	0.01	0.00	1.04	0.01	0.00
Y2011	0.92	0.01	0.00	0.91	0.01	0.00	0.92	0.01	0.00
Y2012	0.89	0.01	0.00	0.87	0.01	0.00	0.86	0.01	0.00
Y2013	0.93	0.01	0.00	0.93	0.01	0.00	0.93	0.01	0.00
3-digit industry dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	0.07	0.01	0.00	0.43	0.05	0.00	0.42	0.07	0.00
Observations	3,742,842			3,625,916			2,443,426		

	McFadden's Pseudo R-squared		
McFadden's Pseudo R-squared	0.07	0.09	0.08
Log-likelihood	-820,379	-772,218	-569,010
Chi-squared	108,864	151,744	97,909

Note: All regressions include three-digit industry dummies.

Table 2: *Logit estimates of the MNE-effect interacted with individual characteristics (workers in the private sector with longer tenure than two years)*

	(1) All workers		
VARIABLES	*Odds ratio*	*se*	*p-values*
MNE × Gender (female)	1.12	0.01	0.00
MNE × Children	1.04	0.01	0.00
MNE × PhD	0.84	0.06	0.02
MNE × STEM	1.01	0.01	0.46
MNE × Social Science	1.06	0.01	0.00
MNE × Manager	1.37	0.03	0.00
MNE × Professional	1.11	0.02	0.00
MNE × Technician	1.14	0.02	0.00
MNE × Age (avg)	0.99	0.00	0.00
MNE × Education (avg)	1.00	0.00	0.57
MNE × Tenure (avg)	0.99	0.00	0.00
MNE × lnWage (avg)	1.25	0.02	0.00
MNE × Prior moves	0.93	0.01	0.00
Observations	3,625,916		
McFadden's Pseudo R-squared	0.09		
Log-likelihood	-770,569		
Chi-squared	153,668		

Note: Each estimation includes the same set of controls as in column (2) of Table 1 and they are all interacted with the MNE dummy. The complete set of estimates is available in Table A.9. All regressions include three-digit industry dummies, but are not reported.

Table 3. *Mobility to different types of firms (only tertiary educated employees with tenure longer than two years): Multinomial logit estimation*

VARIABLES	(1) Other MNEs			(2) Incumbent			(3) Start-up		
	Odds ratio	se	p-value	Odds ratio	se	p-value	Odds ratio	se	p-value
MNE	1.87	0.05	0.00	1.18	0.04	0.00	1.25	0.08	0.00
Gender	1.03	0.01	0.02	1.09	0.01	0.00	0.71	0.02	0.00
Age	0.96	0.00	0.00	0.98	0.00	0.00	1.00	0.00	0.06
Children	1.09	0.01	0.00	0.99	0.01	0.40	1.03	0.03	0.24
Education	1.04	0.01	0.00	1.04	0.01	0.00	0.99	0.02	0.41
PhD	0.80	0.03	0.00	1.16	0.06	0.00	1.12	0.11	0.26
STEM	1.25	0.04	0.00	1.02	0.03	0.61	0.85	0.05	0.01
Social Science	1.21	0.04	0.00	1.27	0.04	0.00	0.95	0.06	0.40
Tenure	0.94	0.00	0.00	0.95	0.00	0.00	0.96	0.00	0.00
lnWage	1.24	0.02	0.00	0.70	0.01	0.00	1.28	0.04	0.00
Manager	1.48	0.04	0.00	1.14	0.03	0.00	1.47	0.08	0.00
Professional	1.47	0.03	0.00	1.16	0.02	0.00	1.23	0.06	0.00
Technician	1.44	0.03	0.00	1.06	0.02	0.01	1.11	0.05	0.04
Prior moves	1.06	0.01	0.00	1.07	0.01	0.00	1.11	0.02	0.00
lnFirmEmployees	1.18	0.01	0.00	1.17	0.02	0.00	1.13	0.03	0.00
lnGroupEmployees	0.93	0.00	0.00	0.97	0.00	0.00	0.95	0.01	0.00
lnValueadded	0.89	0.01	0.00	0.94	0.01	0.00	0.87	0.02	0.00
Share of R&D managers	0.55	0.27	0.22	0.18	0.12	0.01	1.83	2.01	0.58
Share of STEM	1.27	0.05	0.00	0.77	0.04	0.00	0.89	0.08	0.20
Share of PhD	0.50	0.08	0.00	0.89	0.16	0.51	0.49	0.18	0.05
Exporter	1.03	0.02	0.06	0.85	0.02	0.00	0.90	0.03	0.01
Importer	0.93	0.03	0.04	0.76	0.03	0.00	0.88	0.07	0.09
lnSales	0.97	0.01	0.00	0.92	0.01	0.00	0.95	0.02	0.02
Exit	3.63	0.07	0.00	2.99	0.07	0.00	5.32	0.20	0.00
lnRegionSize	1.12	0.01	0.00	1.03	0.00	0.00	1.10	0.01	0.00
y2010	1.15	0.02	0.00	0.94	0.02	0.00	1.30	0.05	0.00
y2011	1.02	0.02	0.23	0.92	0.02	0.00	1.05	0.04	0.21
y2012	0.89	0.01	0.00	0.86	0.02	0.00	1.05	0.04	0.21
y2013	0.93	0.01	0.00	0.94	0.02	0.00	1.16	0.04	0.00
3-digit sector dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	0.01	0.00	0.00	11.19	3.82	0.00	0.01	0.01	0.00

Observations	901,281
McFadden's Pseudo R-squared	0.0696
Log-likelihood	-332,327
Chi-squared	49,727

Note: All regressions include three-digit industry dummies

[i] In the specific empirical context of Sweden, the distinction between subsidiaries of foreign MNEs in Sweden and the HQs of Swedish MNEs may be particularly blurred, since Sweden has recorded large waves of acquisitions of Swedish MNEs by foreign ones (e.g., Saab, Volvo, Scania).

[ii] We consider as mobility, those changes of employers where an individual moves from one firm to another that is not part of the same group. For employees employed in independent firms that are not part of a group, any type of switch is considered a move.

[iii] Unfortunately, our data do not provide any information on outward FDI activity (or degree of multinationality), nor the overall number of R&D employees of the firm. However, we are confident that these would be highly correlated with import/export activity and the number of R&D managers, respectively.

[iv] Local labor market regions are usually employed in studies on employee mobility, as they reflect commuting zones. We employ a delineation of local labor markets developed by Statistics Sweden, which identifies 72 local labor markets in Sweden based on the intensity of commuting between Swedish municipalities. These local labor market regions consist of municipalities that constitute an integrated local labor market. The employment size of a local labor market region is a proxy for the overall labor market thickness of the local labor market in which an individual works, and is expected to have a positive effect on labor mobility as thicker markets offer more potential labor market matches (Andersson & Thulin, 2013; Finney & Kohlhase, 2008). Since Sweden is a country with few large metropolitan regions and a large number of low-density, peripheral regions, the actual density of other types of firms nearby may differ a lot between regions and may have an impact on the mobility patterns of individuals.

[v] See Figure A.1 in the Appendix.

[vi] Notice that value-added is negatively associated with mobility but, conditional on value-added, firms with more employees (i.e., the relatively less productive ones) are more likely to experience workers leaving their firms.

[vii] Conditional on value-added, firms with larger sales (hence probably more vertically integrated) experience a lower probability of worker mobility.

[viii] On the contrary, employers tend to shy away from investing in firm-specific human capital to avoid being vulnerable to a "hold-up" problem. This creates the paradox that firm-specific human capital is crucial for firms, but employees may be reluctant to accumulate such skills (Coff and Raffiee, 2015).

[ix] We thank an anonymous reviewer for pointing out this alternative explanation to us.