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Firm relocations in the Netherlands:

Why do firms move, and where do they go?

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Abstract

This study analyzes determinants of business relocation and identifies regional characteristics which attract relocating firms. Results indicate that the relocation decisions of firms are sector-dependent, and the migratory behavior of firms in knowledge-intensive sectors notably differs from that in less knowledge-intensive sectors. Generally, its age and size keep a firm from relocating, whereas firms paying high average salaries have a higher probability to move out of their present location. Relocating firms are generally attracted by densely populated municipalities with high wage levels, and predominantly service firms are drawn to municipalities which are specialized in the firm's own sector and appeal to individuals, while they avoid moving to municipalities in which only few sectors are present. Sector-specific wages may either attract, or deter firms, suggesting that this variable may capture both the cost and the quality of the locally available workforce.

JEL classifications: R11, R30

Keywords: firm relocation, mobility, location choices, nested logit

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1 Introduction

The economic landscape of a country is shaped by the formation of new enterprises, the growth and decline of existing businesses, and the spatial redistribution of economic activity due to the relocation of firms. Yet, while numerous studies analyze determinants of new firm formation, or reasons underlying the growth of existing companies, the issue of firm relocation has remained comparatively uninvestigated.

Previous studies found that a firm's decision to relocate is motivated by firm-specific and location-specific factors which 'push' the firm from its present location (e.g. Brouwer et al., 2004; van Dijk & Pellenbarg, 2000; van Wissen, 2000), and that firms which relocate are likely to be 'pulled' to regions which are attractive to them (e.g. Capasso et al., 2010; Erickson & Wasylenko, 1980; Holl, 2004a; van Dijk & Pellenbarg, 2000; van Wissen, 2000).

This study analyzes determinants of business relocation, and identifies regional characteristics which attract relocating firms. A firm's decision to move is expected to depend upon characteristics of the firm, and of the region it is located in. The decision of where to locate is assumed to be motivated by the characteristics of the regions the firm can choose between. The dataset used in this study was provided by Statistics Netherlands (CBS). It is based on register data covering virtually all businesses and workers in the Netherlands, and consists of information regarding the characteristics of Dutch firms, employees, and municipalities in the years 2002-2004.

The research contributes to the existing literature in several respects. Firstly, it analyzes both regional 'push'- and 'pull'-factors. Interestingly, while numerous studies acknowledge the relevance of both the characteristics of a firm's region of origin (which might push a firm from its present location, or keep it there), and the qualities of a firm's region of destination (which might pull a firm towards this location), most analyses either focus on reasons underlying the outmigration of firms, or concentrate on regional features

which attract relocating businesses. A notable exception is van Wissen (2000), who explicitly argues for a two-step decision model.

Secondly, while previous work – supposedly mainly for reasons of data availability – often focuses on the migration behavior of manufacturing firms, this study differentiates between knowledge-intensive respectively high-tech and less knowledge-intensive respectively low-tech manufacturing and service industries, thereby taking into consideration probable intersectoral differences regarding firms' decision to relocate as well as their locational preferences.

Thirdly, it analyzes the interregional relocation of firms on the very detailed level of the municipality, an approach which has been found to be well-suited for the analysis of firms' relocation decisions (Arauzo-Carod, 2005; Holl, 2004a; Rosenthal and Strange, 2003), yet has not been employed for the Netherlands. Fourthly, it takes into account firm- and municipal sector-specific wages regarding their effect on firm mobility and their ability to attract businesses, analyzing the relevance of the wage-inherent aspects 'cost' and 'quality' for different kinds of sectors.

Results indicate that the relocation decisions of firms are sector-dependent, and the migratory behavior of firms in knowledge-intensive sectors notably differs from that in less knowledge-intensive sectors. Generally, its age and size keep a firm from relocating, whereas firms paying high average salaries have a higher probability to move out of their present location. The relocation decisions of manufacturing firms are scarcely affected by the features of their present location, whereas service firms situated in sectorally concentrated municipalities, and those located in the periphery of the Netherlands are pushed out of their present locality. Relocating firms are generally attracted by densely populated municipalities with high wage levels, and service firms as well as low-tech manufacturing firms are drawn to municipalities which are specialized in the firm's own sector and appeal to individuals, while they avoid moving to municipalities in which only few sectors are present. Sector-specific

wages may either attract, or deter firms, suggesting that this variable may capture both the cost and the quality of the locally available workforce.

The study is organized as follows: Section 2 provides an overview regarding the theoretical background of the research. Section 3 outlines the characteristics of the data used in this study. Section 4 introduces the model employed in the empirical analysis, and Section 5 specifies the model and defines the variables which are used. Section 6 presents and discusses the results, and Section 7 concludes. In the Appendix, all tables are provided.

2 Theoretical framework and hypotheses

Thousands of firms are set up each year all across the Netherlands. Practically, this implies that many of those businesses select their location for non-economic motives such as familiarity with the area, recreational opportunities, or lack of information about alternative options (Holl, 2004a; van Dijk and Pellenbarg, 2000). However, firms need to be profitable in order to survive, hence being in a non-optimal situation which generates low profits may trigger the decision to relocate. Furthermore, even a location which had been optimal when the firm was founded may have become less advantageous with time, as the firm itself, and/or the economic environment may have changed. Firms which currently find themselves in a sub-optimal situation may thus be ‘pushed’ to relocate to a more favourable location which better fits their present needs in order to increase their profits. On the other hand, a firm may be ‘pulled’ to another location due to the attractiveness - either compared to the firm’s present location (van Dijk and Pellenbarg, 2000), or to other alternatives (van Wissen, 2000) - of this site.

2.1 *The decision to relocate*

A firm's decision to relocate can be influenced by various factors, two prominent ones being the characteristics of the firm, and the qualities of the region it is located in.

2.1.1 Characteristics of the firm

The effects of various firm-specific characteristics on the propensity to relocate have been established in the literature. Older firms, for example, will be more embedded in their environment, and may have established long-term trust-based relationships in the vicinity. It can therefore be expected that the likelihood to relocate to another municipality decreases with the age of the firm (Brouwer et al., 2004). Regarding firm size, as moving costs will be considerably higher for larger firms (Brouwer et al., 2004; Knobens and Oerlemans, 2008; van Dijk and Pellenbarg, 2000), the propensity to relocate to another municipality can be assumed to decrease with the size of the firm.

Firms which experienced growth or decline regarding the size of their workforce may have to relocate to other premises (Brouwer et al., 2004; Cooke, 1983; Pellenbarg and van Steen, 2003) which might be located outside the municipality the firm is currently located in. It can thus be assumed that firms growing or declining in size will have an increased likelihood to move to another municipality.

The average daily salary received by a firm's employees may also affect the firm's propensity to move. On the one hand, firms paying high average salaries may be required to do so in their present location due to e.g. specific regional conditions, and might therefore be triggered to relocate in order to save costs. This might especially hold for less knowledge-intensive respectively low-tech firms which may be confident to find and rapidly instruct and train an equally competent workforce at another location. Conversely, high salaries may

indicate that a firm employs a large fraction of qualified and specialized workers whom it wants to retain, hence relocation would be less likely for firms paying high wages. This effect may especially apply to knowledge-intensive respectively high-tech firms which largely depend on the specific qualities of their workforce.

2.1.2 Characteristics of the region

As put forward by Arauzo-Carod (2005), the population density of a municipality may operate in two ways. On the one hand, it may serve as a proxy for urbanization economies respectively the market conditions in the area (Arauzo-Carod, 2005; Arauzo-Carod and Viladecans-Marsal, 2009; List, 2001; Wasylenko, 1980, Erickson and Wasylenko, 1980), and can therefore be expected to have a negative impact on a firm's propensity to relocate. We assume this effect to be particularly strong for firms in the service sector, as these depend profoundly on local demand. On the other hand, it may capture land prices (Arauzo-Carod, 2005; Arauzo-Carod and Viladecans-Marsal, 2009; Bartik, 1985; Figueiredo et al., 2002), thus pushing firms out of the region towards areas where the costs of buying or leasing property are lower. This effect may especially apply to manufacturing firms, as these are on average larger in size than service firms.

Firms generally benefit from the agglomeration of firms in their own sector, since firms located in such 'clusters' may exchange knowledge and workers (Arauzo-Carod, 2009; Figueiredo et al., 2002; Holl, 2004a; Holl, 2004b). This would imply that a firm being located in a municipality in which its own industry is - compared to other regions - underrepresented will be more likely to relocate to another municipality. We expect this effect to be particularly strong for high-tech manufacturing firms and knowledge-intensive service firms, as these might specifically benefit from interfirm knowledge flows.

If located in sectorally diverse regions, firms can benefit from complementary services and intersectoral information transfer (Holl, 2004a; Holl, 2004b). It can thus be expected that firms being located in a municipality which is sectorally diverse will be less likely to relocate to another municipality.

The Netherlands exhibit some peculiarities regarding the demographic and economic landscape of the country. Its four biggest cities – Amsterdam, Rotterdam, The Hague and Utrecht – are located in the so-called ‘Randstad’, a densely populated region in the Western part of the Netherlands with about 7 million inhabitants. Although the Randstad accounts for only about 20% of the country’s surface, more than 40% of the Dutch population live in this area, where also a large number of firms is located. Firms situated in (or close to) the Randstad have been found to be more likely to relocate (Capasso et al., 2010), either due to the large quantity of potentially attractive nearby alternatives (locating to which would not necessarily require a firm’s workforce to move), or leaving towards the less densely populated semi-periphery or periphery of the country, where space is amply available and land prices (and also house prices, which may be of interest for the firm’s employees) are considerably lower (Pellenbarg and Kemper, 1999; van Dijk and Pellenbarg, 2000).

As argued by Gottlieb (1995), firms may locate in areas which appeal to individuals in order to ‘tap an existing labor force, but also to recruit a new one’ (p. 1414). Hence, it can be assumed that relocating firms move to high-amenity regions not only to retain their current employees (who might happily move with them), but also to attract new employees for whom the location of their employer is of importance. Furthermore, firms located in amenity-rich regions may save labor costs, as employees in regions which are attractive to individuals might be inclined to accept lower wages (Gottlieb, 1995; Kohler, 1997). It can thus be expected that that firms being located in a municipality which appeals to individuals will have an decreased propensity to relocate.

It has been argued that the average income in an area captures regional market conditions (Erickson and Wasylenko; Wasylenko, 1980), hence firms in service sectors depending on local demand (e.g. retailing, hotels and restaurants) which are located in a municipality with high average wages should have a decreased propensity to move out of the area.

Average wages in a specific sector in a municipality may differ significantly from its average general wage level. Yet, the municipal wage level in a firm's own sector may operate in two directions. On the one hand, own-sector wages in the area – more than general wages – indicate costs, as firms need to match the wage levels of neighboring firms in order to be able to attract employees. On the other hand, the municipal own-sector wage level may indicate the quality of the local workforce, and it might therefore be beneficial for firms to be located in regions with high sector-specific wages. This might apply particularly to knowledge-intensive respectively high-tech firms which may depend relatively more than less knowledge-intensive respectively low-tech firms on local interfirm knowledge flows as well as the mobility of talented workers. It can thus be expected that less knowledge-intensive respectively low-tech firms located in a municipality with high wages in their own sector will be more likely to relocate, presumably in order to save costs, whereas high own-sector wages may be a 'keep'-factor for knowledge-intensive respectively high-tech firms which depend on and benefit from the quality of the local workforce.

2.2 The choice of where to relocate

The firm's decision of where to locate is assumed to be motivated by the characteristics of the municipalities it can choose between. Since firms may be pushed out of their present location due to the presence of specific regional qualities (or the lack thereof), the absence of these qualities (respectively their existence) may pull a firm to a specific location.

Hence, we expect service firms to be drawn to densely populated municipalities, whereas we assume manufacturing firms to be deterred by the density of a municipality. Municipalities with high sectoral specialization in their own industry can be expected to appeal to firms in all sectors, and we expect this effect to be particularly strong for knowledge-intensive service and high-tech manufacturing firms. It can be expected that firms in all sectors will be drawn to diverse municipalities.

Regarding the distance of the municipality to the ‘Heart of the Netherlands’, opposite forces may be at play: On the one hand, as the Randstad is the economic center of the Netherlands, it might be essential for specific industries to be located in (or locate to) this area. On the other hand, mature firms might prefer to move to the periphery where land is cheaper (Pellenbarg and Kemper, 1999; van Dijk and Pellenbarg, 2000; Wasylenko, 1980), and employees can afford nicer homes while at the same time saving commuting time (van Dijk and Pellenbarg, 2000).

Most firm relocations are realized across small distances (Knoben and Weterings, 2010; van Dijk and Pellenbarg, 2000; van Wissen, 2000), presumably due to fact that information on possible nearby locations is considerably easier to come by than on distant locations. Furthermore, it may be in a firm’s interest to be able to retain its current workforce. It can thus be assumed that firms will be drawn to municipalities which are situated close to their present location.

Residential amenities were found to be most important to firms moving into a specific region which were small in size, concerned about attracting professional personnel, and relatively footloose (Love and Crompton, 1999). Hence, while it can be expected that firms are generally drawn to municipalities which appeal to individuals, we presume this effect to be specifically strong for firms in the service sector, as these are generally smaller in size and can be assumed to be more footloose.

As the municipal wage level captures market conditions in the area, municipalities with high average wages should appeal to service firms depending on local demand (Erickson and Wasylenko, 1980; Wasylenko, 1980).

Regarding the effect of municipal sector-specific wages on the inflow of firms, we expect two counteracting effects. On the one hand, predominantly low-tech respectively less knowledge-intensive firms may relocate to regions where own-sector wages are low, as this allows them to save labor costs. Yet, the literature on firm relocation does not provide any empirical evidence which would unequivocally support this assumption, although findings on the locational preferences of service firms (Schmenner, 1993) suggest that predominantly firms in the less knowledge-intensive service sectors consider low own-sector wages in the region to be an important influence on their choice of location. On the other hand, as the local own-sector wage level may indicate the quality of the workforce employed in the municipality, firms which depend on high-quality labor may be drawn to municipalities where wages in their own sector are high in order to benefit from interfirm knowledge and worker flows. Schmenner (1993) correspondingly finds knowledge-intensive service firms to be attracted by regions in which they have access to qualified labor, while regional labor costs have a remarkably weak impact on the locational choices of these firms. In line with this, Pellenbarg (2002) argues that in the 1990s, a shift regarding the importance of firm location factors took place, away from primary (e.g. transportation and labor costs) and secondary (e.g. agglomeration economies) factors towards tertiary factors such as living conditions, environmental aspects, and also the quality of labor. It can thus be assumed that less knowledge-intensive respectively low-tech firms may be drawn to municipalities where own-sector wages are low, as they will aim to save labor costs. Knowledge-intensive respectively high-tech firms, on the other hand, may be attracted by regions where wages in their own sector are high, as this will allow them to gain access to the qualified workforce present in the area.

3 Data

3.1 Data sources

The data employed in this study were provided by Statistics Netherlands (CBS). Information regarding firms (location, industrial sector, age, size) is available on the level of the ‘business unit’. The data originate from the Social Statistical Database (SSB), the Dutch business register, the Survey on Employment and Wages, the Survey Production Statistics, and information provided by the Dutch Tax Administration.

Information on employees stems from the SSB, which is compiled on the basis of register data from two main sources. Personal information (e.g. date of birth, gender, address) within the SSB originates from the municipal registration system, while data concerning employees’ jobs (e.g. employer, duration of employment, salary) is provided by the Dutch Tax Administration.

Basic data on Dutch municipalities such as population density originates from Statline, a publicly available database provided by Statistics Netherlands providing aggregate regional information such as population or population density on the municipal level. Further information regarding the characteristics of the labor force, businesses and industries present in each municipality was established on the basis of the microdata on employees and firms at hand.

As the exact location of each municipality (its center) is known, its distance to other municipalities/locations can be established. After determining the ‘Heart of the Netherlands’, which is the central point between The Hague, Amsterdam, Rotterdam and Utrecht (near Alphen aan den Rijn in the province South-Holland), the distance between each municipality and the ‘Heart of the Netherlands’ could be calculated. Similarly, the distance to the firm’s location in 2003 was determined.

Information regarding the attractiveness of the Dutch municipalities for individuals was obtained from www.elsevier.nl, where the 50 so-called ‘best municipalities’ (regarding e.g. economic position, health, education, infrastructure, and accessibility) of the Netherlands are ranked each year.

3.2 Data description

Two distinct datasets were constructed.

The first dataset consists of all Dutch manufacturing (NACE 15-37) and services (NACE 50-74) firms (on the level of the business unit) which were active with employees in 2002, 2003 and 2004, and for which information regarding all relevant variables was available. In the large majority of cases, a business unit is an independent firm with only one location². As this study aims to identify the determinants of complete (as opposed to partial) intermunicipal firm relocation, only single-site firms were selected. Furthermore, the dataset only consists of firms which did not change sectors between 2003 and 2004.

Firm-level information (e.g. number of employees, industrial sector) is available on a yearly basis. Variables which take into account the characteristics of its workforce, however, are slightly more difficult to come by, since employees can hold multiple jobs with different employers at the same time. We decided to select the job with the highest number of hours per week worked, the most recent start date, and the highest salary. After matching these employees/jobs to their employers, we determined the average salary a firm paid its employees in 2003.

In 2003/2004, the Netherlands consisted of roughly 485 municipalities (due to reorganizations, the exact number varies slightly from year to year, and has generally been decreasing over the years). Since the location of a firm is known for each year on the

² About 98% of the firms in 2003 had one location. Interestingly, firms with two or more locations are progressively rare, while there is a certain number of very large firms having five or more locations.

municipal level, the characteristics of the municipality the firm was located in in 2003 were determined. These include municipal-level features such as population density and, due to the availability of detailed microdata on employees and firms, characteristics such as sectoral diversity, specialization in specific industries, and both average general and sector-specific wages.

The dataset thus entails information regarding characteristics of the firm in 2003 (including changes regarding its size between 2002 and 2003), features of the region (on the level of the municipality) the firm was located in in 2003, and the location (on the level of the municipality) of the firm in 2004. In total, the dataset consists of 179,913 firms, of which 4,241 firms (2.4 %) relocated to another municipality between 2003 and 2004. The analyses are also carried out separately for high-tech/medium-high-tech manufacturing (HT + MHT), medium-low-tech manufacturing (MLT), low-tech manufacturing (LT), knowledge-intensive high-tech services (KIHTS), knowledge-intensive market services (KIMS), knowledge-intensive financial services (KIFS), and less knowledge-intensive services (LKIS). Table 1 provides detailed information on the classification of the two-digit NACE³ sectors into these categories. The sectors of medium-low-tech manufacturing and low-tech manufacturing had the smallest share of relocating businesses (1.7 %), while the largest share (4.7 %) of firms moving to another municipality was found in the knowledge-intensive high-tech service sector. Table 2 gives a complete overview of firms' relocation behavior, both for the complete dataset, and for each subsample as previously specified.

The second dataset is based on those 4,241 firms which actually relocated between 2003 and 2004. For those firms, the characteristics of the (at most 482) municipalities they could choose between were determined for the year 2004. Basically, these variables are analogous to those presented in the previous paragraph, including e.g. population density, sectoral diversity and specialization in specific sectors, and average general and sector-

³ Nomenclature statistique des activités économiques dans la Communauté européenne, based on the International Standard Industrial Classification of all Economic Activities (ISIC)

specific wages. The analysis is carried out for the complete dataset, and for each subsample as previously specified.

4 Model

The decisions taken by a firm regarding its relocation are estimated by means of a two-stage nested logit model. The alternatives a firm can choose between are illustrated in Figure 1. Regarding the decision of whether to relocate or not, firms can decide to either stay in their present location, or to move to another municipality. With respect to the decision of where to relocate, firms which relocate to another municipality can choose between a maximum of 482 alternatives (483 municipalities in 2004, excluding the municipality of origin)⁴.

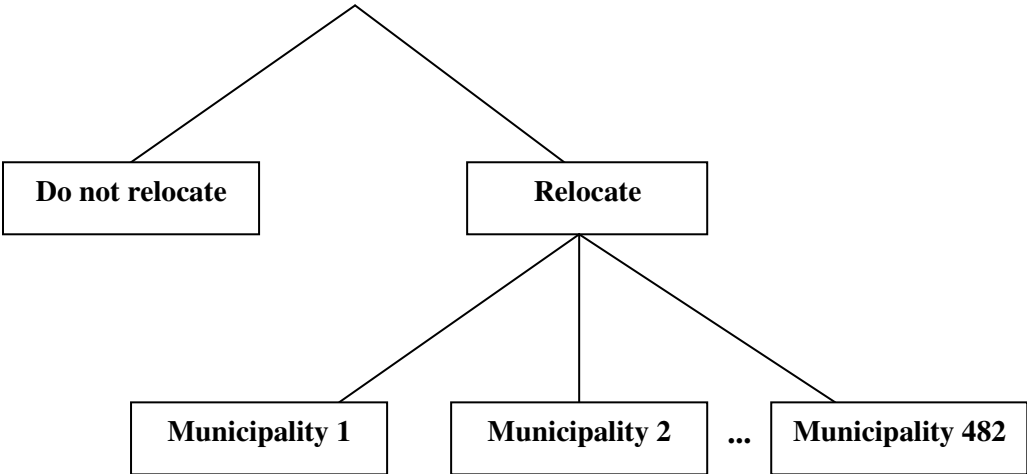


Figure 1: Nesting structure of the two-level nested logit (simultaneous decision-making process)

We assume that firms choose the location which is most beneficial to them. This implies that firm decide upon relocating by taking into account the attractiveness of moving to another municipality. If a firm decides to stay in its present location, it assumes this location to be

⁴ Not all industries are present in all municipalities. We assume that firms only choose between those municipalities in which their industry is already present, as municipalities in which a specific sector is not yet present are likely to possess certain unobserved characteristics which discourage firms in those industries from locating there. Yet, we also carried out the analysis with 482 choices for each firm, and generally did not find different results. Results are available from the author upon request.

most advantageous. If it relocates to another municipality, its location is chosen by comparing the characteristics of all municipalities it could possibly relocate to.

The value v_m derived from locating at m can be partitioned into attributes that are observed at the upper nest level (whether to relocate or not), and those which are observed at the lower nest level (where to relocate). Hence,

$$v_m = \alpha B_r + \beta Y_m + \varepsilon_m \quad (1)$$

where B_r is a vector of explanatory variables which determine whether to relocate or not, Y_m is a vector of explanatory variables which determine whether to relocate to municipality m , conditional on relocating, and ε_m is the error term (see Strauss-Kahn and Vives (2009) for a corresponding analysis of headquarter mobility between Metropolitan Statistical Areas in the US).

The probability of moving to municipality m , P_m , can be written as the product of the conditional probabilities of the two choices:

$$P_m = P_r * P_{m|r} \quad (2)$$

where P_r denotes the probability of choosing to relocate to another municipality, and $P_{m|r}$ is the probability of choosing municipality m conditional on having decided to relocate, and depends on the characteristics of the municipalities the firm can choose between:

$$P_{m|r} = \exp(\beta Y_m) / \sum_{k=1}^M \exp(\beta Y_k) \quad (3)$$

where M is the number of municipalities the firm can choose between⁵.

P_r depends on characteristics of the firm, of the municipality the firm is currently located in (B_r), and on the industry-specific⁶ value of relocating by means of the inclusive value $I =$

$$\ln\left(\sum_{k=1}^M \exp(\beta Y_k)\right):$$

$$P_r = \exp(\delta I + \alpha B_r) / (1 + \exp(\delta I + \alpha B_r)) \quad (4)$$

A simultaneous (as opposed to a sequential) decision-making process is assumed. Due to the fact that the inclusive value which is obtained at the lower level (where to relocate) enters the analysis at the upper level (whether to relocate), the nested logit specification is estimated in reversed order: First, a conditional logit model is estimated which assumes a firm's decision of where to relocate to depend upon characteristics of the municipalities it can choose between (lower nest level). Next, a binary logit model is estimated⁷ which presumes a firm's decision of whether to move to another municipality to depend upon characteristics of the firm, the municipality the firm is currently located in, and on the inclusive value I which reflects the industry-specific value of moving (upper nest level). Yet, for convenience, we will discuss both the model specifications and the results as presented in Figure 1.

⁵ For convenience, subscripts for firms and sectors have been suppressed throughout the text.

⁶ If only location-specific characteristics which are similar for all firms (e.g. population density) were part of the model, the inclusive value would be a constant (and could thus be omitted). Since we add sector-specific variables (e.g. average wage in the firm's own sector), the inclusive value is sector-specific. Taking into account the distance of each municipality to a firm's region of origin, a firm-specific inclusive value could have been determined. Yet, it would then have been necessary to have at least one relocating firm from each municipality and sector (and thus a total of almost 20,000 relocating firms) in order to determine the inclusive value for all firms in the analysis based on their sector and their location of origin. As this could not be realized, distance to origin was excluded from the analysis. Results for the analysis including this variable are presented in te Appendix (Table 8); the model was found to be generally insensitive to the in- or exclusion of the variable.

⁷ As the percentage of firms which relocate is rather small, it may be argued that a rare event logit could be employed. We also carried out the analysis using a rare event logit, and generally found comparable results. This can possibly be attributed to the fact that although the shares of relocating firms are not too large, the two logit models come up with comparable results due to the size of the samples (see e.g. King and Zeng, 2001a; King and Zeng, 2001b). As the rare event logit appears to be more sensitive to outliers, we decided to present the results for the binary logit. The results for the rare event logit are available from the author upon request.

5 Model specification

5.1 Whether to relocate

We use the first dataset as presented in section 3.1, consisting of those firms which either relocated, or stayed in their present location between the years 2003 and 2004. A binary logit model is estimated (1 = firm relocates between 2003 and 2004, 0 = firm does not relocate). The variables employed in the analysis consist of firm-specific characteristics, characteristics of the municipality the firm is located in, and the inclusive value I which reflects the industry-specific value of moving (see section 5.2).

All variables are measured in 2003 (or, in the case of $GROWTH_FIRM_POS$ and $GROWTH_FIRM_NEG$, between 2002 and 2003), prior to the firm's potential relocation. Industries are identified on the 2-digit level. For the variables $SIZE_FIRM$, $SALARY_FIRM$, $SALARY$, and $SALARY_IND$, the natural logarithm is used. See Table 3 for an overview of the variables used in the analysis. Descriptive statistics (pooled) are presented in Table 4.

AGE_FIRM measures the age (in years) of the firm, and $SIZE_FIRM$ denotes its size (number of employees). $GROWTH_FIRM_POS$ indicates the positive change in a firm's number of employees between the years 2002 and 2003, and $GROWTH_FIRM_NEG$ measures the negative change, also between 2002 and 2003. $SALARY_FIRM$ indicates the average daily salary (in €) a firm's employees receive.

$POPDENS$ denotes the population density (inhabitants per square kilometer/100) of the municipality the firm is located in.

$SPECIALIZATION$ is the sectoral specialization regarding the firm's own industry (2-digit level) in the municipality. It is measured as the number of employees in the firm's industrial sector in the municipality divided by the number of employees in the municipality, divided by the number of employees in the firm's industrial sector divided by the total number

of employees in the Netherlands. A value of 1 indicates that in the firm's municipality, its industry is as present as in the rest of the Netherlands, a value smaller than 1 indicates that in the firm's municipality, its industry is less present, and a value greater than 1 indicates that in the firm's municipality, its industry is more present than in the rest of the country.

HERFINDAHL denotes the degree of specialization in the municipality the firm is located in. It is measured using the Herfindahl employment specialization index, exhibiting values which lie between zero and one. A smaller value indicates sectoral diversity in the municipality, whereas a larger value denotes that employment is concentrated in fewer sectors. The value '1' would this indicate that only one sector is present in the municipality.

DISTANCE_CENTER denotes the firm's distance (in km) to the 'Center of the Netherlands', defined as the central point between The Hague, Amsterdam, Rotterdam and Utrecht, located near Alphen aan den Rijn in the province North-Holland.

The variable *TOP_50* (dummy variable) indicates whether the municipality the firm is located in has been ranked as one of the 50 most attractive Dutch municipalities for individuals.

SALARY is the average daily salary (in €) in the municipality the firm is located in, and *SALARY_IND* denotes the average daily salary (in €) in the municipality in the firm's own sector (2-digit level).

5.2 Where to relocate

The second dataset as presented in section 3.2 is employed. A conditional logit model is estimated (1 = municipality is chosen by relocating firm, 0 = municipality is not chosen). The variables employed in the analysis consist of characteristics of the (at most 482) municipalities a relocating firm can choose between. The number of observations for each sample is based on the number of relocating firms multiplied by the number of municipalities

(on average 457) it could choose between⁸. All variables refer to the year 2004. Industries are identified on the 2-digit level. For the variables *SALARY* and *SALARY_IND*, the natural logarithm is used. The regional characteristics of the municipalities a firm can choose between refer to the year 2004 and are otherwise specified as illustrated in section 5.2. Table 5 provides an overview of the variables.

6 Results and Discussion

6.1 Why do firms relocate?

Results are presented in Table 6. They show that older firms are indeed less likely to relocate, yet the proposed negative effect of firm size on the propensity to move only holds true for manufacturing firms and firms in the knowledge-intensive market service sectors, whereas the probability for relocation increases with firm size for less knowledge-intensive service firms. Yet, while both Brouwer et al. (2004) and van Dijk and Pellenbarg (2000) find larger firms to be less likely to relocate, the study by Knoben and Oerlemans (2008) illustrates that firm size may proxy other, unobserved characteristics of the firm, since it loses its predictive power as soon as more explanatory variables are entered.

Previous changes regarding the size of a firm's workforce do not trigger firms to move, suggesting that firms may anticipate future growth or decline, and may relocate before, not after these changes have taken place. The only exception are knowledge-intensive market service firms, supposedly as in these sectors, future growth or decline may be harder to anticipate. Furthermore, as the analysis only covers single-site firms and complete relocations, it does not take into account the possible formation of additional establishments due to previous growth.

⁸ Recall that municipalities in which the firm's sector is not present were excluded from the analysis.

We find that predominantly low-tech respectively less knowledge-intensive firms paying high average salaries have an increased propensity to relocate, suggesting that these firms may indeed relocate in order to save costs, and may be confident about finding an equivalently competent workforce elsewhere. High-tech manufacturing respectively knowledge-intensive service firms, on the other hand, are generally not pushed out of their present location by high labor costs. These findings may indicate that, while employees' salaries unquestionably represent costs which a profit-maximizing firm intends to minimize, they may also denote the quality of a firm's workforce.

The proposed negative effect of population density on the likelihood to relocate is confirmed for firms in the knowledge-intensive market service sectors, whereas the expected positive effect is found for (comparatively large) medium-low-tech manufacturing firms. These findings are in line with Arauzo-Carod (2005), and illustrate the differences in the valuation of densely populated regions between firms in the manufacturing and service sectors.

Generally, the further a service firm is located to the 'Center of the Netherlands' in the middle of the Randstad, the less likely it is to relocate to another municipality. These findings are in line with Capasso et al. (2010), and suggest that firms located in the Randstad may relocate within this region to more attractive premises, or may use the economic center of the Netherlands as a 'nursery' (Duranton and Puga, 2001) before moving to (possibly specialized) regions in the (semi-)periphery of the country where rents are lower.

Although firms are expected to value being located among other firms in the same sector, a negative effect of sectoral specialization in the firm's current municipality on the propensity to relocate can not be observed. These findings indicate that sectoral specialization (or rather the lack of it) does not push firms out of their present location.

For most knowledge-intensive service firms, the degree of sectoral diversity in the municipality has the proposed negative effect on relocation. These findings are in line with

Carree et al. (2010), who found predominantly business service firms to be influenced by cross-sectoral effects, and suggest that specifically knowledge-intensive market and financial services firms value being located in municipalities which are sectorally diverse.

Being located in an area which does appeal to individuals induces knowledge-intensive high-tech service firms to stay in their present location. This suggests that relatively small, labor-intensive firms which have to spend comparatively less than firms in other sectors on rents or machinery can 'afford' to locate and to stay in an appealing region.

Less knowledge-intensive service firms (including e.g. retailing, hotels and restaurants) which are located in a municipality with high average wages tend to be less likely to relocate. This indicates that the municipal wage level in general indeed captures local market conditions and will keep firms which benefit from or even depend upon high local demand within the municipality.

Regarding industry-specific wages, the opposite effect can be observed, since less knowledge-intensive service firms located in a municipality with high industry-specific wages have an increased likelihood to relocate. This finding suggests that these firms - depending comparatively less than firms in other, more knowledge-intensive sectors on the knowledge and skills of their workforce - may consider relocating from areas with high industry-specific wages in order to save labor costs. In line with this argument, the coefficient for industry-specific wages for high-tech and medium-high tech manufacturing and knowledge-intensive high-tech services is negative (although not significant), suggesting that knowledge-intensive respectively high-tech firms, both in manufacturing and in services, acknowledge that high-quality labor comes at a price, and are willing to pay it.

6.2 *Where do firms go?*

Results are presented in Table 7. They indicate that across all sectors, firms are indeed drawn to densely populated municipalities, suggesting that the size of local demand is a relevant pull factor which attracts relocating businesses. Yet, while these findings confirm our expectations regarding firms in the service sector, one may have expected manufacturing firms to stay away from densely populated areas in order to avoid higher land prices and rents.

Municipalities in which firms in the same sector are already present appeal to service firms, and to firms in the low-tech manufacturing sectors. This suggests that firms in these sectors are indeed pulled to their new location by agglomeration forces, wishing to benefit from the locally constrained exchange of knowledge and flows of workers taking place. Not surprisingly, the effect is strongest for firms in knowledge-intensive high-tech services, in which all R&D activities are comprised. Also confirming our expectations, we find that firms are generally drawn to sectorally diverse regions, indicating that municipalities with sectoral diversity attract both manufacturing and service firms.

The larger the distance of a municipality to the economic center of the Netherlands, the less it appeals to firms in knowledge-intensive high tech and market services and less knowledge-intensive services, whereas the location choices of manufacturing firms are not affected by the distance to the Randstad. These findings illustrate the diverse preferences of firms in services and manufacturing: firms which depend upon centrality and closeness to their customers will prefer to be located close to the center, whereas firms which do not require to be situated in a central location may opt for the ‘periphery’ of the country offering lower rents and land prices.

The larger the distance of a municipality to a firm's previous location (Table 8), the less the firm is drawn to it⁹. This suggests that relocating firms may indeed be imperfectly informed regarding all possible locations they might choose from, and might therefore select a locality which is 'close to home'. Furthermore, for some firms it will be important to retain their current workforce.

Firms in the service sectors are drawn to attractive municipalities. These results suggest that relocating firms in these sectors – which are labor-intensive and comparatively small in size – may indeed relocate to municipalities which appeal to individuals, be it in order to benefit from higher prices in the area due to the attractiveness of the region (e.g. in the case of hotels and restaurants), or to directly enjoy the amenities provided. Furthermore, these municipalities also appeal to firms in low-tech manufacturing.

Service firms are also drawn to municipalities with high average wages, suggesting that the municipal wage level indeed captures local demand conditions. Moreover, although the size of the effect is less prominent, high-wage regions also appeal to high-tech and medium-high-tech as well as low-tech manufacturing firms.

Regarding high sector-specific wages, some interesting patterns can be observed. For high-tech and medium-high-tech as well as medium-low tech manufacturing firms, the appeal of locating in a region with high wages in the firm's own sector, and thus in a region with a supposedly highly qualified and skilled workforce, is apparently offset by the inclination to save labor costs, and no effect can be observed. Furthermore, since high-tech and medium-high-tech manufacturing are sectors which are present in a comparatively small number of regions (on average, in 324 municipalities, compared to a total average of 457), and the willingness to move for job-related reasons has been found to be higher among highly educated workers, these firms might expect (or hope for) their workforce to relocate with

⁹ Generally, the model is insensitive with respect to the in- or exclusion of this variable. Yet, when controlling for distance to previous location, the variable indicating the distance to the economic center of the Netherlands generally turns positive. These findings indicate that when controlling for a relocating firm's previous location (which is likely to have been close to the economic center with its high mobility rates), relocating – possibly growing – firms have a tendency to move away from the densely populated, expensive and congested center.

them. In the case of low-tech manufacturing, firms are attracted by regions with high sector-specific wages. This suggests that in these sectors, high regional wages in a firm's sector are not seen as a deterrent to immigration, but may indicate the quality of the local workforce, and therefore draw firms in. Furthermore, since firms in these manufacturing sectors are both located in and drawn to regions with the highest own-sector specialization, paying high wages might be comparatively difficult to avoid, as firms which are clustered in close proximity might 'bid' for the most excellent employees.

For service firms, labor costs represent the better part of their operating costs. Surprisingly, less knowledge-intensive service firms are drawn to regions with high sector-specific wages. Yet, for firms in these sectors, own-sector wages are highly correlated with general wages. This suggests that the profits from locating in these comparatively prosperous regions more than offset the additional labor costs. With respect to knowledge-intensive services, firms face higher labor costs per person, yet might also require a qualified, capable workforce which naturally comes at a price. In the case of knowledge-intensive high-tech and financial services, firms are attracted by regions with high own-sector wages, supposedly since this may indicate the quality of the local workforce. High-tech market services, on the other hand, prefer regions with low sector-specific wages. The reasons for this may be twofold: Firstly, these firms might relocate to lower-wage areas in order to save labor costs. In addition, locating to a region where own-sector wages are low might enable a firm to poach their competitors' best employees by offering them comparatively higher salaries.

7 Conclusions

Results indicate that both the determinants of firm relocation, and the regional characteristics which attract relocating firms differ between firms in the manufacturing and service sector,

and also between high-tech respectively knowledge-intensive and low-tech respectively less knowledge-intensive firms.

Across all sectors, older firms are less likely to relocate, whereas the proposed negative effect of firm size on the propensity to move only holds true firms in specific sectors. Previous changes in size generally do not affect a firm's likelihood to relocate, suggesting that across most sectors, firms are able to anticipate future growth or decline and take action accordingly (e.g. by relocating, expanding, closing down parts of their operations, or establishing subsidiaries) before these changes take place.

Low-tech manufacturing and less knowledge-intensive service firms paying higher average salaries are generally more likely to relocate, whereas this effect can not be observed for high-tech manufacturing respectively knowledge-intensive service firms. This suggests that firms depending less on a specifically qualified (and correspondingly expensive) workforce may intend to save labor costs by relocating, while in the high-tech/knowledge-intensive sectors, salaries reflect the qualities and capacities of a firm's employees whom it supposedly wants to retain.

Population density positively affects the likelihood to move for firms in medium-low-tech manufacturing, as these (comparatively large) firms can be assumed to relocate to less densely populated regions where land is cheaper. Knowledge-intensive market service firms, on the other hand, refrain from moving if they are currently located in a densely populated region, indicating that in these sectors, the gains from being close to potential customers more than offsets the higher costs associated with buying or renting land or office space. Correspondingly, relocating firms in all service sectors move to densely populated municipalities, possibly in order to benefit from closeness and concentration of potential customers. Somewhat surprisingly, yet, low-tech manufacturing firms are also drawn to densely inhabited municipalities.

Own-sector specialization (or rather the lack of it) does not have an effect on firms' propensity to move out of the region, yet specialization in the firm's own sector appeals to relocating firms in all service sectors as well as in low-tech manufacturing selecting a new locality. These findings suggest that the exchange of knowledge due to physical proximity may be more relevant in the service than in the manufacturing sector, and matters more to firms in low- than in high-tech manufacturing.

Knowledge-intensive service firms generally move out of non-diverse regions, and relocating service firms as well as medium-high tech and low-tech manufacturing firms are generally drawn to municipalities in which firm from a variety of different sectors are located. These findings illustrate that sectorally diverse municipalities are attractive to firms in the service sectors.

For most service firms, the likelihood to relocate decreases with a firm's distance to the economic center of the Netherlands, whereas this effect can not be observed for manufacturing firms. Correspondingly, the larger the distance of a municipality to the economic center of the Netherlands, the less it appeals to firms in most service sectors, whereas the location choices of manufacturing firms are not affected by the distance to the Randstad. These findings illustrate the diverse preferences of firms in services and manufacturing, as firms depending upon centrality and closeness to their customers will prefer to be located close to the center, whereas firms which do not require to be situated in a central location may opt for the 'periphery' of the country with lower rents and land prices.

The attractiveness of a municipality for individuals only has an effect on the mobility of knowledge-intensive high-tech service firms, since those located in one of the 50 'best' Dutch municipalities are less likely to relocate. Yet, relocating firms in all service sectors and also in low-tech manufacturing are drawn to municipalities which appeal to individuals. These findings suggest that firms may initially be located in a specific region irrespective of the amenities present in this particular location (e.g. a firm may be established in the founder's

hometown), yet in the case of relocation, the attractiveness of a region is indeed taken into account by firms which due to their relative ‘footlooseness’ can afford to do so.

For less knowledge-intensive service firms, the general average wage level in the municipality firm is located in negatively affects the firm’s propensity to relocate, whereas the average wage level in the firm’s sector has a positive effect. These findings illustrate that general demand conditions keep these firms within the region, while they are pushed out by high labor costs.

Regarding the effect of high sector-specific wages on mobility, results are mixed. For most manufacturing firms, the appeal of locating in a region with high sector-specific wages, and thus a supposedly highly qualified and skilled workforce, appears to be offset by the inclination to save labor costs, hence no effect can be observed. Yet, in the case of low-tech manufacturing, firms are attracted by regions with high sector-specific wages, suggesting that in these sectors, high regional wages in a firm’s sector may indicate the quality of the local workforce, and therefore draw firms in.

Not in line with our assumptions, less knowledge-intensive service firms are drawn to regions with high sector-specific wages. Yet, since for these firms, own-sector wages are highly correlated with general wages, the profits from locating in these comparatively prosperous regions can be assumed to more than offset the additional labor costs. Regarding knowledge-intensive services, knowledge-intensive high-tech and financial service firms are attracted by regions with high own-sector wages, supposedly since this may indicate the quality of the local workforce, whereas knowledge-intensive market service firms are drawn to regions where own-sector wages are low, presumably either in order to save labor costs, or possibly due to the fact that this enables them to poach their competitors’ employees by offering them comparatively higher salaries.

Generally, and confirming an observation made by van Dijk and Pellenbarg (2000), the results of this study suggest that a firm’s decision to relocate is rather determined by firm-

specific factors than by the characteristics of the region the firm is located in. This effect is even more pronounced for manufacturing than for service firms, which are to some extent sensitive to regional wage levels, the degree of sectoral diversity, and the distance to the economic center of the Netherlands. Regional characteristics do, on the other hand, profoundly affect the choice of where to move, as relocating firms are ‘pulled’ into densely populated municipalities with high wage levels and, in the case of services and low-tech manufacturing, into municipalities which are specialized in the firm’s own sector and appeal to individuals, whereas sectoral concentration deters the inflow of these migrating firms. Results for the effect of sector-specific wages on the immigration of firms are mixed, suggesting that – possibly contingent on sectoral specificities – local wage levels may be perceived as indicators of labor costs and/or labor quality.

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Appendix

Table 1: Classification of sectors

Classification¹⁰¹¹	Labor intensity/ capital intensity	Knowledge intensity	NACE Sectors
High-tech and medium-high-tech manufacturing	Capital-intensive	Knowledge- intensive	24 and 29-35
Medium-low-tech manufacturing	Capital-intensive	Less knowledge- intensive	23 and 25-28
Low-tech manufacturing	Capital-intensive	Less knowledge- intensive	15-22 and 36-37
Knowledge-intensive high-tech services	Labor-intensive	Knowledge- intensive	64, 72, 73
Knowledge-intensive market services	Labor-intensive	Knowledge- intensive	61-62, 70-71, 74
Knowledge-intensive financial services	Labor-intensive	Knowledge- intensive	65-67
Less knowledge- intensive services	Labor-intensive	Less knowledge- intensive	50-52, 55, 60, 63

¹⁰ Technology classification of manufacturing industries: OECD Science, Technology and Industry Scoreboard 2009 (with NACE 35 reclassified as medium-high-tech)

¹¹ Classification of service industries: EUROSTAT Statistics in Focus 4/2005

Table 2: Mobility

	Non-relocating firms	Percent	Relocating firms	Percent
All	175,672	97.64	4,241	2.36
High-tech and medium-high-tech manufacturing	5,664	97.93	120	2.07
Medium-low-tech manufacturing	5,471	98.28	96	1.72
Low-tech manufacturing	10,429	98.28	182	1.72
Knowledge-intensive high-tech services	3,334	95.34	163	4.66
Knowledge-intensive market services	43,018	96.64	1,495	3.36
Knowledge-intensive market services	10,453	96.72	354	3.28
Less knowledge-intensive services	97,303	98.15	1,831	1.85

Table 3: Definitions of variables used in the analysis (relocate or not)

Variable	Definition
AGE_FIRM	Age of the firm (in years) in 2003
SIZE_FIRM	Natural logarithm of firm size (average number of employees)
GROWTH_FIRM_POS	Positive change in a firm's number of employees
GROWTH_FIRM_NEG	Negative change in a firm's number of employees
SALARY_FIRM	Natural logarithm of a firm's employees' average daily salary (in €)
POPDENS	Population density (inhabitants per km ² /100) of the municipality the firm is located in
SPECIALIZATION	Specialization in the firm's own sector (2-digit NACE level) in the municipality the firm is located in
HERFINDAHL	Sectoral concentration in the municipality the firm is located in
DISTANCE_CENTER	Distance between the 'Center of the Netherlands' and the municipality the firm is located in
TOP_50	Municipality the firm is located in is attractive for individuals (dummy)
SALARY	Natural logarithm of the average daily salary in the municipality the firm is located in
SALARY_IND	Natural logarithm of the average daily salary in the firm's sector (2-digit NACE level) in the municipality the firm is located in

Variables refer to the year 2003, GROWTH_FIRM_POS and GROWTH_FIRM_NEG refer to the years 2002 /2003.

Table 4: Descriptives (pooled)

	Minimum	Maximum	Mean	SD
AGE_FIRM	1.00	40.00	14.72	11.155
SIZE_FIRM	0.00	9.13	1.54	1.189
GROWTH_FIRM_POS	0.00	2429.00	0.96	9.932
GROWTH_FIRM_NEG	-2446.00	0.00	-0.88	11.040
SALARY_FIRM	2.17	11.00	4.28	0.501
POPDENS	0.25	56.10	15.23	14.740
SPECIALIZATION	0.00	183.49	1.37	2.322
HERFINDAHL	0.06	0.45	0.09	0.030
DISTANCE_CENTER	2.12	208.45	72.59	47.044
TOP_50	0.00	1.00	0.25	0.432
SALARY	4.12	5.18	4.48	0.153
SALARY_IND	2.80	7.13	4.37	0.288

Number of observations: 179,913

Table 5: Definitions of variables used in the analysis (where to relocate)

Variable	Definition
POPDENS	Population density (inhabitants per km ² /100) of the municipalities the relocating firm can choose between
SPECIALIZATION	Specialization in the firm's own sector (2-digit NACE level) in the municipalities the relocating firm can choose between
HERFINDAHL	Sectoral concentration in the municipalities the relocating firm can choose between
DISTANCE_CENTER	Distance between the 'Center of the Netherlands' and the municipalities the relocating firm can choose between
TOP_50	Attractiveness for individuals of the municipalities the relocating firm can choose between (dummy)
SALARY	Natural logarithm of the average daily salary in the municipalities the relocating firm can choose between
SALARY_IND	Natural logarithm of the average daily salary in the firm's sector (2-digit NACE level) in the municipalities the relocating firm can choose between
DISTANCE_2003	Distance between a relocating firm's previous location and the municipalities the firm can choose between [see Table 8]

All variables refer to the year 2004.

Table 6: Logit regression – whether to relocate

	ALL		MANUFACTURING						SERVICES							
			HT + MHT		MLT		LT		KIHTS		KIMS		KIFS		LKIS	
			<i>Capital-intensive</i>						<i>Labor-intensive</i>							
			<i>Knowledge-intensive</i>		<i>Less knowledge-intensive</i>				<i>Knowledge-intensive</i>						<i>Less knowledge-intensive</i>	
AGE_FIRM	-0.037	**	-0.048	**	-0.039	**	-0.051	**	-0.079	**	-0.027	**	-0.038	**	-0.035	**
SIZE_FIRM	-0.010		-0.142	*	-0.214	**	-0.117	*	-0.069		-0.051	**	0.019		0.044	**
GROWTH_POS_FIRM	0.001		0.002		0.015		0.002		0.010		0.001		-0.000		0.003	
GROWTH_NEG_FIRM	-0.001	*	-0.005		-0.004		0.002		0.001		-0.002	*	-0.011		-0.001	
SALARY_FIRM	0.327	**	0.222		0.476		0.675	**	0.232		0.161	**	-0.003		0.516	**
POPDENS	-0.003	**	-0.000		0.020	**	-0.005		-0.010		-0.006	**	-0.007		0.002	
SPECIALIZATION	-0.011		-0.059		-0.031		0.001		0.040		0.003		-0.015		-0.037	
HERFINDAHL	1.670	**	1.072		4.257		0.398		-4.237		2.391	**	3.171	**	1.152	
DISTANCE_CENTER	-0.003	**	-0.004		-0.001		-0.003		-0.001		-0.004	**	-0.003	*	-0.003	**
TOP_50	-0.033		0.284		0.004		-0.111		-0.472	*	-0.053		0.121		0.027	
SALARY	-0.459	**	-0.570		0.671		0.143		-0.023		0.109		0.479		-1.098	**
SALARY_IND	0.664	**	-0.367		-0.639		0.239		0.166		-0.001		0.042		0.966	**
Inclusive value	0.057	**	-0.001		-0.119		-0.086		-0.010		0.061	**	0.033		0.193	**
<i>N</i>	179,913		5,784		5,567		10,611		3,497		44,513		10,807		99,134	
<i>Pseudo R</i> ²	0.0337		0.0442		0.0500		0.0495		0.0365		0.0131		0.0136		0.0438	

** indicates significance at the 5%-level

* indicates significance at the 10%-level

Table 7: Conditional logit regression – where to relocate

	ALL		MANUFACTURING						SERVICES							
			HT + MHT		MLT		LT		KIHTS		KIMS		KIFS		LKIS	
			<i>Capital-intensive</i>						<i>Labor-intensive</i>							
			<i>Knowledge-intensive</i>		<i>Less knowledge-intensive</i>				<i>Knowledge-intensive</i>						<i>Less knowledge-intensive</i>	
POPDENS	0.037	**	0.016	*	0.028	**	0.031	**	0.036	**	0.039	**	0.037	**	0.038	**
SPECIALIZATION	0.052	**	0.024		-0.021		0.032	**	0.095	**	0.090	**	0.074	**	0.200	**
HERFINDAHL	-3.658	**	-0.709		-10.390	**	-6.978	**	-5.917	*	-3.156	**	-3.280	*	-3.632	**
DISTANCE_CENTER	-0.003	**	-0.001		-0.001		0.002		-0.001		-0.003	**	-0.003	**	-0.002	**
TOP_50	0.400	**	0.234		0.114		0.645	**	0.562	**	0.599	**	0.427	**	0.142	**
SALARY	1.609	**	1.714	**	0.842		1.695	**	2.005	**	2.181	**	1.564	**	1.561	**
SALARY_IND	0.258	**	0.146		0.499		0.434	**	0.697	**	-0.283	**	0.645	**	0.744	**
<i>N</i>	1,936,533		38,902		36,684		69,388		58,372		700,429		162,329		870,429	
<i>Average number of choices</i>	457		324		382		381		358		469		459		475	
<i>Pseudo R²</i>	0.0516		0.0174		0.0236		0.0435		0.0790		0.0685		0.0633		0.0489	

** indicates significance at the 5%-level

* indicates significance at the 10%-level

Table 8: Conditional logit regression – where to relocate

	ALL		MANUFACTURING						SERVICES							
			HT + MHT		MLT		LT		KIHTS		KIMS		KIFS		LKIS	
			<i>Capital-intensive</i>						<i>Labor-intensive</i>							
			<i>Knowledge-intensive</i>		<i>Less knowledge-intensive</i>				<i>Knowledge-intensive</i>						<i>Less knowledge-intensive</i>	
POPDENS	0.039	**	0.022	**	0.029	**	0.034	**	0.038	**	0.042	**	0.040	**	0.038	**
SPECIALIZATION	0.054	**	0.026		0.005		0.024	*	0.110	**	0.090	**	0.078	**	0.164	**
HERFINDAHL	-2.815	**	0.187		-8.891	*	-7.175	**	-4.967		-2.224	**	-2.863		-2.926	**
DISTANCE_CENTER	0.009	**	0.009	**	0.008		0.018	**	0.007	**	0.012	**	0.005	*	0.007	**
DISTANCE_2003	-0.057	**	-0.051	**	-0.065	**	-0.066	**	-0.046	**	-0.054	**	-0.062	**	-0.059	**
TOP_50	0.341	**	0.107		0.023		0.510	**	0.489	**	0.518	**	0.347	**	0.127	**
SALARY	1.524	**	1.614	**	0.832		1.433	**	1.810	**	2.058	**	1.390	**	1.467	**
SALARY_IND	0.231	**	0.081		0.529		0.388	*	0.688	**	-0.277	**	0.608	**	0.644	**
<i>N</i>	<i>1,936,533</i>		<i>38,902</i>		<i>36,684</i>		<i>69,388</i>		<i>58,372</i>		<i>700,429</i>		<i>162,329</i>		<i>870,429</i>	
<i>Average number of choices</i>	<i>457</i>		<i>324</i>		<i>382</i>		<i>381</i>		<i>358</i>		<i>469</i>		<i>459</i>		<i>475</i>	
<i>Pseudo R²</i>	<i>0.2558</i>		<i>0.2278</i>		<i>0.2867</i>		<i>0.2986</i>		<i>0.2400</i>		<i>0.2470</i>		<i>0.2770</i>		<i>0.2657</i>	

** indicates significance at the 5%-level

* indicates significance at the 10%-level