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AGGLOMERATION IN DUTCH INWARD FOREIGN INVESTMENTS

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Summary

This study investigates the location pattern of foreign firms in the Netherlands. Although there are arguments to support and contradict the proposition that Dutch and foreign-owned establishments exhibit similar location patterns, the empirical evidence indicates that they differ significantly. Foreign establishments disproportionally favour *Randstad*-locations. The most influential factor explaining the differences is agglomeration economies. Foreign firms appear to cluster around previous foreign establishments to take advantage of the positive externalities and knowledge spillovers.

Keywords: Inward Foreign Direct Investment, Locational Choice, Agglomeration, the Netherlands, Multinational Firms

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1 Introduction

Business location is a topic that has attracted a lot of attention over the years. With the increase in FDI activity in the 1980s, researchers started focussing on the locational determinants of foreign establishments. Most studies investigate country-specific factors such as market size, the presence of natural resources, infrastructure, and the skills-level and cost of labour (see Dunning (1993) for a full list of factors). Furthermore, they look at aggregated data and compare the choices between two or more countries or the changes in attractiveness of a particular country over time (Agarwal, 1980; Clegg, 1987; Martin, 1991; Mody and Srinivasan, 1998; Schneider and Frey, 1985; and Zhang, 1994), rather than exploring the establishment pattern and locational characteristics of regions *within a particular country*.

A better understanding of location patterns is particularly important for the design of (differentiated) policies aiming to attract (foreign) investments and employment to a country. If firms attract each other, it may be worthwhile to subsidise the establishment of a foreign affiliate in a particular target region or sector. This firm will then act as a "magnet" for new establishments. Likewise, it may also be beneficial to stimulate the development of strong local firms that could have a similar function. In some cases this would perhaps allow the development of new sectors vital for the economic sustainability and growth of a country or target region.

Despite the increases in firms' foreign operations and interest in regional location patterns, locational issues have only recently been incorporated into rigorous economic modelling, such as conditional logit modelling. Some studies concentrate on local establishments only (for the US Carlton, 1983 and Bartik, 1985 (who also estimates the resulting employment); and for Thailand

Kittiprapas and McCann, 1999). Others take both local and foreign establishments into account (Woodward, 1992; Head et al., 1995; and Shaver, 1998).

The main objective for this study is to determine which factors influenced the choice for a particular region in the Netherlands and to examine if agglomeration patterns can be detected in inward FDI in the Netherlands, i.e. whether firms tend to locate their affiliates in geographically well-defined areas specialised in similar activities. The establishment pattern of foreign affiliates that located in the Netherlands between 1995-1996 offers a unique opportunity to study the location decisions of these firms using a conditional logit (N-logit) model. Since our database covers establishments from many different countries and sectors, it could also allow testing of issues of nationality- and industry-specific agglomeration effects.

In section two, we first discuss the different theoretical contributions to foreign direct investment and agglomeration. A description of the model is given in section three. We model the location choice within an adaptation of McFadden's (1974) discrete choice model. The data are discussed in section four. The variables and hypotheses are presented in section five. We then consider the (dis-)-similarity in location pattern of Dutch and foreign establishments in section six. We present the results of the empirical model estimations in section seven. Section eight concludes.

2 Foreign Direct Investment and Agglomeration

Dunning's eclectic paradigm (Dunning, 1988; 1993) gives a now widely accepted explanation of international investments by multinational enterprises. The level and structure of investments depends on the extent to which a firm possesses a sustainable ownership-specific advantage, the extent to which this advantages needs to be exploited through internalisation rather than through licensing, and the extent of the locational advantages in a particular host economy.

The location chosen by the foreign affiliate in the host country can be similar or dissimilar to that of local firms. Shaver (1998) summarises the most important reasons. Dissimilar location patterns might stem from: (1) differences between foreign and local firms with respect to their technologies or customer bases; (2) the existence of agglomeration economies among foreign-owned establishments that motivate them to cluster together; or (3) changes in location attractiveness over time, that motivate foreign entrants, who are often recent entrants, to value locations differently from incumbent local firms. Similar location patterns may stem from the geographic concentration of production factors or demand, and from industry agglomeration economies, which are positive externalities arising from the geographic clustering of industry (Head et al., 1995; Schmutzler, 1999).

The explanation of (dis-)similar locational patterns partly depends on agglomeration economies. Theoretical analysis has developed various explanations for manufacturing agglomeration. The early work of Marshall (1920) provides three reasons for spatial concentration in industries: (a) localisation provides a pooled market for workers with special skills; (b) facilitates the development of specialised inputs and (capital) services; and (c) enables firms to benefit from technological and knowledge spillovers. The revival of these ideas is due to Krugman (1991) who constructed a formal model to analyse agglomeration. Increasing returns to scale and the need and possibility to control transportation costs are vital aspects of these new theoretical ideas. Increasing returns to scale tend to foster geographical concentration of production. Furthermore, when transportation costs matters, it is important to be close to your customers and your suppliers. If as a result of these facts production is concentrated, this might attract the mobile factors of production, such as (skilled) labour. A concentration of these workers then

leads to increased consumer demand in a particular location, making it even more attractive for other producers, resulting in a reinforcing pattern: success breads success[ii].

Several studies on agglomeration investigate the presence of industrial districts, defined as local clusters of numerous, mostly small enterprises with alternately compete and co-operate with one another and specialise in particular aspects and phases of production. Most of these studies concentrate on Italy (Paniccia, 1998; Becchetti and Rossi, 2000) or the US (Baptista and Swann, 1999).

Fewer studies focus on the empirical analysis of agglomeration patterns in FDI. One important example on outward FDI is Braunerhjelm and Svensson (1996), who studied the establishment patterns of Swedish MNE affiliates abroad. Although they find evidence supporting agglomeration effects (particularly for high tech firms), other, more traditional factors (such as the host country's market size, supply of skilled workers, and previous exports to this particular location) turn out to have a much stronger impact on the localisation of production of Swedish firms. Barrell and Pain (1999) emphasise the importance of agglomeration effects in the location pattern of US affiliates in Europe, with particular emphasis on the process of European integration and the resulting increased attractiveness of the European Union. They find that both centrifugal and centripetal forces matter. Wheeler and Mody (1991) have investigated the importance of agglomeration economies on the foreign investment decision of US firms in manufacturing and electronics for a panel of 42 countries for the period 1982-1988. They find that both infrastructure and the previous level of FDI (which can be seen as an indicator of agglomeration) matter significantly.

Other studies focus on the patterns of inward investments in a particular country. Woodward (1992) models the locational determinants of 540 Japanese manufacturing start-ups in the United

States (US). He finds that Japanese investors favour states with strong markets and low unionisation rates. They avoid less-developed areas with few educated workers and high unemployment. Furthermore, state unitary taxes are a deterrent to new start-ups as well. Head et al. (1995) examine the location choices of 751 new Japanese manufacturing plants (in 225 4-digit manufacturing industries) built in the United States since 1980. They find that Japanese establishments do not simply mimic the geographical pattern of US establishment. Their conditional logit estimates support the hypothesis that industry-level agglomeration benefits play an important role in location decision.

3 The Model

We model the location decision of foreign firms in the Netherlands as a conditional logit problem where the dependent variable is the region in the Netherlands chosen by each investor. We follow the method employed in earlier studies such as Carlton (1983), Bartik (1985), Woodward (1992); Head et al. (1995); and Shaver (1998). These studies on location choice employ models where an investment's profitability is a function of several location characteristics. The odds of locating in a particular region are investigated. We assume that each investor chooses the Dutch region that yields the highest profit. These models are based on McFadden's (1974, 1978, 1981) model.

Two possible specifications are examined. Following Head et al. (1995) investment profitability, and thus location choice, can be considered a function of three sets of variables: (1) agglomeration effects (A); (2) infrastructure measures (I); and (3) priced variable inputs (P). Therefore we can consider the location choice of foreign establishments (L_f) as:

$$L_f = g\,(A, I, P) \qquad (1)$$

The profits of a new establishment t at location j (π_{jt}) are a function of a vector of observed characteristics Xj of the site (where X={A, I, P}) plus a disturbance term ε_{jt} or

$$\pi_{jt} = ß'Xj + \varepsilon_{jt}, \qquad j = 1, \ldots, J \qquad (2)$$

Following McFadden, we assume that the disturbance terms are independent and identically distributed (iid) according to the Weibull distribution. Under this assumption the probability of locating an establishment t at location j is given by

$$\Pr\,[\text{region j}] = e^{ß'Xjt}/\Sigma_j e^{ß'Xjt} \qquad (3)$$

This equation can be estimated by maximum likelihood. We can further extend this model by taking into account regional dummies, as done by Woodward (1992).

Alternatively, we can follow an adaptation of the McFadden-model as discussed by Head et al. (1995). Following this model avoids having to specify all individual regional characteristics, such as wages, unionisation rates, energy prices and access to ports. The problem with that approach stems from the near impossibility of selecting and correctly measuring all relevant sectoral variables. Omitted sources of attractiveness would almost certainly induce a correlation between the error term and the agglomeration variables. This adaptation can be specified as follows.

Let t represent the foreign firm faced with a set of choices J that denote possible plant locations in regions. If the profit that each individual firm derives from locating in any of the potential locations is a function of the characteristics of that location, then we can express the profitability of region j for investor t as

$$\theta_j + \alpha_{nl} \ln A_{jt}^{NL} + \alpha_F \ln A_{jt}^{F} + \varepsilon_{jt} \qquad (4)$$

where θ_j captures the attractiveness of region j to the average investor and A_{jt}^{NL} and A_{jt}^{F} are agglomeration variables measured as counts of Dutch and foreign establishments. ε_{jt} is a random disturbance term reflecting measurement and/or specification error. In addition Carlton (1983) argued that ε_{jt} can be justified as a firm-location specific effect, capturing the unique advantages of the location for each individual foreign firm.

McFadden (1974) demonstrated that if, and only if ε_{jt} is distributed as a Type I extreme value independent random variable the probability that region j will yield investor t the highest profits among all states in choice set J is given by the logit expression

$$\Pr(jt) = \frac{\text{EXP}\,(\theta_t + \Sigma_{i\in\Lambda}\, \alpha_i \ln A_{jt}^{i})}{\Sigma_{J}\,\text{EXP}\,(\theta_t + \Sigma_{i\in\Lambda}\, \alpha_i \ln A_{jt}^{i})} \qquad (5)$$

where Λ={NL, F}

In this study we do both. We model location choice following Head et al. (1995), but also specify individual characteristics of the region.

4 The data

Two types of data are used for this study. One set of data contains information on new establishments in the Netherlands in 1995-1996. Our study comprises 357 new foreign establishments from 24 countries. The data are taken from the Dutchinvest database. This database was created in 1999 to analyse Dutch Inward FDI at the micro-level. We have collected information on all known affiliates that started activities (either by greenfield investment or acquisition) in the Netherlands in the period up to 1997[iii] and are still in business. We acknowledge the fact that lists of firms are never exhaustive, up-to-date, and fully accurate. We therefore have combined several sources to make the database as extensive as possible. First of all, we have used the 1996 and 1997 Dun & Bradstreet[iv] CDs to locate a large number of foreign firms conducting activities in the Netherlands. Furthermore, the database has been complemented by firms listed in the ABC-Directory of Firms (1999). Japanese firms listed by JETRO were also included. To check the information achieved in this way, we traced all firms in our list on the 1999 REACH-A database (review and analysis of companies in Holland). That way, missing data were added and locations and activities were verified.

This search resulted in a database of 7484 foreign establishments, employing at least 372428 people[v]. A geographical overview is given in figure 1.

For all firms we have traced their location in the Netherlands, their main SIC-activity, the year of establishment (and occasionally of take-over), number of employees and home country of parent. For each firm in the sample we know the year of its establishment, the identity of the parent (its location and home country), and the most important product it produces or service it delivers, based on SIC-1997 codes.

Figure 1 Map of foreign establishments in the Netherlands

The second set of data contains information on the region specific economic data. Due to limited data availability the number of region considered was restricted to the 12 provinces of the Netherlands. Considerable effort was spend to make the dataset as accurate as possible.

5 Variables and hypotheses

In this section we explain the hypotheses behind each of the independent variables tested in the regressions. Table 1 lists all the independent variables, their definition, and expected signs. For all independent variables we considered the situation at the beginning of the period studied: January 1995. We use a small subset of the data to reduce the potential variation in relative infrastructure levels and factor prices that could also influence a location's attractiveness.

Table 1 Explanatory variables

Variable	Definition	Hypothesized effect	Source
Market size	Ln (BNP of region divided by the population)	+	CBS
Population density	Ln (population per sq km)	+	CBS
Local agglomeration	Ln (number of local establishments)	+/-	CBS
Foreign agglomeration	Ln (number of foreign establishments)	+	Dutchinvest database
Real estate taxes	Ln (amount of real estate taxes per individual firm)	-	CBS
Infrastructure	Ln (roads per sq km land area)	+	CBS
Unemployment rate	Average unemployment rate per region	+/-	CBS
Regio	Dummy for each region in the Netherlands (e.g. Flevoland, Noord Holland etc.)	-	Dutchinvest database
Manufacturing	Dummy for manufacturing investments		Dutchinvest
Holdings	Dummy for holding companies		Dutchinvest
USA	Dummy for establishments from the US		Dutchinvest
Japan	Dummy for establishments from Japan		Dutchinvest
Land area	Ln (Land Area in sq km)	+	CBS

We have only included variables that made sense for the Dutch situation. Most location studies include unionisation of the region (Bartik, 1985, Carlton, 1983) but this is irrelevant in the Dutch situation. Unionisation is organised per industry instead of regionally. Futhermore, data on differences in wages per region are not available for the Netherlands and therefore have to be excluded. It is quite likely that within a small geographic area like the Netherlands these variations would be small and disregarding this variable should not cause a lot of problems. Level of education is not available either, but this variable isn't significant in the analyses by Bartik (1985). We therefore do not expect any influence on the regression results from omitting this variable. Most variables are considered as logarithms, with the exception of unemployment, which is already a percentage, so taking the logarithm is not needed for readily interpretable coefficients.

We suggest the following hypotheses.

Agglomeration Agglomeration effects are measured by the existing establishments in the region. We separately take into account total Dutch previous establishments and previous foreign establishments (Head et al., 1995; Woodward, 1992). The foreign investments up to 1995 (as represented in the Dutchinvest database) are used to form the foreign agglomeration levels. For local firms we took the actual counts as provided by the *CBS* and subtracted the foreign establishments. We expect that the presence of other foreign establishments will encourage new FDI into a region due to knowledge spillovers and supplier linkages. The effect of local firms can be either negative or positive. Like foreign establishments, a large number of local establishments could positively influence the attractiveness of the region due to spillovers and a large pool of skilled labour in the region. However, many local competitors may also be a deterrent to new investments due to the presence of local competitors and the expected rivalry.

Market We included the Gross Regional Product (GRP) in the analysis as a proxy for market size and GRP per capita as a proxy for demand. We expect that a larger market potential will attract more new establishments. Considering GRP allows us to control for differences in the economic size of the regions.

Population density We included population density as an indicator of the available workforce (Bartik, 1985) and of the number of customers in a region. We expect this variable to have a positive effect on the decision to locate in a particular region.

Taxes Most studies on FDI location take the variable taxation into account (Bartik, 1985; Woodward, 1992). This is particularly relevant for studies in the US, where taxation level differ significantly among states. However, this is not the case in the Netherlands. Tax levels are equal all over the country. The only tax-rate that differs is the real estate property tax, decided upon by individual states. We expect that high property taxes will negatively influence the decision to locate in a particular region.

Labour force We include unemployment as an indicator of the available labour force. The unemployment variable is measured as the ratio of unemployment to employment. Following Carlton (1983) the unemployment variable is included for the following reasons. First, high unemployment could signal low local demand. Even though most establishments will target national markets, local spurts in demand (with which the unemployment variable is negatively correlated) could raise prices locally and thereby stimulate locational activity. It is also possible that especially for larger firms, an area with a high unemployment rate might be attractive. A high unemployment rate can reduce the initial and subsequent costs of assembling and maintaining a workforce. The effect of unemployment is therefore not decided beforehand.

Infrastructure Following Bartik (1985) we include roads per area as an indicator of the sophistication of the infrastructure in a region. We expect this variable to have a positive influence on the decision to locate an affiliate in a region. Better infrastructure results in better accessibility of a region and easier access to other region (or countries) which facilitates the distribution of both inputs and outputs.

Control variables The geographical size of a region can affect the number of sites available to decision-makers. To control for this fact, land area was tested in the regressions. The larger the area, the more sites potentially available to an investor. We therefore expect landarea to have a positive effect on the probability of a sector being chosen (Bartik, 1985; Woodward, 1992).

Dummies Dummy variables are included to distinguish US and Japanese investments from establishments from European and other countries. We expect firms from Japan and the US to favour other regions than European establishments. Particularly German and Belgian firms are expected to favour regions neighbouring their countries (Noord Brabant, Limburg, Gelderland, see figure 1). Furthermore, a distinction is made between manufacturing investments, holding company establishments and other sectors. We expect holding companies to favour the Amsterdam-region in Noord Holland. Manufacturing establishments need more space than services, therefore we expect manufacturing locations to favour other regions than the *Randstad*. We also test for individual regions by taking dummies for 11 separate regions. We expect that the most interesting region for foreign establishments is Noord Holland (which has Amsterdam and Amstelveen as large attractive features).

6 A test of similarity in the location pattern

In order to assess if the distributions of foreign-owned and Dutch-owned establishments are similar across regions, we employed a χ^2 test on a 2 x 12 table, where the rows represent foreign-owned and Dutch establishment counts, and the columns each present a region in the Netherlands. The data on foreign establishments are taken from the Dutchinvest database (limiting the analysis to the 7059 establishments present at Jan. 1st 1995). The total establishments are taken from the *"Bedrijven in Nederland 1997"* statistics, collected by the Dutch Central Bureau of Statistics (CBS)[vi]. Dutch establishments are calculated by deducting the foreign establishments from the total establishments.

Table 2 Chi-square test across all establishments

	Foreign	Share of all foreign (%)	Local	Share of all local
Groningen	61	0,9	21754	3,3
Friesland	35	0,5	27065	4,1
Drenthe	47	0,7	19258	2,9
Overijssel	171	2,4	45639	7,0
Gelderland	535	7,6	81435	12,5
Utrecht	667	**9,4**	45228	6,9
Noord Holland	2286	**32,4**	110589	16,9
Zuid Holland	1775	**25,1**	129060	19,8
Zeeland	67	0,9	18163	2,8
Noord Brabant	1033	14,6	99387	15,2
Limburg	303	4,3	45502	7,0
Flevoland	79	1,1	10151	1,6

(χ^2_{11}= 2158, p < 0.0001)

Table 2 presents the establishment counts. The test statistic (χ^2_{11}= 2158) rejects the null-hypothesis that the location distributions for Dutch-owned and foreign-owned establishments are identical at the 0,0001 level. Although the establishment patterns differ significantly, there are

still important similarities. Particularly the regions *Noord Holland, Zuid Holland,* and *Utrecht* (comprising the *Randstad*-area) attract more foreign firms than other regions. However, these regions and *Noord Brabant* are very popular among local firms as well.

7 Results

Having established that foreign firms appear to cluster together in just a few Dutch regions, we now test which factors matter in the actual choice for a particular region by a foreign establishment[vii]. We have estimated the model discussed in section three with the statistical programme STATA. The binary discrete choice specification was estimated in Limdep 7.0. In table 3 the results from the estimation of (3) and (5) are presented. Specification A excludes individual specification of regional aspects (5) while specification B includes them (2).

The results of all variables have interpretations as being proportional to the change in the probability that results from a 1 percent change in the independent variable. Therefore a direct comparison between coefficient magnitudes of different variables can reveal which factors exert the most influence on new location.

Unfortunately, the results are quite unsatisfactory. From the estimation of specification A we can see that the presence of foreign establishments is positive and significant at the 1 percent level. The presence of local firms in has the right sign, but is insignificant.

Table 3 Regression results

Variable	*Specification A* Conditional logit	*Specification B* Conditional logit	*Specification C* Binary discrete choice model
Local Agglomeration	0.253	-2.129	
	(0.235)	(1.783)	
Foreign Agglomeration	0.756***	0.870***	3.6312***
	(0.127)	(0.316)	(0.432)
Market size		0.591	5.9223***
		(0.878)	(1.046)
Population density		1.670	
		(1.938)	
Infrastructure (roads per sq km)		0.190	
		(1.122)	
Property taxes per firm		-2.125	
		(2.838)	
Unemployment		-0.114	
		(0.129)	
Landarea		1.630	
		(1.527)	
Manufacturing			0.287
			(0.64663)
Holding			1.375**
			(0.617)
USA			1.018**
			(0.483)
Japan			3.580*
			(1.905)
Summary Statistics			
Log-likelihood	-688.7	-687.1	-83.7
Restricted Log Likelihood			-245.7
Chi-Squared	396.74	399.99	324.1
Number of Chooses	357	357	357
Number of Choices	12	12	2

Notes: t-values are shown in parantheses. *** denotes significance at the 1 percent level, ** at the 5 percent level, * at the 10% level.

When we expand the model to take individual characteristics of regions into account, the only significant variable is previous foreign establishments. All other variables except local agglomeration have the correct sign but are insignificant. We attribute this result to too little

variance in the variables considered. Furthermore, the limited number of observations in some regions (such as Groningen, Friesland and Drenthe) could also reduce the reliability of the model specification. If we take individual regions into account by including the regional dummies we run into multicollinearity problems. Several variables are dropped and the estimation cannot be interpreted.

Due to the unsatisfactory results of the conditional logit models, we also tested a binary discrete choice model, with *Randstad* as dependent variable. From the analysis in section six it was clear that *Randstad* areas are favoured above the rest of the Netherlands. Specifying the model in this way allows us to test the dummy variables related to sector and home country as well, which isn't possible in the conditional logit model due to lack of within-group variance of the dummies and multicollinearity.

The results are given under specification C in table 3. Again the model suffers due to multicollinearity problems. We therefore drop the local agglomeration variable because we expect foreign agglomeration to have a larger effect on the decision to locate in the Randstad. We also exclude the regional specifications (such as unemployment, population density etc.) with the exception of market size. From a re-estimation of this more limited model it is clear that foreign agglomeration is an important determinant of new establishments in the *Randstad*. Also market size turns out to be significant. A one percent increase in the market size of the *Randstad* would result in a five percent increase in the number of foreign establishments. From the results it is also clear that relative to European firms, Japanese and US firms favour the *Randstad* more. We also see that relative to all other establishments the holding companies tend to favour the *Randstad.*

8 Conclusions

In this study we estimated a location choice model using data on all foreign establishments in the Netherlands between 1995 and 1996. We find that new foreign ventures do not simply mimic the geographical pattern of Dutch establishments in general. Instead, initial investments by foreign firms spur subsequent investments from foreign firms in the same region. Foreign establishments therefore tend to be concentrated in the *Randstad*-regions.

The conditional logit model supports an agglomeration-externalities theory of industry localisation, rather than a theory of inter-regional differences in endowments of labour and infrastructure and regional characteristics such as taxes. Unfortunately, testing the model resulted in several problems. When including the regional dummies, multicollinearity complicated the analyses. A solution to this problem still remains to be found. The limited number of observations in some region might also influence the estimations. More research is needed to determine the effects when fewer regions are taken into account.

The results for the binary discrete choice model are more promising though still limited because multicollinearity among the variables describing the regional characteristics limits the number of variables that can be estimated.

For a full understanding of the location choice, more research on the topic is needed. First of all, an assessment should be made on how locational determinants have changed over time. In this first study, we only considered a limited period of time (1995-1996), where we expected relative stability in the locational variables. However, the interaction between local and foreign firms shapes local economic development. Taking a longer period of time would allow for a monitoring of these changes.

The data would also allow for a distinction between home region and particular industries. We would expect initial investments by foreign firms from a particular home country to spur subsequent investments from firms in the same or related sector(s) in the same region/province. This investigation will be conducted shortly.

Finally, it would be interesting to evaluate the role of incentives in the final site selection process. This would require intensive survey research, asking all individual start-ups on the importance of offered incentives (if any).

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[ii] However, working against these centripetal forces are centrifugal forces such as the increase in land rent and housing prices due to concentration, and environmental problems. Production and population patterns of course result from a balancing of these forces (Schmutzler 1999)

[iii] Occasionally we could also add information on establishments or take-overs of a more recent date. However, for the years following 1997 data are incomplete. For 1999, the City of Amsterdam alone reported 94 new establishments (Amsterdam the Newsletter, no. 5.5; 25 May, 2000), a new record. These firms, however, do not appear in the official directories yet, and are therefore more difficult to trace and not always included in our sample.

[iv] Carlton (1983) also bases his analyses on Dun and Bradstreet data. He acknowledges that they are not flawless, but reasonably accurate and since no comparable data source is available, it provides the most detailed list of establishments.

[v] For more than 90 percent of all foreign establishments in the Netherlands employment data are available. It is reasonable to assume that all the other firms employ at least one person. On average the establishments employ 55 people, which would increase total employment in foreign firms to over 400000.

[vi] Unfortunately the data are not available for a more recent date. We therefore have to limit the analyses to establishment patterns in 1995 and new entrants in 1995 and 1996.

[vii] For this first set of analyses we do not distinguish the data towards home country or most important sector of activity, although the available date would allow this. These analyses will be left till a later date.