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**Firm Entry and Institutional Lock-in:
An Organizational Ecology Analysis of the Global Fashion Design Industry**

Rik Wenting & Koen Frenken

Utrecht University
Urban & Regional research centre Utrecht

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Urban & Regional research centre Utrecht (URU), Utrecht University

P.O. Box 80115, 3508TC, Utrecht, The Netherlands

Email: r.wenting@geo.uu.nl, k.frenken@geo.uu.nl

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Abstract

Few industries are more concentrated than the global fashion industry. We analyse the geography and evolution of the ready-to-wear fashion design industry by looking at the yearly entry rates following an organizational ecology approach. In contrast to earlier studies on manufacturing industries, we find that legitimation effects are local and competition effects are global. This result points to the rapid turnover of ideas in fashion on the one hand and the global demand for fashion apparel on the other hand. We attribute the decline of Paris in the post-war period to 'institutional lock-in', which prevented a ready-to-wear cluster to emerge as vested interested of haute couture designers were threatened. An extended organizational ecology model provides empirical support for this claim.

Key words

Organizational ecology, fashion industry, creative industries, clusters, institutional lock-in

1. Introduction

Few industries are more concentrated than the global fashion industry. Most of the successful fashion designers are located in a handful of cities, Paris, New York, London and Milan. Before the Second World War, Paris was the single centre in global fashion design. It was only after 1945 that Paris lost its dominance with London, Milan and - notably - New York emerging as new centers of fashion creativity.

Some have related the rather sudden shift from a mono-centred to a poly-centred geography of fashion design to the emergence of ready-to-wear (*prêt-à-porter*) fashion (Waddell, 2004). Parisian designers dominated haute couture but were initially reluctant to embrace the ready-to-wear segment, which became the main segment during the postwar period. Most Parisian designers considered ready-to-wear too commercial and a threat to the high standards of haute couture. For a while, French haute couturiers were not even allowed to practice ready-to-wear according to the guidelines of the Syndicate Chamber of Parisian Couture.

We propose to explain the geography and evolution of the ready-to-wear fashion design industry by looking at the yearly entry rates following an organizational ecology approach. The main contribution is that we provide the first organizational ecology study on a 'creative industry' (Scott, 2000) whereas previous contributions focused on manufacturing and service sectors (Hannan and Carroll, 1992; Hannan et al. (1995); Bigelow et al. (1997); Carroll and Hannan, 2000). In the first part of the paper, we ask the question to what extent the insights from organizational ecology obtained so far are transferable to creative industries. In particular, we question the universality of the results of Hannan et al. (1995) and Bigelow et al. (1997) who found that in the car industry legitimation effects (or ‘knowledge spillovers’) were global and competition was local. In the fashion industry, we expect the opposite to be true due to the rapid turnover of fashion ideas on the one hand and the global demand for fashion apparel on the other hand.

In the second part of the paper, we focus on the decline of Paris with the advent of ready-to-wear. In particular, we discuss the specific role played by the Syndicate Chamber of Parisian Couture that blocked entry in the new ready-to-wear segment. We understand this historical context as a case of institutional lock-in which prevented a new, related cluster to emerge from an existing cluster as vested interested were threatened. To assess this claim empirically, we analyse the effect of the presence of haute couture designers on ready-to-wear foundings in the various cities in an extended organizational ecology framework.

We proceed as follows. We first explain in section 2 the core model of organizational ecology and how it can be applied at different geographical scales simultaneously to assess the level at which legitimation and competition processes take place. We then discuss our data collection process in section 3 and present the results of our analysis in section 4. The specific history of the Parisian cluster, and the role of the Syndicate Chamber of Parisian Couture herein, is discussed and analysed in section 5. We end with a conclusion in section 6.

2. Organizational ecology

The main goal of organizational ecology studies is to understand the dynamics of populations of organizations (Hannan and Freeman, 1989; Hannan and Carroll, 1992). The ecology analogy refers to the concept of markets as niches that, once established, are filled by organizations until the carrying capacity of the niche is reached. In ecological processes, the rate of birth of new entities is density dependent. When the niche is discovered, the birth rate is positively dependent on density as each existing entity will bring forth new entities. The number of offspring eventually exceeds the number of parent organizations. With the niche becoming saturated, density becomes detrimental for birth due to competition for resources. Specifically, the population level will stabilize at a level depending on the carrying capacity of the niche.

The analogy in organizational foundings holds that the positive density effect reflects legitimation. Legitimation is rather loosely defined as "social taken-for-grantedness" (Hannan et al. 1995, p. 510) and included all positive feedback processes that encourage entrepreneurs to start new business. Most importantly, the current stock of organizations generates information that diffuses to potential entrepreneurs inducing them to start the same type of business (Hannan et al. 1995, p. 512), which can be thought of as a form of knowledge spillover, the term we will use in the remainder of the study.[1] The negative effect of density dependence reflects market competition, which is assumed to rise non-linearly, as each new competitor entering the population has an increasing marginal effect on the level of competition.

Accordingly, and following notation of Bigelow et al. (1997), the core model of organizational ecology can be written as:

$$\lambda(t) = \exp(\beta_0 + \beta_1 N_t + \beta_2 N_t^2) \qquad (1)$$

[1] Such an interpretation of legitimation is consistent with the notion of "cognitive legitimacy" introduced by Aldrich and Fiol (1994, p. 648).

Where $\lambda(t)$ stands for the yearly organizational founding rate and N_t for the density of the population (i.e., the number of organizations) at time t. The hypotheses hold that $\beta_1 > 0$ and $\beta_2 < 0$. The model is often extended with dummies referring to particular historical periods that affect the founding rates, for example, war periods or periods that are characterised by a particular dominant technology (Bigelow et al. 1997).

An interesting conceptual extension to the model, which we use in our analysis of urban clusters in the global fashion design industry, was proposed by Hannan et al. (1995) who introduced different geographical levels of analysis and then analysed at which levels knowledge spillovers and competition take place.[2] Hannan et al. (1995) analysed national founding rates of automobile manufacturers in five European countries and found that competition took place at national level, while knowledge spillovers were global. Similarly, looking at founding rates of automobile manufacturers in different U.S. regions, Bigelow et al. (1997) found that competition was regional, while knowledge spillovers occurred across U.S. regions.[3]

We will make use of the multi-level approach introduced by Hannan and colleagues when analysing the founding rates of fashion houses at the urban level and the global level. However, we question the universality of the results of Hannan et al. (1995) and Bigelow et al. (1997) as we expect knowledge spillovers to be local and competition between fashion designers to be global. The reason for the reverse hypothesis lies in the specificity of fashion design. Given the short product lifecycle (usually six months) there is a rapid turnover of

[2] The use of nested scales need not only refer to geographical scales, but could also refer to product classifications, or any other type of hierarchical classification.

[3] For a more general discussion on how industrial dynamics and economic geography can be combined, see Van Wissen (2004) and Boschma and Frenken (2006) and Frenken and Boschma (2007). Geroski (2001) provides an overview of the industrial dynamics and organisational ecology literatures.

ideas with the values of ideas decaying rapidly in time. What is more, ideas typically spread through people moving between companies or setting up their own spinoff companies, and these movements are predominantly local (Wenting, 2007). As a consequence, knowledge spillovers will occur primarily within design clusters rather than between them. The characteristics of fashion design are fundamentally different from manufacturing where knowledge is more accumulative and more codified in patents, standards, handbooks and machinery. This means that knowledge remains relevant over a longer period and can be circulated at lower costs. Both aspects of manufacturing knowledge render global spillovers to be more pervasive. Concerning the competition effect in organizational ecology, we also expect fashion industry to be different from manufacturing as fashion designers compete globally for clients. Fashion being a luxury good and insensitive for transportation costs, the locus of consumption is not tied to the origin of production. By contrast, at least historically, manufacturing goods compete in regional markets because the transportation costs account for a large share of total costs.[4]

So, we get:

$$\lambda_i(t) = \exp(\beta_0 + \beta_1 n_{it} + \beta_2 N_t^2) \qquad (2)$$

For each city *i* and *n* stands for urban density. Again, the hypotheses hold that $\beta_1 > 0$ and $\beta_2 < 0$.

3. Data and methodology

[4] For services, the competition is expected to be even more local.

To test our hypotheses we collected a unique dataset on entries in the global fashion industry. The data we collected stem from various sources, most importantly, the *Thames & Hudson Dictionary of Fashion and Fashion Designers* by O'Hara Callan (1998) and Watson's (2004) *20th Century Fashion: 100 Years of Style by Decade and Designer*. The data were updated till the year 2005 using Internet sources, of which designerhistory.com is the most notable. Our data encompasses information on 565 of the world's top designers in the haute couture and ready-to-wear industry, from the start of the industry in 1858 through 2005.

From the total of 565 designers mentioned in our sources, 510 designers started their own firm. This means that 55 designers have been active as free-lancers or employees, and are left out of the analysis. The majority of designers were active in the ready-to-wear market. We counted 147 entrants in haute couture and 406 entrants in the ready-to-wear industry reflecting the larger size of the ready-to-wear market compared to the elitist haute couture market. The 43 cases that produced haute couture and ready-to-wear fashion are included in both populations.

Figure 1 shows the total number of entries and exits in the ready-to-wear segment each year, as well as the industry's world population. Here it is clear that the industry has witnessed sustained growth throughout the whole period.[5] Figure 2 shows the same data for each of the four dominant clusters being Paris, London, New York and Milan. Figure 3 and 4 show the same data for the haute couture population. The figures show that Paris dominates the haute

[5] While in most manufacturing industries, the number of firms first rises and then falls during an industry 'shakeout' (Hannan et al. 1995; Klepper and Simons, 1997), this pattern is absent in the top of fashion design. This is likely a consequence of the sustainability of small market niches, and the relative ease of their creation. In fashion design, scale economies in production are of less importance compared to manufacturing activities. Indeed, fashion designers are more concerned with remaining creatively relevant and maintaining an image of exclusivity (Banks, 2000).

couture industry from its onset in 1858 up until today. Yet, Paris started relatively late in the ready-to-wear segment and did not achieve dominance over New York or London in this segment. At present, New York and London even outnumber Paris in terms of the number of ready-to-wear fashion houses.

<Figure 1, Figure 2, Figure 3 and Figure 4 around here>

In order to test the two hypotheses (spillovers are local and competition is global), we include density dependence of all types at all levels. So, we let founding depend on local density and local density squared and on global density and global density squared. Following Hannan et al. (1995) and Bigelow et al. (1997) we define global density as the density of fashion houses outside the city in question (also referred to as total remaining density).

We limit the analysis to ready-to-wear foundings as a distinct segment in the global fashion industry. Restricting the analysis to the ready-to-wear segment allows us to analyse the effect of the presence of haute couture on the formation of the new ready-to-wear cluster in the second part of the paper. The ready-to-wear segment started in 1891 while the data ends in 2005. Analysing the four largest clusters (Paris, London, New York and Milan) and pooling the observations, we have a total of 460 yearly founding rates. As controls, we use dummies for the two world wars (1914-1918 and 1939-1945) where we distinguish between the U.S (*WW_US*) and Europe (*WW_EUROPE*). The two World Wars have most likely disrupted the European market (Merlo and Polese, 2006).

Our dependent variable counts the number of yearly foundings and should therefore be dealt with as ‘count data’. Probably the most common regression model applied in this respect is the Poisson regression model, which is estimated by means of maximum likelihood estimation techniques. However, due to overdispersion we resort to estimating Negative Binomial regression models instead, which add a parameter α to the model capturing unobserved heterogeneity and thus correcting for overdispersion in the data.

Apart from the problem of overdispersion, our dataset also suffers from an excessive amount of zeros relative to the amount of actual observed interregional collaborations. Although the negative binomial regression model already improves upon the under-prediction of zeros, Vuong tests indicate that we should use a zero-inflated variant of the negative binomial regression model. The zero-inflated negative binomial model considers the existence of two (latent) groups within the population: a group having strictly zero counts and a group having a non-zero probability of counts different than zero. Correspondingly, its estimation process consists of two parts. The first part contains a logit regression of the predictor variables on the probability that there is no founding at all. The second part contains a negative binomial regression on the probability of each count for the group that has a non-zero probability of count different than zero. Since we are merely interested in the rate of foundings and only use the zero inflated model to correct for the excessive number of zero counts, we only report the negative binomial part of our analyses.[6]

4. Results

Table 1 shows the results of our analysis. Model 1 reports on the results assuming local spillovers and local competition. Both estimates are significant and of the expected sign with

[6] Results for the zero inflated part are available on request.

density having a positive effect on foundings and density squared a negative effect on foundings. Yet, when we introduce global spillovers and global competition in Model 2, we observe that local competition is no longer significant while global competition is significant. This result supports our main hypothesis that the geographical structure of the fashion industry is such that designers learn locally while they compete globally. Local spillovers promote further entry within each cluster, while global competition ultimately limits the growth of the industry as a whole.

The finding is important because it shows the specificity of the fashion design industry and its fundamental difference with the automobile industry, for which the opposite results were found (Hannan et al., 1995; Bigelow et al. 1997). The results also suggest that local spillovers are important and drive, at least partially, the high degree of clustering of the industry in just four 'global cities', and the persistence of this clustering over time.

5. Institutional lock-in?

Few industries have seen such a stable geography as fashion design with the main clusters of today being the same as a century ago. Yet, an important shift has taken place during the last century with Paris losing its dominance. The share of Paris-based firms started to fall rapidly from around 70 percent up until 1923, to 36 percent in 1941. Currently less than 25 percent of the top fashion houses in the world are located in Paris. At the same time, London, New York and Milan increased their share of designers with both New York and London currently outnumbering Paris.

Some have attributed the marked shift in spatial concentration of the industry to the rapid growth of the ready-to-wear market in the 1950s and 1960s as a new segment next to haute couture (Waddell 2004). The term ready-to-wear describes a method of buying clothes whereby the customer no longer has to have clothes made to measure. As such, ready-to-wear is a simplified form of high fashion and demands less artistic skill from the designer. Yet, it also involves complicated sizing problems and manufacture in large quantities as well as professional marketing as in the clothing industry more generally. However, within the clothing industry the term ready-to-wear has come to mean the more exclusive designer end of the market.

Initially, Parisian haute couturiers were not allowed to practice ready-to-wear according to the guidelines of the Syndicate Chamber of Parisian Couture (Waddell, 2004). This association, founded in 1911, regulated the profession of the French haute couturiers. As a consequence French couturiers entered the ready-to-wear market much later than designers outside Paris. It took until 1973 for a separate entity to be established in Paris setting guidelines for ready-to-wear, while similar institutions were setup much earlier in London (in 1947), Milan (in 1958) and New York (in 1962). The attempts by the Syndicate can be understood as a case of institutional lock-in (Grabher, 1993; Hassink, 2005), where firms with vested interest in a particular line of business try to raise entry barriers for a new line of business as to protect the meaning and exclusivity of (Parisian) fashion.

The strategy of the Syndicate was, however, just one manifestation of a more general resistance within Paris against ‘commercialisation’ and ‘popularisation’ of fashion design. Parisian designers traditionally design for the rich-and-famous elite and continued to do so after the emergence of ready-to-wear. The whole concept of haute couture is that fashion is, and should be, artistic, exclusive and tailor-made. By contrast, London, Milan and New York saw a democratization of design consumption with youngsters expressing themselves in ready-to-wear fashion and entrepreneurs quickly reacting to this growing demand for fashion (Waddell, 2004).

One can expect the emergence and growth of the ready-to-wear segment in each cluster to be dependent on the presence of haute couture designers. Generally, the development of new industries profit from the presence of related industries (Klepper, 2002). The argument holds that knowledge and practices can be easily transplanted from the related industry to the emerging industry within the same cluster.[7] In an organizational ecology framework, the effect of haute couture designers on the development of ready-to-wear segment can be introduced by extending the model with the density of haute couture designers. The effect of haute couture density on foundings in the ready-to-wear segment is expected to be positive. Each haute couture designer could decide to change its business and to switch to the more profitable line of business in the ready-to-wear segment. Indeed, quite a number of designers decided to do so: 29 percent of all entrants in haute couture branched out into the new market. A second mechanism through which a population of related industry might contribute to entry in the new segment is through local spinoff generation (Klepper, 2002; Boschma and Wenting, 2007). In our case, 97 out of 406 ready-to-wear entrepreneurs (24 percent) had previous work experience in the haute couture industry. To test whether local haute couture density fuelled entry in the new segment, we extend the specification in Eq. (2), and get:

$$\lambda_i(t) = \exp(\beta_0 + \beta_1 n_{it} + \beta_2 N_t^2 + \beta_3 m_{it}) \qquad (3)$$

[7] Examples include the emergence of the car industry out of the bicycles and engine industries (Wood, 1988; Klepper, 2002; Boschma and Wenting, 2007), the emergence of the tire industry from the rubber industry (Klepper 2007), the emergence of the television industry from the radio industry (Klepper 2007), and the emergence of the film industry out of theatres (Mezias and Kuperman, 2001).

Where m_{it} stands for the yearly density in haute couture in city *i*. The hypotheses hold that $\beta_1 > 0$, $\beta_2 < 0$, and $\beta_3 > 0$.

The model specification in Eq. 3, however, neglects institutional differences between the fashion clusters. Following our previous discussion on the history of the Parisian cluster, the more powerful and conservative Syndicate in Paris may have been better able to block entries than its counterparts in competing clusters, implying that entry rates in Paris are structurally lower than elsewhere. To address the specificity of the Parisian context, we introduce a dummy variable for entry rates in Paris. The hypothesis holds that its sign is negative reflecting the 'institutional lock-in' within the Parisian fashion community.

In Table 2 we tested the extended organizational ecology model in Model 3.[8] Surprisingly, the density of haute couture designers did not fuel the cluster of ready-to-wear with new entrants as the coefficient is insignificant. The absence of any positive effect of haute couture designers on foundings in ready-to-wear may, however, may be caused by the specific Parisian context, where the presence of haute couture designers possibly had a negative effect on the formation of the ready-to-wear cluster due to its unionised structure.

Model 4 replicates Model 3 but extends the PARIS dummy. The results indicate two important phenomena. First, Paris indeed shows a structurally lower founding rate compared to the other three clusters suggesting a specific local (institutional) context which was less conducive for ready-to-wear entrepreneurs to start a business. Second, our previous

[8] We do not include the square of haute couture density, because the two separate market segments do not compete for the same clientele.

hypothesis that haute couture density facilitated the formation of the ready-to-wear clusters is now supported with the coefficient being positive and significant. It is only after controlling for the local specificity of the Paris cluster that the expected positive effect of haute couture density can be observed.

6. Concluding remarks

Having provided the first organizational ecology study on a ‘creative industry’, we showed that the geography and industrial evolution of the fashion design industry is rather different from the manufacturing logic underlying the automobile industry analyzed previously. Given the rapid turnover of ideas, knowledge spillovers occur primarily locally, promoting further entry within the cluster. At the same time, clients for luxury fashion can be found globally, which means that firms compete both with firms in their own cluster and elsewhere. By contrast, knowledge in manufacturing industries is more accumulative and codified allowing for global circulation, while manufacturing goods compete in regional markets because transportation costs are relatively high.

Our results thus provide an explanation for the extreme and persistent geographic clustering in creative industries like fashion design. Similar creative industries like film production (Hollywood, Bollywood) and publishing (New York, London) may well exhibit the same patterns as found in this study.

Apart from profiting of an existing density of ready-to-wear designers, the growth of ready-to-wear clusters was also facilitated by the presence of haute couture designers. Being a related industry, it provided a pool of possible entrants, thus giving rise to a process of related diversification (Klepper, 2002; Boschma and Wenting, 2007). However, though Paris had the largest concentration of haute couture designers, it did not succeed to dominate the new ready-to-wear segment, as it showed structurally lower entry rates than competing clusters. We attribute this failure to a form of ‘institutional lock-in’ where vested interested of Parisian haute couture frustrated the development of ready-to-wear.

The case, though to be generalized for other industries, illustrates some general concerns that can be relevant in local policy-making. The prospects for developing local clusters are most favourable when the new cluster can draw on resources (mainly entrepreneurs with relevant knowledge) that are present in existing, but related, activities (Frenken et al. 2007). Yet, the concentration of such resources can also hamper new lines of development if seen as a threat by the incumbents. It is the role of policymakers to stay out of networks of vested interests and to promote ‘new combinations’ among competencies, among people, and among ideas.

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Figure 1. Ready-to-wear population, 1891-2005

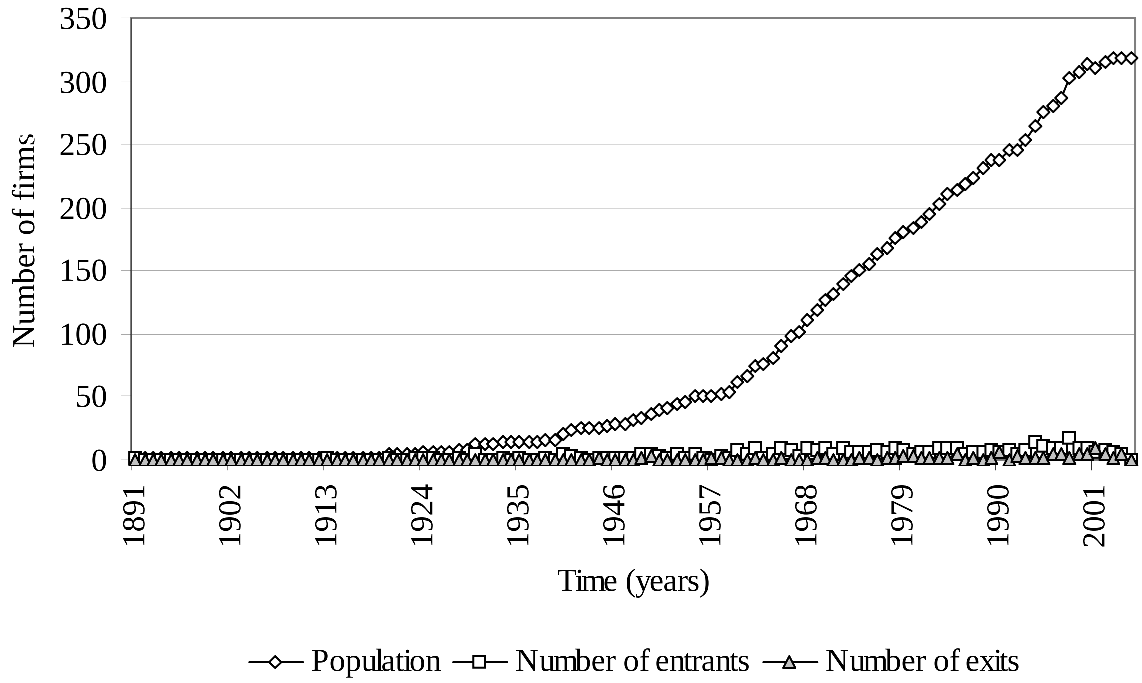

Figure 2. Ready-to-wear population by city, 1891-2005

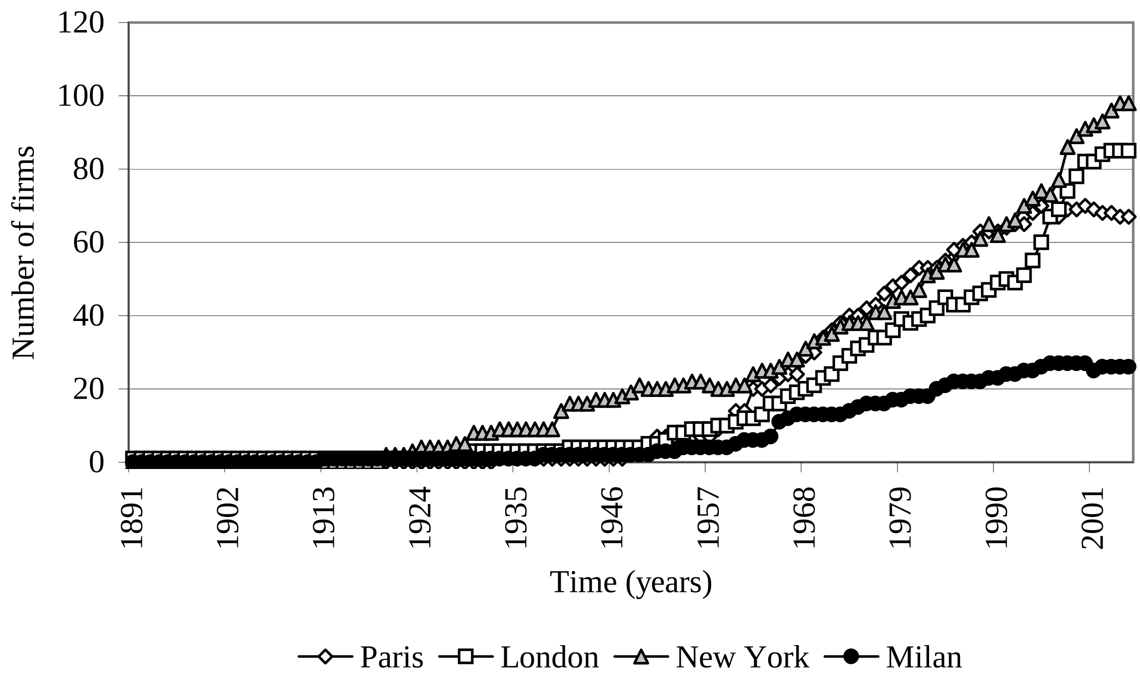

Figure 3. Haute couture population, 1858-2005

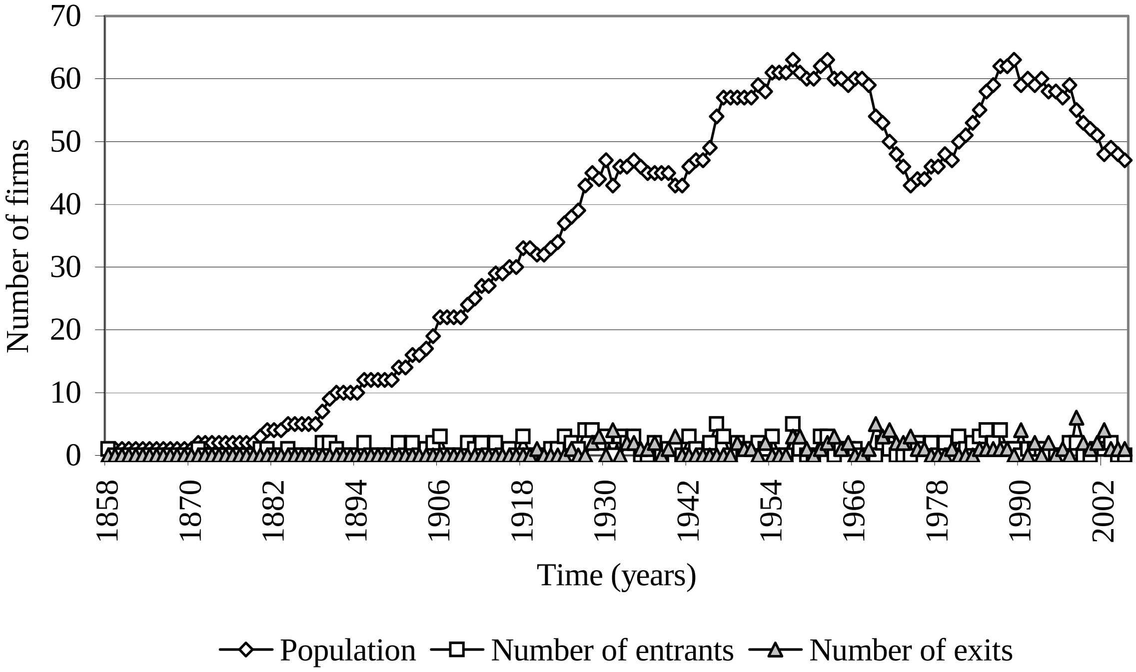

Figure 4. Haute couture population by city, 1858-2005

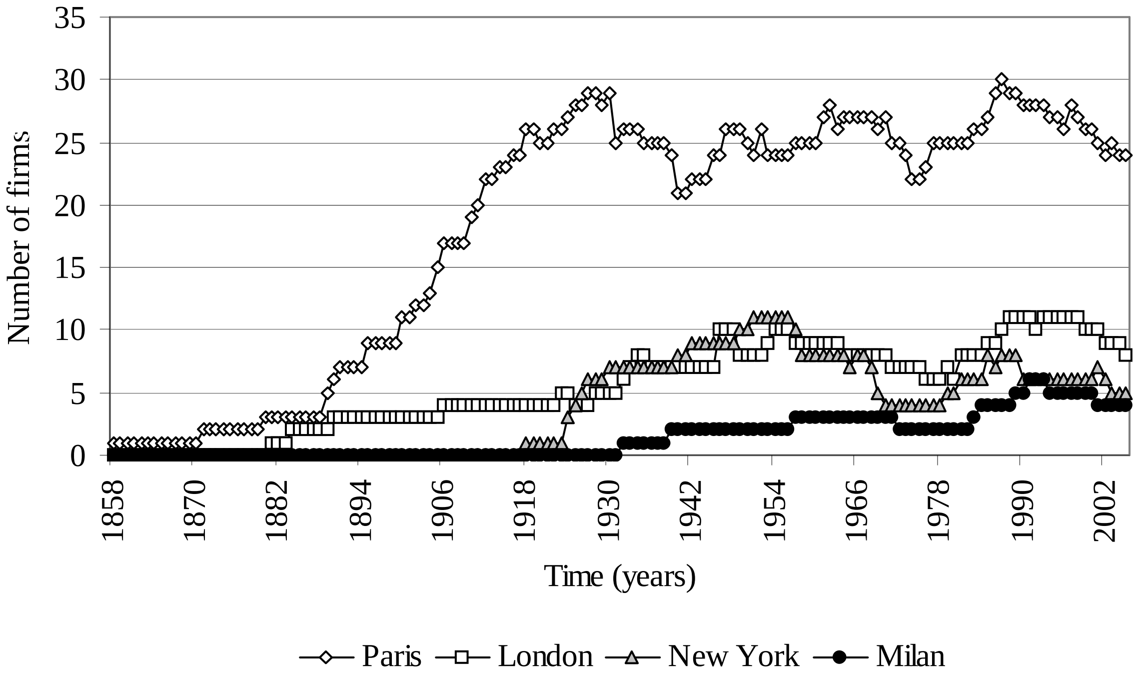

Table 1. Estimates of the zero-inflated binomial regression analyses
(dependent variable: yearly founding rate in ready-to-wear)

		Model 1	Model 2
n		0.042	0.040
	stand.error	(0.011)	(0.013)
	p-value	0.000	0.003
n^2		-0.0003	-0.0002
	stand.error	(0.0001)	(0.0001)
	p-value	0.018	0.164
N			0.005
	stand.error		(0.006)
	p-value		0.390
N^2			-0.00003
	stand.error		(0.00002)
	p-value		0.096
WW_US		2.465	2.932
	stand.error	(2.344)	(2.328)
	p-value	0.293	0.208
WW_EUROPE		-1349	-1.642
	stand.error	(2.260)	(2.289)
	p-value	0.551	0.473
Constant		-0.745	-0.788
	stand.error	(0.222)	(0.286)
	p-value	0.001	0.006
Log likelihood		*-418.206*	*-405.516*
LR Chi square		*45.91*	*61.65*
Number of observations		*460*	*460*
Number of non-zero observations		*175*	*175*

Table 2. Estimates of the zero-inflated binomial regression analyses;
(dependent variable: yearly founding rate in ready-to-wear)

		Model 3	**Model 4**
n		0.043	0.031
	stand.error	(0.014)	(0.015)
	p-value	0.002	0.046
n^2		-0.0002	-0.0001
	stand.error	(0.0001)	(0.0001)
	p-value	0.127	0.454
N		0.003	0.007
	stand.error	(0.006)	(0.006)
	p-value	0.557	0.275
N^2		-0.00003	-0.00004
	stand.error	(0.00002)	(0.00002)
	p-value	0.150	0.055
m		-0.005	0.063
	stand.error	(0.007)	(0.030)
	p-value	0.536	0.036
PARIS			-1.359
	stand.error		(0.579)
	p-value		0.019
WW_US		2.916	2.577
	stand.error	(2.469)	(2.244)
	p-value	0.238	0.251
WW_EUROPE		-1.709	-1.476
	stand.error	(2.442)	(2.214)
	p-value	0.484	0.505
Constant		-0.694	-1.008
	stand.error	(0.303)	(0.359)
	p-value	0.022	0.005
Log likelihood		*-405.223*	*-401.232*
LR Chi square		*61.82*	*66.04*
Number of observations		*460*	*460*
Number of non-zero observations		*175*	*175*