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Abstract

This paper investigates the spatial clustering of the book publishing industry. By means of a hazard model, we examine the effect of agglomeration economies and pre-entry entrepreneurial experience on the survival chances of publishing firms. Whereas such survival analyses have been conducted for manufacturing industries, they are still scarce for cultural and service industries. Based on a unique dataset of all book publishers founded between 1880 and 2008 in the Netherlands, the paper demonstrates that the clustering of book publishers in the Amsterdam region did not increase the survival of Amsterdam firms. Instead, prior experience in publishing and related industries had a positive effect on firm survival. The Amsterdam cluster was characterized by high entry and exit levels mainly. Interestingly, the Amsterdam cluster did not function as an attractor for publishing firms from other regions, but rather acted as an incubator for firms that relocated to other regions.

Keywords: evolutionary economic geography, publishing industry, clusters, spinoffs

JEL codes: O18, R00, L80

1. Introduction

This paper aims to provide insight in the spatial evolution of the book publishing industry and the effect of urban agglomerations on the survival chances of publishers. Whereas numerous studies have examined the evolution of industries (see for example Klepper, 1997, 2002), studies investigating the *spatial* evolution of an industry from an evolutionary perspective are still scarce (Boschma and Frenken, 2003). There is increasing attention to the study of cluster life cycles, but empirical studies are still lacking (Menzel and Fornahl, 2009). Studies that do investigate the spatial evolution of an industry have predominantly examined the clustering of manufacturing industries (Boschma and Wenting, 2007; Klepper, 2007). Only a couple of studies have focused on non-manufacturing industries from an industry life cycle perspective (see Fein, 1998; Carree, 2003). We investigate the evolution of the book publishing industry. To our knowledge, no study has investigated the spatial evolution of a cultural industry or service industry, exceptions being the global fashion industry (Wenting, 2008) and the Dutch banking industry (Boschma and Wenting, 2010).

Large parts of the cluster literature (see Martin and Sunley, 2003) claim it can be an advantage to be located in a spatial cluster because geographical proximity and face-to-face contacts are required for the exchange of tacit knowledge. This might apply to knowledge-intensive manufacturing industries, but is this also true for service industries like book publishing? Another reason to study the book publishing industry is that this industry has witnessed a continuous flow of new entrants due to the creation of new content and the opening up of new niche markets. This has resulted in an increase rather than a decrease in the number of firms over the past 125 years. Apparently, the barriers to enter the book publishing market have remained low and, as a result, no shakeout has occurred. How has that affected its spatial pattern? Moreover, many service industries tend to follow the urban pattern, since geographical proximity to customers is often considered crucial (Weterings, 2006). Our data from the Dutch publishing sector confirms this: book publishers can be found in almost every city, large and small. Nevertheless, the Amsterdam region seems to have attracted a disproportionate share of

Dutch book publishers, possibly suggesting a premium effect of this region. The crucial question is why. Is this because it is a cultural product industry that is sensitive to local buzz? And, finally, the book publishing industry is an extremely interesting case because of its high frequency of firm migration. About twenty percent of the Dutch book publishing industry has moved from one region to another in the period 1880-2008. What one would expect from the cluster literature is that clusters would not only act as an incubator but also function as an attractor for firms elsewhere, because of the local buzz. We will investigate whether the Amsterdam book publishing cluster has indeed fulfilled both roles over time.

This study describes the spatial evolution of book publishing in the Netherlands and investigates the survival chances of publishers by means of a hazard model. For the Dutch book publishing sector, data on entry, exit, location, relocation and pre-entry entrepreneurial background have been collected for all firms that entered the industry between 1880 and 2008. The study makes use of a unique dataset of 1,849 firms, comprising all recognized book publishers which were founded between 1880 and 2008. Although the beginning of Dutch book trade traces back to the sixteenth century, it is only since around the start of the twentieth century that publishing has turned into a professional industry, separate from printers and book sellers. In line with Klepper (2002), this paper examines the influence of location and pre-entry experience on the survival rate of entrants. In addition, the analysis includes the influence of pre-entry vertical integration into printing or book selling. This variable is included because it is quite common for book publishing firms to be active in one of these related activities. Vertical integration is used as a strategy to profit from economies of scale and to reduce risks. In addition, it provides book publishing firms with relevant experience from related sectors. As such, this variable provides us with an alternative, additional way to measure the importance of pre-entry experience for firm performance.

In Section 2, we discuss the effect of pre-entry entrepreneurial background and agglomeration on firm survival in the publishing industry, and we formulate some hypotheses accordingly. In Section 3, we present the data and introduce the Dutch book publishing sector

and its evolution in space over time. In Section 4, we present the main findings explaining the survival of Dutch book publishers, among others. Section 5 draws the main conclusions.

2. The effect of spinoffs and clusters on firm survival

According to evolutionary economics, routines play a crucial role in the behaviour and performance of firms. Firms are not rational agents but are constrained by their organisational routines. Routines involve a large amount of tacit knowledge and are often the result of learning by doing (Nelson and Winter, 1982; Teece, 1982). As a consequence, it is complicated to replicate routines within organisations, let alone to imitate or copy the routines of other firms (Reed and Defillipi, 1990; Teece et al, 1997). When taking an evolutionary perspective on the spatial evolution of an industry, it is exactly this question that is taken up: how do firms acquire successfully routines from other firms during the life cycle of an industry, and how does their geography (like clusters) impact on that? Recently, the literature has focussed on two mechanisms through which routines can be replicated successfully between firms, which are discussed below: (1) spinoffs; (2) agglomeration economies (Boschma and Frenken, 2003).

2.1. The role of spinoffs

Spinoff companies are new entrants in an industry in which an employee from a firm in the same industry or a related industry starts his or her own firm, or a division of a firm becomes an independent business. A number of studies have recently shown that in some industries, spinoff activity is actually quite important, that is, quite a high number of new entrants are indeed spinoff companies, as compared to other types of entrants. However, what is far more important is that spinoff companies tend to perform better than other types of entrants. This is mainly because the spinoff entrepreneur does not start from scratch, but can exploit the knowledge acquired in the parent firm in his or her new firm (Klepper and Simons, 2000). Here, spinoff companies can originate from parent firms in the same industries or (technologically) related

industries, or concern diversifiers with a background in (technologically) related industries. In other words, through this spinoff process, routines are successfully transferred from incumbent firms to new firms, which impacts positively on the survival of these new entrants.

Recently, scholars have started to focus on the role of spinoffs in the spatial clustering of an industry (see e.g. Arthur, 1994; Klepper, 2002, 2007; Boschma and Wenting, 2007). Economic geographers have always been interested in the question of why so many industries (especially the most knowledge-intensive ones) tend to cluster in space, and why clusters exist and persist over time. This spinoff literature provides an evolutionary explanation for the spatial clustering of an industry. First, because most spinoffs locate in the vicinity of their parent organization, the spinoff process may induce clustering in a region through higher founding rates when this region generates a number of spinoffs that also give birth to many other local spinoff companies in the early stage of the industry life cycle (Arthur, 1994). Second, because these spinoff companies inherit better routines from their parents, this contributes further to the spatial clustering of the industry, because these spinoff companies have a higher probability to survive the selection process, as compared to other types of firms (Klepper, 2007). In other words, this literature attributes the spatial clustering of an industry (through the successful replication of successful routines between firms) to the spinoff process, rather than cluster externalities (in which cluster firms outperform non-cluster firms).

2.2. The role of place and clusters

So far, the discussion on routines and firm performance has not concerned the role of place. Two explanations can be provided for the occurrence of spatial concentrations in industries: 1) higher founding rates, either though high local entry rates and/or inflows of firms relocating from other places; and 2) better performance and possibly lower failure rates of incumbent firms in that area, because of agglomeration externalities (Sorenson and Audia, 2000). Many – if not most – economic geographic studies focus on the second explanation: they perceive agglomeration economies as the key mechanism underlying spatial agglomerations and clusters, and presume that firms in agglomerations perform better.

In the existing literature, three main reasons are discussed why the increasing concentration of an industry leads to localisation economies (Potter and Watts, 2010): (1) co-location enables a greater division of labour between firms, enhancing specialisation and the sharing of resources (Marshal, 1922; Gordon and McCann, 2000); (2) co-location creates possibilities for knowledge spillovers and the exchange of ideas through face-to-face contact (Saxenian, 1994; Storper and Venables, 2004); (3) co-location generates a local pool of specialised labour (Scott, 2005). This may be especially relevant for cultural-product industries, as shown, for instance, by the study of Banks et al. (2000) on cultural-product firms in Manchester, Pratt's (2002) study on the co-location of new media developers in New York, and Scott's (2005) study on the agglomeration of the U.S. picture industry in Hollywood.

Such agglomerations also function as social production systems in which trust and *know-who* play an important role. The project-based character of co-operations and the high inter-firm mobility in cultural-project industries make it important for cultural entrepreneurs to be part of particular networks or scenes (Grabher, 2001; Caves, 2001). And it is in (major) cities where these networks or scenes take root (Scott, 2004). These localised networks are important for yet another reason: it is through these networks that cultural entrepreneurs and firms gain reputation and recognition within their field (Currid, 2007). Whereas reputation and credibility are important for all firms, they are even more crucial for firms producing cultural products. The judgment of these products is primarily subjective and it is hard to predict which products will be successful (*nobody knows* principle) (Caves, 2001). Gatekeepers determine the value of a cultural product, and to acquire credibility it is important to be geographically close to these gatekeepers and create a positive social relationship with them (Currid, 2007).

This is not different in the publishing industry. Thompson (2005) defines publishers as "*content-acquiring and risk-taking organizations oriented towards the production of a particular kind of cultural commodity*" (p.15). The key task of book publishers is the acquisition and creation of content and the transformation of this content into books. Other tasks of book publishers are investing and risk taking; further developing the acquired and/or created content; assessing and controlling the quality of content; managing the whole process of book

production; marketing; informing booksellers and taking orders for booksellers. Publishers function as cultural gatekeepers and are at the same time actively part of the process of creating a cultural product. Although some (well-known and established) authors work largely autonomous, the creation of a book is often a complex interplay between author, editor(s) and other actors, such as illustrators or literary agents. Publishers – and more in particular editors – require a combination of skills: they need to be intellectually creative, good in networking and well-endowed in marketing and finances. Depending on the type of publisher, the focus can be more on intellectual creativity or on marketing and financial skills.

In order to be successful, publishers need to have access to a number of resources. First of all, publishers need to have access to a highly skilled and motivated workforce. In particular, it is important to have good editors, since these workers function as the creative core of the company. Secondly, publishers need financial resources to be able to take the necessary risks and to compensate for failures in an unpredictable market. Thirdly, publishers need to build up reputation. A good reputation will help in establishing and maintaining relations of trust, in attracting new authors and projects, in attracting skilled workers and in positioning and marketing the produced books in a highly competitive market. When publishers have been able to establish a good reputation, their imprints – or in other words brand names – further reinforce their reputation. A particular name then becomes associated with good books and/or prominent authors. Whereas the importance of reputation is not specific for book publishers, establishing reputation as a publisher is more complicated because the accumulated reputation is not only related to the publishing firm, but also to the authors contracted by that publishing firm and the editors working for that firm. In addition, as is the case in other cultural industries (Currid, 2007), the value of a publisher's books and in relation to that the reputation of the firm is to a large extent dependent on the opinions of reviewers (i.e. other cultural gatekeepers), since the value of books (and other cultural products) is highly subjective. Being in a publishing cluster can give publishers access to the resources mentioned above. Therefore, clusters will not only enhance entry levels (either through local entrepreneurship or inflow of incumbents from other regions), but will also improve performance of cluster firms and, thus, lower exit levels.

However, the idea that a cluster will increase the performance of cluster firms is questioned to an increasing extent. Not all publishers in a cluster will have equal access to editors and writers, and equal market shares and reputations. There will be fierce competition and only those with the right routines and access to the right networks or literary scenes within that locality will be able to exploit these resources. Grabher's study (2001) on the advertising industry shows that for agglomerations of cultural product industries, competition and imitative behaviour may indeed be more dominant than cooperation. Thus, clusters may bring all kinds of benefits to local firms but may also be places where strong selection pressures are present. In a cluster, firms compete for inputs, skilled labour and market share. Although local competition for market shares is not always relevant because markets usually operate on a larger spatial scale (see e.g. Wenting and Frenken, 2008), local competition could still be highly relevant for publishing where it is reviewers and book shops who decide which books reach the market in which quantities. In a study on the long-term evolution of the British car industry, Boschma and Wenting (2007) found that the more the industry concentrated spatially, the harder it was for new entrants to survive in such an environment, possibly due to more intense local competition. So, clusters do increase competition and costs of labour, capital and land, which may hamper the performance of cluster firms. Overall, this implies that clusters generate high entry levels, but possibly also high levels of exit. Therefore, we expect that the turbulence rate is higher in clusters, as compared to other locations.

2.3. Hypotheses

Based on the previous discussion, a number of hypotheses can be formulated. The first set of hypotheses involves the influence of geographical concentration on the entry levels and economic performance of publishing firms. Large parts of the cluster literature claim that the spatial concentration of an industry will have positive effects on firm survival. As discussed above, we claim this is not necessarily the case. Instead, we expect clusters to show high rates of turbulence, that is, high rates of entry and exit, relative to their total number of firms in that industry. This leads us to the following three hypotheses:

Hypothesis 1a: Publishing firms in agglomerations with higher numbers of publishers show higher hazard rates

Hypothesis 1b: Publishing firms in the Amsterdam cluster have higher hazard rates than firms located outside the Amsterdam cluster

Hypothesis 1c: The Amsterdam publishing cluster has a higher turbulence rate than other regions in the Netherlands

Next to this location effect, we test whether firms with pre-entry experience in publishing and/or related industries like printing and book selling will have higher survival chances than firms lacking such experience. This brings us to the following hypotheses:

Hypothesis 2a: Publishing firms with prior experience in publishing (spinoffs) will have lower hazard rates than publishing firms with no such experience

Hypothesis 2b: Publishing firms with prior experience in bookselling or printing (experienced firms) will have lower hazard rates than publishing firms with no such experience

In addition to prior experience in printing, book selling or publishing, being (still) active in a related sector may also improve the performance of book publishing firms. Book publishers function as mediators within the production chain of books. The creation, production and marketing of books are the result of interactive processes between publishers and writers, publishers and graphic designers, publishers and typesetters, publishers and printers and publishers and book sellers. Vertical integration into book selling and printing allows publishing firms to profit from experience from these related industries and makes risk spreading possible. To be more precise, publisher-printers can benefit from experience concerning number of prints,

design and typography, can compensate failures of book projects and loss in demand for books with more stable printing orders, and have more possibilities to profit from economies of scale. Publisher-book sellers can benefit from experience concerning marketing and customer tastes/fashions, can compensate failures of book projects, and can profit from being their own outlet to the consumer market. This leads to the following hypotheses:

Hypothesis 2c: Book publishing firms with pre-entry experience in printing and/or bookselling that diversified into book publishing will have lower hazard rates

Hypothesis 2d: Book publishing firms with no pre-entry experience that combine book publishing with printing and/or bookselling will have lower hazard rates

As discussed before, we do not expect that Amsterdam firms in general will perform better than non-Amsterdam firms. However, a positive cluster effect of Amsterdam might still occur for those firms that are better capable of taking advantage of the benefits in clusters and of dealing with the disadvantages of clusters. We expect this depends on their routines, and we hypothesise that firms with relevant pre-entry experiences, as emphasized in hypotheses 2a-2d, will perform even better when they are located in the Amsterdam region. Thus:

Hypothesis 3: Publishing firms with pre-entry experience located in the Amsterdam cluster will show lower hazard rates than publishing firms with pre-entry experience located in other regions

Due to the dynamic environment attached to clusters, we expect that clusters will not only increase entry rates but also function as attractors to other businesses in that industry located elsewhere. So, in addition to high local entry, we expect that non-cluster firms that do relocate will have a tendency to move to clusters, adding further to the high entry levels in clusters. This can be tested for the Dutch publishing industry, since the tendency of publishing firms to

relocate is relatively high. In fact, about twenty percent of all Dutch book publishers moved from one region to another during the period 1880-2008.

Hypothesis 4: The Amsterdam publishing cluster has a relatively higher entry rate than the rest of the Netherlands

Hypothesis 5: The Amsterdam publishing cluster has a relatively higher share of incoming firms that relocate from other regions than the rest of the Netherlands

3. The long-term evolution of the Dutch publishing industry 1880-2008

For this study, annual data were gathered from handbooks on the Dutch book trade. The tradebooks published by the Dutch publisher *Sijthoff* has been the main source for annual data for the period 1880-1929, and the tradebooks of the Royal Book Trade Union *(Koninklijke Nederlandse Vereniging van het Boekenvak*) has been the main source for the period 1929-2008. In addition, the catalogue of the Dutch Royal Library (*Koninklijke Bibliotheek)* and the archives of the Royal Book Trade Union **(***Koninklijke Nederlandse Vereniging van het Boekenvak***)** have been used to select book publishers. All publishers that published more than 5 books or have been a member of the Royal Book Trade Union are included in the dataset. Consequently, we excluded very small publishers, and we filtered out newspaper and magazine publishers. The dataset specifies the location of every book publishing firm at the regional and municipality level, and it includes information on the year of entry and year of exit per location for the period 1880-2008. For 1,434 publishing firms, we found information on whether the firm originated from a printing firm or a book selling firm, from another publishing firm, or whether it started as an inexperienced firm. In addition, we know for these publishing firms whether the firm is vertically integrated or not; i.e. whether the firm is also active in printing or book selling at the time of entry.

Contrary to many manufacturing sectors, it is often quite complicated to demarcate the date of birth of a service industry (Fein, 1998). Dutch book trade originated as early as the 16th century, but book publishing as we know it today is a more recent phenomenon (Feather, 2003). With the rise of cities in the 16th century, printer-merchants came into existence who started to print and trade books on a commercial basis. Making books with several prints became possible due to the invention of mechanical paper production and the art of printing a century earlier. However, book publishing as an economic activity on its own - apart from printing and book selling - originated only in the late 19th and early 20th century (Brink, 1987). Until then, the book market had only served a small elite group who could read and had enough spending power to purchase books. In the beginning of the 20th century, high population growth rates and an increase in disposable income led to a strong growth in the book market. This growth was further stimulated by the emergence of the first public libraries around 1900. Brink (1987) states that the book publishing sector remained in the embryonic stage of its life cycle for several centuries before the growth stage finally set in around the beginning of the 20th century. Our dataset starts in the year 1880, the founding year of the Dutch Book Publishing Union. Whereas this date is somewhat arbitrary, it does include the transition of the sector from its embryonic stage to its growth stage.

Figure 1 shows the number of book publishers from 1880-2008, while Figure 2 portrays the number of entries and exits for this period. Book publishers founded before 1880 are not included in these figures. For this reason, we have to be very cautious to interpret the results of the first decades since 1880, because the number of exits and the number of publishers will be underestimated. What can be concluded though is that there is a tendency of the number of entries to go down from 1880 until the late 1910s, despite a considerable growth in the book market in this period. However, the schooling act of 1900 and the introduction of voting rights in 1917 and 1919 (for respectively men and women) led to a new market of educated readers with a broader interest, which opened up new opportunities for entering the publishing sector in the late 1910s and early 1920s. The period 1930-1960 shows a slight decrease in the number of publishers, a decrease in the number of entrants and, in general, more exits than entrants. In

contrast to so many other industries, no shake out takes place, although market concentration and economies of scale do occur to some extent.

<<INSERT FIGURE 1>>

<<INSERT FIGURE 2>>

The introduction of the pocket book in 1951 marks the beginning of a new period with a greater importance of scale economies and a stronger market concentration due to merger and acquisition activity. Whereas the idea of pocket books existed since the 1930s, it became economically interesting only after the Second World War when the demand for books had become sufficiently large and innovations in the graphic industry (like offset printing and automatic typesetting) enabled the production of books on a large scale. With the rise of book clubs in the 1960s, the selling of books also became more oriented towards scale advantages and serving a mass market. Despite increasing numbers of exits, the period between 1960 and 1985 shows a sharp growth in the number of book publishers. Numbers of entrants and exits are both high, but entrants outnumber exits over the whole period. Many exiting firms had only entered the market a few years before. It may be that these starting firms were not able to apply process and organizational innovations necessary to create books for a large market (Thompson, 2005).

How can the large increase in number of entrants in the 1960s and 1970s be explained? A possible explanation is the rapid growth in demand in that period, combined with the opening up of new niche markets. The large market growth was the result of a couple of societal and macro-economic changes (Brink, 1987). First, an explosive growth in consumer spending occurred in the 1960s, followed by more moderate growth in the 1970s. The explosive growth in consumer spending in the 1960s was the result of an increase in the wage rate in 1964 to equalize Dutch wage levels with the European standard. At the same time, average working time decreased resulting in more time for leisure activities such as reading. In addition, the number of households increased which also led to higher book sales. Lastly, depilarization (i.e.

the decreasing segregation of institutions into religious/ ideological groups**)** and higher education, accompanied with more openness and opinion expression generated a broad overall market.

At the same time, new genres and specializations came into existence leading to the emergence of many submarkets. These submarkets created new opportunities for starting firms. Further market concentration, the incorporation of traditional publishing firms into large conglomerates, and the commercialization of contacts with authors created opportunities for small (starting) publishing firms that were willing to take risks with new authors (Vries et al, 2007; Eeden, 2001; Siebelink, 1993). This led to a market with a small number of very large firms and a large number of small firms, competing within their own market niches. Fierce competition within market niches and a lack of resources to cover the risks of publishing new titles made that many small firms only survived for a small number of years. Towards the end of the 1970s, it became harder to enter into the book publishing market as scale economies also started to gain in importance in the various submarkets. Entry rates started to drop, and exit rates increased.

The introduction of a desktop publishing program for personal computer use in the mid 1980s was the beginning of electronic publishing on a large scale. Electronic publishing involves the digitizing of content and enables printing on demand or publishing books in electronic format. This new type of publishing requires different skills and a different way of organizing the book value chain. This in combination with the lower financial resources needed for electronic publishing offered opportunities for new entrants again (Thompson, 2005). This led to a new wave of entrants in the 1990s. In most recent years, it seems that the number of entrants is declining again. It remains to be seen, however, if this decline is temporary or not. The period from 1985 until today, continues to witness many takeovers and mergers. Whereas the 'early' mergers and acquisitions were often vertical mergers and acquisitions between book publishing firms and printing firms, the mergers and acquisitions from the 1985s onwards were increasingly horizontal, with large media conglomerates taking over book publishing firms.

As far as the spatial evolution of the Dutch book publishing industry is concerned, we have depicted in Figure 3 the relative numbers of publishers between 1880 and 2008 in the four main urban regions in the Netherlands. Again, the findings of the first decades since 1880 must be interpreted with caution, for the reasons explained above. As expected, the Amsterdam region is by far the largest concentration area in book publishing, and its share is remarkably persistent over time, ranging between 25 to 30 per cent of all Dutch firms. It is still remarkable though that more than 50 per cent of all Dutch book publishers is located outside the four main urban areas. The Hague region had a total share of more than 10 percent before the Second World War, but its share has declined ever since. This may be attributed to the rise of popular culture during the post-war period (Twaalfhoven, 2005) and its specialisation in government-related and legal books. The Utrecht region has hold a persistent share of about 10 per cent over the whole period, with a small decline and rise again between 1960s-1980s. The Rotterdam region has had a modest and relatively stable share of 5 percent throughout the whole period.

<<INSERT FIGURE 3>>

4. Main findings

In this section, we will test the hypotheses formulated in Section 2.3. Many hypotheses concern the effects of variables on firm performance. Because alternative measures of economic performance of firms (like employment and production) are not available for such a long period (1880-2008), we make use of the age of firms, calculated by the year of exit minus the year of entry. Following others (e.g. Klepper, 2007, Buenstorf and Klepper, 2009), we employ a hazard model which estimates the relative risk of failure of firms. We make use of the Gompertz specification, because the proportional hazard assumption did not hold for a number of variables. Those firms that still exist in 2008 were considered as censored exits. In case exits are caused by mergers and acquisition, the acquired firm is counted as exit, and the acquiring firm

survives. In case of relocations, we assigned the firm to that location where it stayed for the longest period. We will do the hazard estimations with all the cases for which all the relevant variables are known. This concerns 1,434 firms, which is about 78 per cent of the total number of publishers in our dataset. The descriptive statistics of all included variables are summarised in the Appendix.

First, we tested whether localisation economies (that is, publishing firms in agglomerations with high numbers of publishers) and location in the Amsterdam cluster increase the survival rate of publishing firms. The variable localisation economies was defined as the number of book publishing firms (LN) in the region where the firm set up his or her new business at the time of entry. In the Netherlands, we made a distinction between the so-called 40 COROP regions, which are considered labour market areas. We made a second variable Amsterdam region (defined as the dummy COROP Greater Amsterdam region, which includes the city of Amsterdam and a number of surrounding municipalities), because we also wanted to assess the effect of the Amsterdam publishing cluster on the survival of firms. In each model, the variable time of entry (LN) is included to control for differences in economic circumstances during the life cycle of the industry, which is quite common in these survival studies.

Model 1 in Table 1 presents the results. Our hypothesis 1a is confirmed: being geographically proximate to many other publishing firms at the time of entry has a positive and significant effect on the hazard of book publishers. Apparently, book publishers suffer from localisation diseconomies in general, which may be due to strong local competition, among other reasons[1]. However, whereas the spatial clustering of an industry may lead to smaller survival chances, this is very different in the case of the Amsterdam cluster. As the negative and

[1] We also included the effect of urbanisation economies, measured as population density (LN), that is, the number of inhabitants per squared kilometer in the COROP region at the time of entry. This might capture more general effects of agglomeration economies, like the effect of high local demand. We decided to exclude this variable from model 1, because of multicollinearity problems, due to the high correlation between localisation economies and urbanisation economies.

significant coefficient of the Amsterdam dummy variable demonstrates, being located in the Amsterdam cluster increases the survival chance of book publishers[2]. This result is in line with large parts of the cluster literature, but contradicts our hypothesis 1b. However, it remains to be seen whether this result still holds when we control for the pre-entry experience of firms in the subsequent models. The control variable time of entry has a positive and significant effect on the hazard rate, which means that late entrants have a lower survival rate than early entrants. This is a confirmation of earlier studies in this field of research.

<<INSERT TABLE 1>>

In addition, we tested whether the Amsterdam publishing cluster has a higher turbulence rate than other regions in the Netherlands. The turbulence rate has been defined as the number of entries and exits, as a proportion of the total number of publishing firms. The results are presented in Figure 4. Indeed, our hypothesis 1c is confirmed: the turbulence rate in the Amsterdam cluster exceeds the turbulence rate in the rest of the Netherlands during the whole period. As expected, the Amsterdam book publishing cluster is indeed characterized by a relatively high number of entries and exits.

<<INSERT FIGURE 4>>

However, to test whether the Amsterdam cluster positively impacts on the survival of firms, one should control for firm-specific features, like the pre-entry industrial background of the entrepreneurs, as other studies have shown (see e.g. Klepper, 2007). As explained before, the influence of prior (that is, pre-entry) experience involves two types of experience: (1)

[2] The same result holds for the Utrecht region, but interestingly not for the Rotterdam and The Hague regions. However, we have not included the Utrecht dummy in the subsequent models, because our main focus is on the Amsterdam cluster.

experience in related sectors, that is, in book selling and printing; (2) experience in publishing, that is, in book and newspaper publishing. We constructed five dummy variables to test our hypotheses 2a-2d: (1) firms with prior experience in publishing concern spinoffs with a pre-entry background in publishing; (2) firms with prior experience in related industries concern experienced firms with a pre-entry background in related industries; (3) experienced diversifiers concern book publishers that were active in related industries like printing and/or bookselling and have diversified into book publishing; (4) inexperienced diversified firms are book publishers with no prior experience that combine book publishing with printing and/or book selling from the beginning (that is, their year of entry); (5) inexperienced firms, which is a residual, and which has been treated as the omitted reference category. Table 2 depicts the relative shares of these five types of firms for the whole of the Netherlands

<<INSERT TABLE 2>>

The outcomes are presented in model 2 of Table 1. There is overwhelming evidence for the hypotheses 2a-2d. The negative and significant coefficients indicate that prior experience in publishing and in related industries (both as experienced firm and experienced diversifier) lowers the hazard rate and, thus, increases the survival of publishing firms. This is in line with the hypotheses 2a-2c. This is also true for firms with no prior experience but which enter as a diversified firm (inexperienced diversified firms), which confirms hypothesis 2d. What is even more interesting is that the coefficient of the Amsterdam cluster becomes insignificant. Apparently, if one controls for the prior experience of publishing firms, the Amsterdam cluster does not increase their survival. This is in accordance with other survival studies, and also in line with our previous finding of a relatively high turbulence rate in the Amsterdam cluster, meaning that also failure rates (besides entry levels) are relatively high. Thus, whereas passing on routines through local learning in clusters does not improve firm survival, passing on routines through spinoffs and related activities does improve firm survival.

However, the Dutch publishing industry may also have concentrated in the Amsterdam region because it was capable of attracting a disproportionally high number of firms with these superior routines. Figure 5 shows that firms with prior experience in publishing are indeed over-represented in the Amsterdam region, but that firms with experience in related industries are under-represented. It may also still be the case that Amsterdam firms with these routines may outperform Amsterdam firms without those routines, because they are better capable of exploiting the benefits of clusters and coping with the disadvantages of clusters. This has been tested in model 3 of Table 1, by including interaction variables between the Amsterdam cluster and the four types of entrants. The findings confirm hypothesis 3 to some extent. Spinoffs and experienced diversifiers in the Amsterdam cluster have indeed a lower hazard than their counterparts outside the Amsterdam cluster (but only at the 10 per cent level), suggesting a premium effect of the Amsterdam cluster for these two types of entrants with relevant pre-entry experience. This is not, however, true for the two other types of entrants (experienced firms and inexperienced diversified firms). The effects of the other variables in model 3 did not change[3].

<<INSERT FIGURE 5>>

We also tested whether the Amsterdam cluster is an environment that increases founding rates of publishers disproportionally. In Figure 6, we show the relative number of new entries in the Amsterdam region for the period 1885-2008 in two ways. First, we compare the share of Greater-Amsterdam in the total number of new entries in the Netherlands with the share of this region in the total number of publishers in the Netherlands. This is shown by the dotted line.

[3] In order to control for organisational and technological changes in the publishing industry since the 1960s, we also included an additional cohort in our hazard model. This cohort consisted of firms that entered the publishing industry after 1960. Our expectation was that this cohort may have performed better, because firms entering before 1960 might have suffered from the wrong routines, which might have caused problems of adaptation, and thus might have increased their hazard rates, in comparison to the post-1960 cohort. This expectation was not confirmed by our data, and therefore, we decided to leave out this finding in the main table.

Scores above 1 (as depicted on the left side of the Y-axis) represent relatively high shares of the Amsterdam region, that is higher shares of new entries than could be expected from the share of the Amsterdam region in the total number of publishers in the Netherlands. The results show that the relative founding rates in the Amsterdam region are indeed persistently higher from 1925 onwards. Second, we have divided the number of entries in the Amsterdam region by the number of publishing firms in the Amsterdam region. We did the same for the rest of the Netherlands, and compared both outcomes. This is shown by the two solid lines. The scores are in percentages and displayed on the right side of the Y-axis. The results are similar to the previous finding: the line of the Amsterdam region is persistently higher than the rest of the Netherlands since 1925, meaning that the number of entries relative to the number of publishing firms was higher in the Amsterdam region, as compared to the rest of the Netherlands. In other words, the Amsterdam publishing cluster showed indeed relatively high entry rates. Our hypothesis 4 is thus confirmed.

<<INSERT FIGURE 6>>

But did the Amsterdam cluster also attract relatively many incumbent firms from other regions? As noted previously, about twenty percent of Dutch book publishers moved from one region to another during the period 1880-2008. In Figure 7, we show the relative number of entries through relocation in the Amsterdam region for the period 1885-2008 in a similar way as we did for new firm entries in Figure 6. The dotted line represents the share of Greater-Amsterdam in the total number of new entries due to relocations in the Netherlands with the share of this region in the total number of publishers in the Netherlands. Figure 7 shows that the relative share of the Amsterdam region is almost always below 1, especially since the late 1930s. The solid lines represent the number of entries due to relocations relative to the number of publishing firms in the Amsterdam region and the rest of the Netherlands. What is noticeable is that the line of the Amsterdam region is persistently below the line of the rest of the Netherlands during the whole period. In other words, the Amsterdam publishing cluster has a

relatively lower share of incoming firms that relocate from other regions than the rest of the Netherlands. Hypothesis 5 is therefore rejected.

<<INSERT FIGURE 7>>

In Figure 8, we have included both the number of entries due to relocation in the Amsterdam region, and the number of exits due to relocation in the Amsterdam region (that is, publishing firms leaving the Amsterdam region for other regions). What is remarkable is that, overall, the outflow of firms is higher than the inflow of incoming firms in the Amsterdam regions, with the exception of the period 1920-1950 when the inflow and outflow of relocating firms are more or less at comparable levels. The outflow of firms increases sharply after 1950, leading to a high net outflow. In sum, the Amsterdam cluster seems to have acted more as an incubator for publishing firms that relocated to other regions at some point of time, than acting as an attractor for firms from elsewhere.

<<INSERT FIGURE 8>>

Conclusions

In the extensive literature on agglomerations, there are accounts of both positive and negative agglomeration effects on the performance of individual firms (Van Oort, 2002). In the cluster literature, however, there is often a tendency to appraise the positive sides of clusters. On the basis of a unique dataset of all book publishers founded between 1880 and 2008 in the Netherlands, our study demonstrated that the local presence of book publishers did not necessarily impact positively on the survival of book publishing firms. In fact, we found a strong and robust negative effect of localisation economies on their performance. When taking a more thorough look at the Amsterdam cluster, we found evidence that the clustering of book publishers in the Amsterdam region did not increase the survival of Amsterdam firms, as soon

as one controls for firm-specific features like the pre-entry background of entrepreneurs. In line with previous studies of other industries, prior experience in publishing and related industries like book printing and book selling had a positive effect on firm survival.

Having said that, we found that the Amsterdam publishing cluster had some notable features. First of all, we could demonstrate that the Amsterdam cluster is characterised by a high turbulence rate, meaning that its founding and failure rates are exceptionally high, even relative to the (high) number of publishers in the cluster. The Amsterdam cluster triggered many new entrants over time, but also caused many exits because the selection pressure is high. Amsterdam can be characterized as a highly competitive, dynamic environment with a strong literary climate, where the wheat is separated from the chaff. Overall, the cluster firms of Amsterdam show no higher survival rate. The Amsterdam cluster did, however, manage to attract a disproportionally high number of publishers with prior experience in publishing that performed relatively well. Moreover, we found evidence that spinoffs and experienced diversifiers performed better in the Amsterdam region. Consequently, they are better capable of exploiting the possible benefits of clusters and coping with the strong selection forces in clusters. Finally, an interesting feature of the Dutch publishing industry was its high intensity of relocation. Contrary to our expectations, the Amsterdam cluster did not function as an attractor for publishing firms located elsewhere. However, we did find evidence that the Amsterdam cluster acted as an incubator for publishing firms that relocated to other regions, especially after the 1950s.

Of course, this long-term study has its limitations and calls for further research. Obviously, it has not been possible to incorporate additional performance measures next to firm survival, due to data availability. Whereas it is difficult for publishing firms to survive in agglomerations in general, it can still be the case that clusters provide a favorable environment for particular firms, like ambitious firms, or firms with specific routines, as our study only touched upon. In fact, it can not be excluded that clusters generate and support a small number of winners. This will not be taken up by survival analysis because this technique looks only at the average performance of (different types of) firms. Second, our study has not gone into the

mechanisms through which cluster might be attractive places. How about the functioning of local networks, and how does labor mobility affect spatial clustering (see e.g. Eriksson, 2009)? And to what extent have trust and reputation, or the specific cultural environment, which are often considered crucial factors in cultural industries, contributed to the clustering of Dutch publishers? And third, we found a high number of relocations in the Dutch publishing industry. Investigating the relocation pattern in further detail and the reasons for firms to relocate may provide additional insights to the importance of place and the evolution of clusters over time.

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Appendix: Descriptive Statistics and correlations

	Minimum	Maximum	Mean	Std. Deviation	Pearson Correlations										
N=1434					**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1. Localisation economies	0	4,844	2,939	1,252	1,000										
2. Amsterdam Cluster	0	1	0,266	0,442	0,738	1,000									
3. Spin offs	0	1	0,081	0,273	0,028	0,035	1,000								
4. Experienced firms	0	1	0,010	0,300	-0,195	-0,074	0,098	1,000							
5. Experienced diversifiers	0	1	0,089	0,285	-0,100	-0,028	-0,093	-0,104	1,000						
6. Nonexperienced diversifiers	0	1	0,171	0,377	-0,019	-0,001	-0,135	-0,151	-0,142	1,000					
7. Amsterdam* Spin offs	0	1	0,026	0,159	0,199	0,270	0,549	0,049	-0,051	-0,074	1,000				
8. Amsterdam*Experienced firms			0,017	0,128	0,124	0,217	0,101	0,392	0,049	-0,059	0,219	1,000			
9.Amsterdam*Experienced diversifiers	0	1	0,020	0,141	0,157	-0,238	-0,043	-0,048	0,459	-0,065	-0,023	-0,019	1,000		
10.Amsterdam*Nonexperienced diversifiers	0	1	0,045	0,208	0,245	-0,362	-0,065	-0,073	-0,068	0,480	-0,036	-0,028	-0,031	1,000	
11. Time of Entry (LN)	0	7,598	4,225	1,179	0,121	-0,028	0,097	0,180	-0,147	-0,215	0,022	0,047	-0,049	-0,094	1,000

Figure 1: Number of Dutch Book Publishers per year 1880-2008

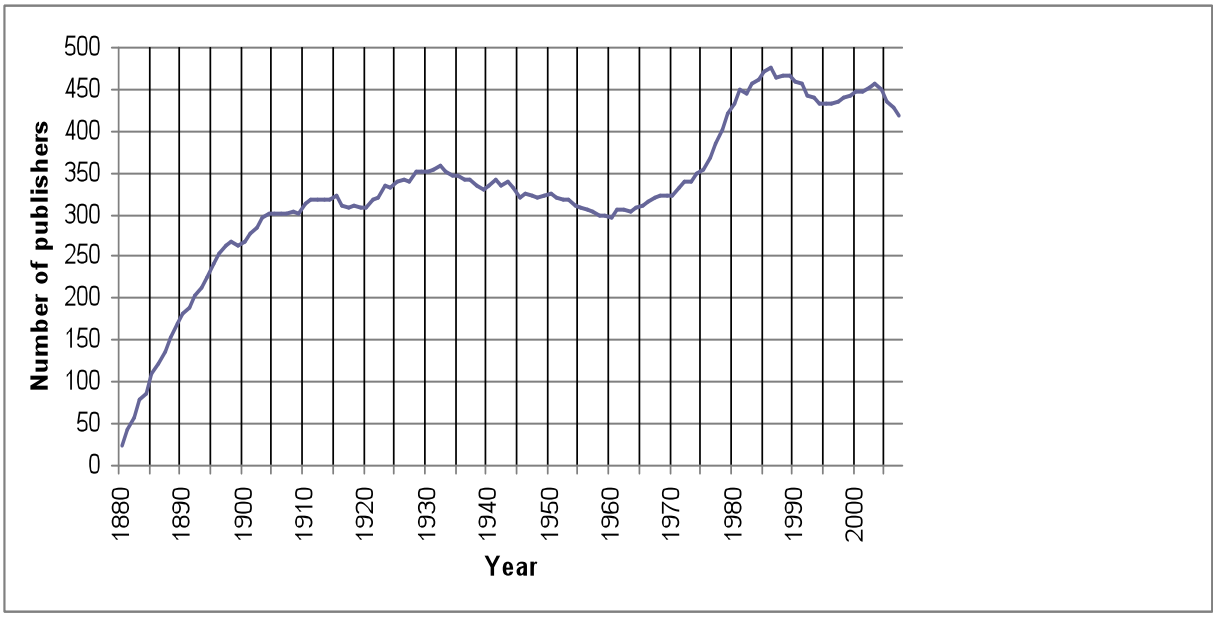

Figure 2: Number of Entrants and Exits Dutch Book Publishing Industry 1880-2008 (5 year moving average)

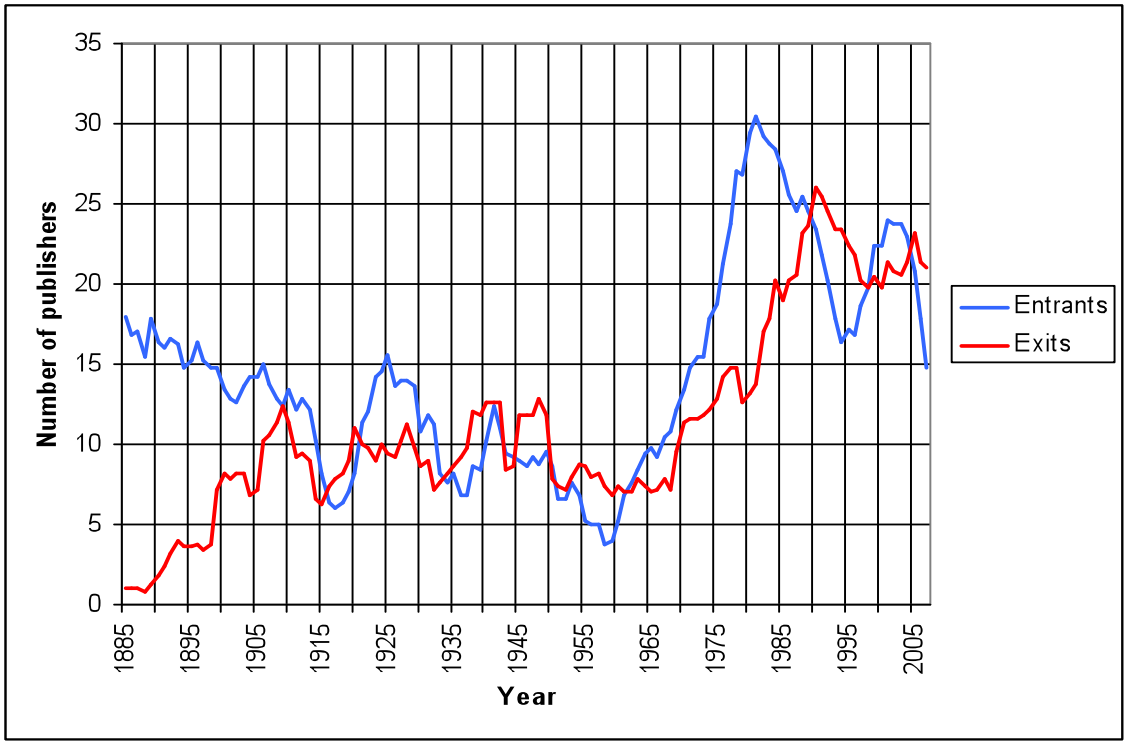

Figure 3: Percentage of total number of book publishing firms in four main concentration areas 1880-2008

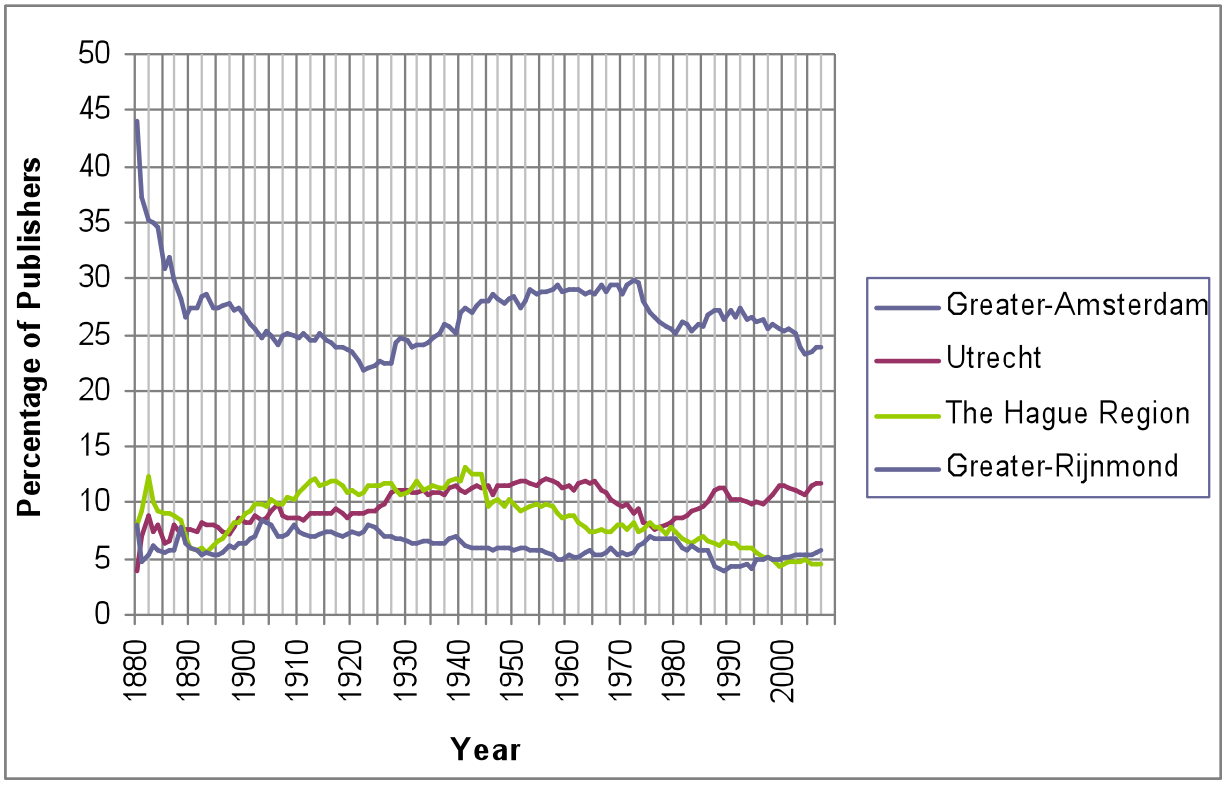

Figure 4: Turbulence rates in the Greater Amsterdam region and the rest of The Netherlands (10 year moving average)

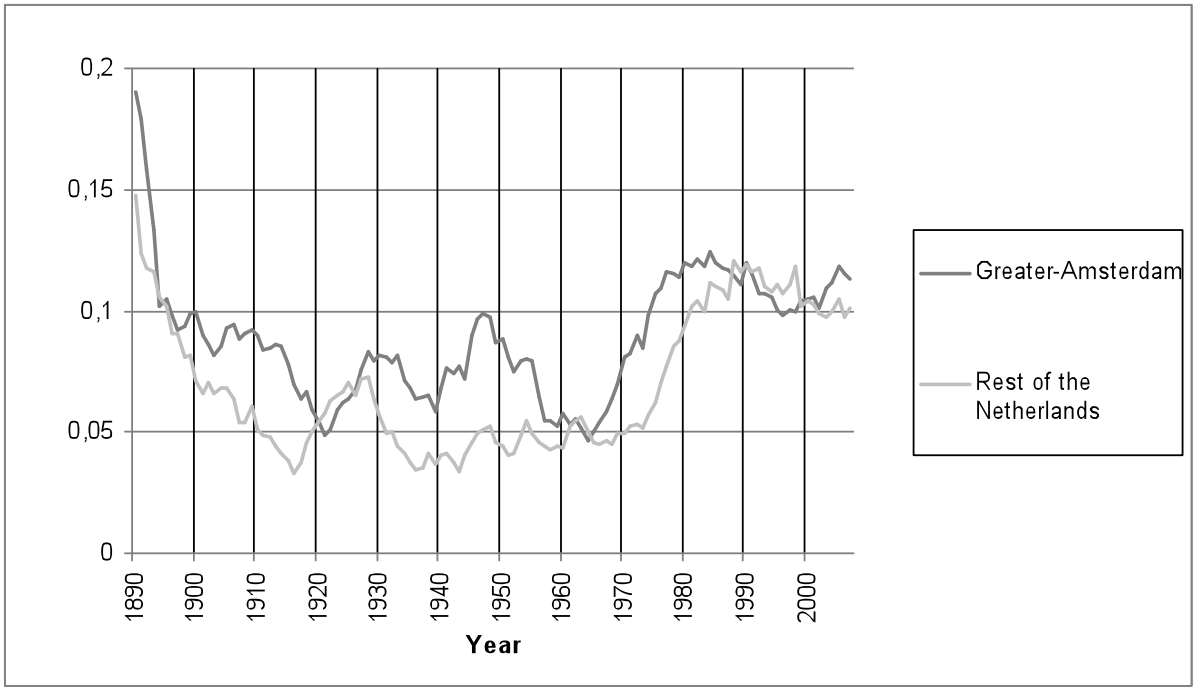

Figure 5: The share of the types of firms in the total number of publishing firms in the Greater Amsterdam region during the period 1880-2008

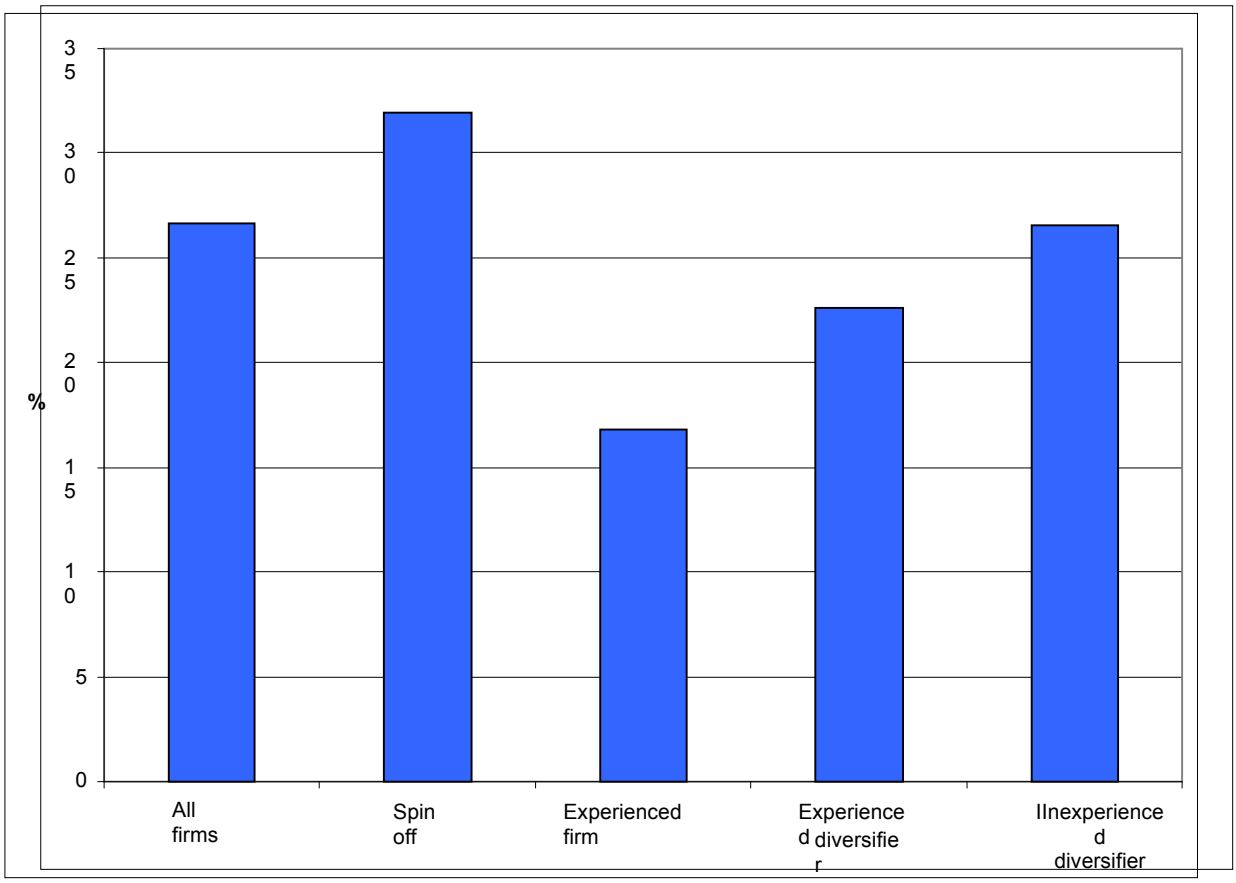

Figure 6: Relative number of new entries in the Greater Amsterdam region versus the rest of the Netherlands 1880-2008 (5 year moving averages)

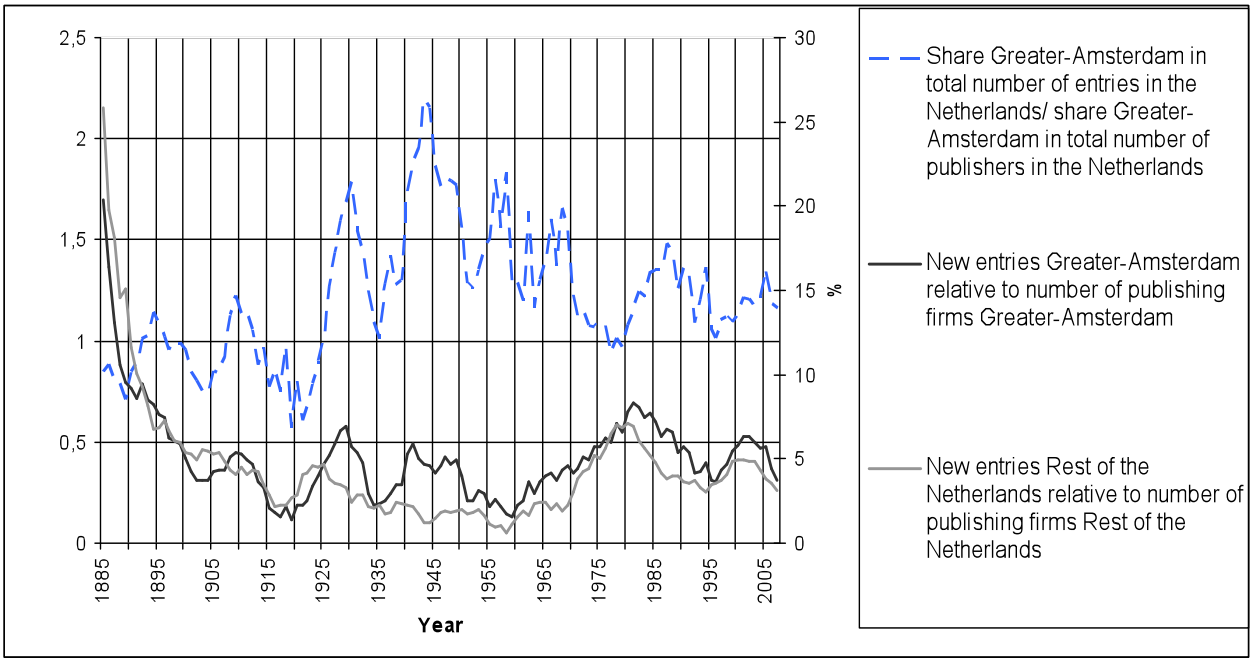

Figure 7: Relative number of new entries due to relocations in the Greater Amsterdam region versus the rest of the Netherlands 1880-2008 (5 year moving averages)

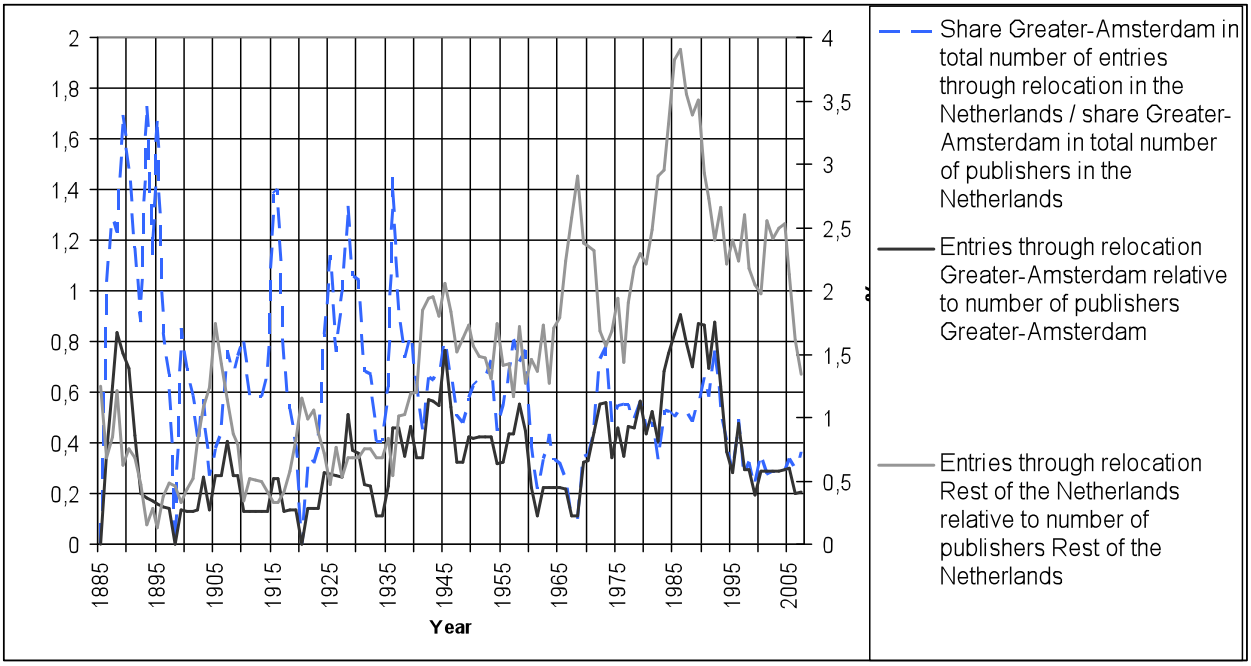

Figure 8: Number of entries and exits due to relocation in the Greater-Amsterdam region

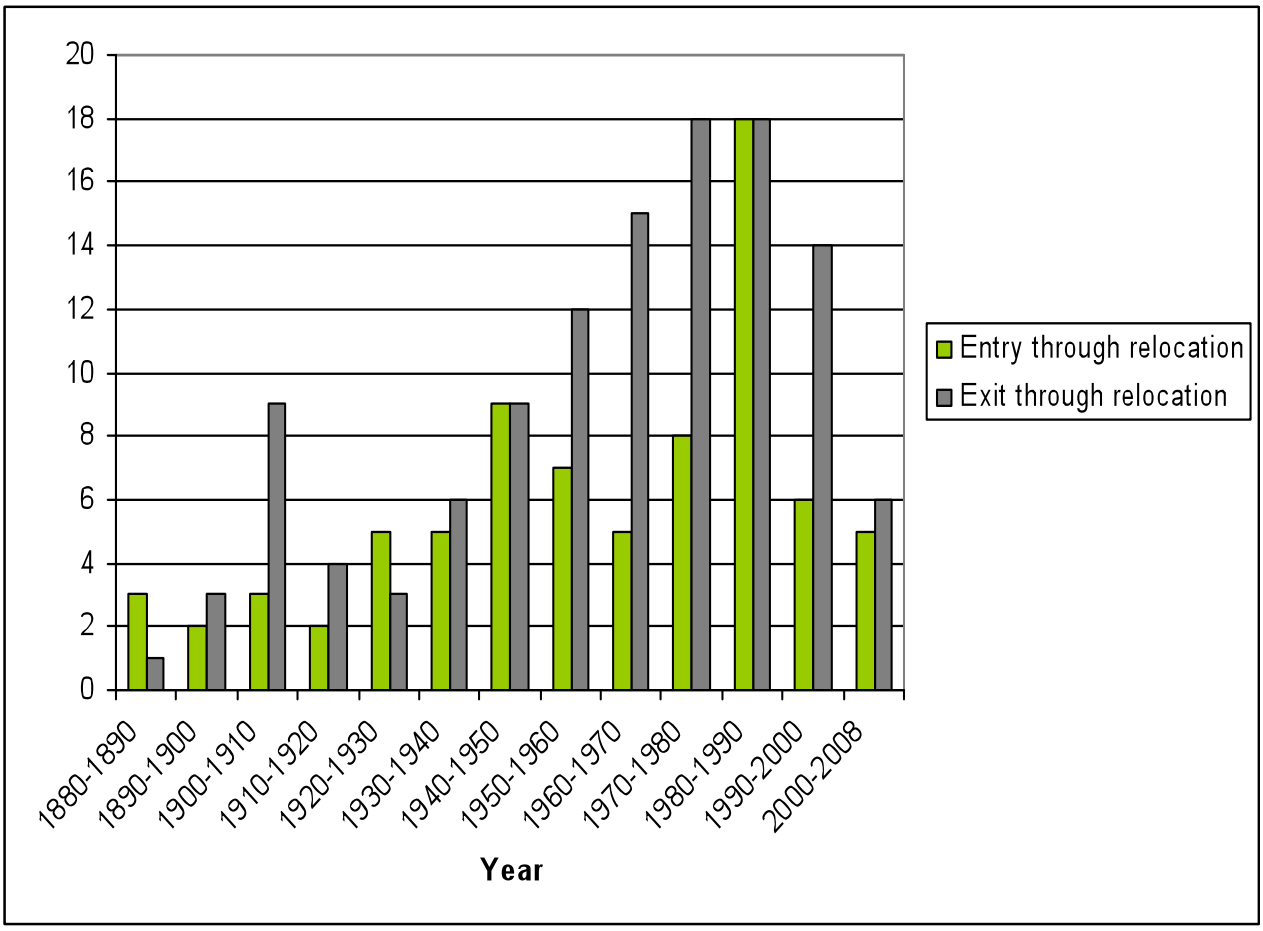

Table 1: Gompertz regression results (standard errors in parentheses): hazard to exit the market

	Model 1	Model 2	Model 3
Localisation economies	**1,220*** **	**1,166*** **	**1,174*** **
	(0,045)	(0,045)	(0,046)
Amsterdam cluster	**-0,776** **	-0,856	-0,969
	(0,079)	(0,089)	(0,114)
Spinoffs		**-0,636*** **	**-0,745** **
		(0,077)	(0,106)
Experienced firms		**-0,676*** **	**-0,735*** **
		(0,071)	(0,085)
Experienced diversifier		**-0,653*** **	**-0,741** **
		(0,073)	(0,093)
Inexperienced diversified firm		**-0,707*** **	**-0,741*** **
		(0.061)	(0,076)
Amsterdam*Spinoff			**-0,615***
			(0.170)
Amsterdam*Experienced firm			-0,742
			(0.190)
Amsterdam*Experienced diversifier			**-0,612***
			(0.163)
Amsterdam*Inexperienced diversified firm			-0,856
			(0.157)
Time of entry (LN)	**1.039***	**1.053** **	**1.050***
	(0,023)	(0,026)	(0,026)
# of cases	1434	1434	1434
Chi Square	41,11***	85.69***	93.4***
Log Likelihood	2054.7095	2032.4189	2028.5631

*** = Significant at 0,01 level

** = Significant at 0,05 level

* = Significant at 0,1 level

Table 2: Absolute and relative numbers per type of firm

Type of firm	#	%
Spin offs	116	8,1
Experienced firms	120	8,4
Experienced diversifiers	128	8,9
Inexperienced diversifiers	245	17,1
Inexperienced firms	825	57,5
Total number of firms	**1,434**	**100**