Papers in Evolutionary Economic Geography

08.03

Urban Amenities or Agglomeration Economies? Locational Behaviour and Entrepreneurial Success of Dutch Fashion Designers

Rik Wenting, Oedzge Atzema & Koen Frenken

Utrecht University
Urban & Regional research centre Utrecht

Urban Amenities or Agglomeration Economies? Locational Behaviour and Entrepreneurial Success of Dutch Fashion Designers

Rik Wenting*, Oedzge Atzema*, Koen Frenken*

* Urban and Regional research centre Utrecht, Section of Economic Geography, Faculty of Geosciences, Utrecht University, P.O. Box 80115, NL-3508 TC, Utrecht, The Netherlands, http://econ.geo.uu.nl

Corresponding author, e-mail address: r.wenting@geo.uu.nl

This version
11 January 2008

Abstract
Urban economic growth and industrial clustering is traditionally explained by Marshallian agglomeration economies benefiting co-located firms. The focus on firms rather than people has been challenged by Florida arguing that urban amenities and a tolerant climate attract creative people, and the firms they work for, to certain cities. We analyse to what extent these two mechanisms affect the locational behaviour of Dutch fashion designers. On the basis of a questionnaire, we find that urban amenities are considered more important than agglomeration economies in entrepreneurs' location decision. Designers located in the Amsterdam cluster do not profit from agglomeration economies as such, but rather from superior networking opportunities with peers both within and outside the cluster.

Keywords
Agglomeration economies, urban amenities, creative class, fashion design, cultural industries, social networks, cluster

Acknowledgements
We gratefully acknowledge financial support from the BSIK research programme, and Noéton Consultancy. We thank Ron Boschma, Monique Roso and Michiel Scheffer for helpful comments, and the students of

Human Geography and Planning at Utrecht University for their assistance in gathering the survey data. All errors remain ours.

1. Introduction

The spatial clustering of industries is among the core research questions of economic geographers. For long, explanations of clusters have been based on the concept of agglomeration economies. It has become commonplace to assume that three 'Marshallian' economies – specialised suppliers, specialised labour and knowledge spillovers – drive spatial clustering of industries (Marshall, 1920; Glaeser et al., 1992). Cultural industries tend to cluster in dense urban areas where they play an important role in urban economic development (Scott, 1996, 2000; Hall, 2000). Following the traditional reasoning, Scott (2000, 2006) attributed the exceptional clustering of cultural industries to the disproportionate advantages that creative firms experience from co-location, transforming the cluster in a 'creative field'. The received view on clusters has been challenged by Florida (2002) who argued that spatial clustering – at least as far as workers in cultural industries are considered – is primarily the result of amenities that attract creative workers to live in certain cities rather than others. Examples of urban amenities in such a broad sense are a tolerant social atmosphere, ethnic diversity and cultural activities.[1] In a similar vein, Gottlieb (1995) found that urban amenities with respect to the residential location of employees influenced the location decision of firms. The

presence of creative people would, in turn, attract business to these cities interested in access to talent and ideas leading cultural industries to cluster in certain cities.

The two explanations of spatial clustering of cultural industries are very different, but not mutually exclusive. It may well be the case that agglomeration economies and urban amenities both act as drivers of clustering of cultural industries. In this paper, we explore to what extent the locational behaviour and economic success of fashion design entrepreneurs can be explained by a local 'people's climate' based on urban amenities, or a local 'business climate' based on agglomeration economies. This case is a prime example of a cultural industry with a strong degree of clustering with over one in four designers living in Amsterdam. We proceed as follows. In the following section we give a brief overview of the literature on the clustering of cultural industries. Section 3 describes our data collection and descriptive statistics. In section 4 we present the results on the motives underlying location choices. We analyse the determinants of entrepreneurial success in section 5. Finally, we draw some conclusions, derive policy implications, and discuss issues for further research.

2. A Complementary Dichotomy: Agglomeration Economies vs. Urban Amenities

Economic geographers traditionally explain the spatial clustering of industries by three different forms of positive agglomeration economies (for a review, see Gordon and McCann 2000). First, the availability of a pool of specialised labour benefits firms in clusters as it lowers the search costs and improves the match between labour supply and labour demand. Second, the local provision of inputs by specialised suppliers benefits firms in clusters reducing transportation and transaction costs as well as lowering costs of inputs. Third, local knowledge spillovers between firms yields advantages for firms in clusters as efficiency is increased through mutual learning without financial compensations.

The first two forms of agglomeration economies reflect the benefits from increased division-of-labour among workers and among suppliers. As such, it is reminiscent of Adam Smith's theory of economic growth in which growth promotes efficiency through increased opportunities for division-of-labour. In both cases, the cluster provides a local market, which is large enough to render such specialised skills and specialised supply profitable.

The third form of agglomeration economies of knowledge spillovers is different, and less undisputed, in that it refers to a pure externality. For long, economists have treated such spillovers as unbounded by space until Jaffe et al. (1993) showed that spillovers between inventors (as proxied by patent citations) occur much more often within regions than across regions. More recently, Breschi and Lissoni (2003) confirmed this finding and also showed that the local nature of knowledge spillovers is caused by dense local social networks between inventors, which function as channels for informal knowledge exchange. Once controlling for the social distance between two inventors[2], spatial proximity is no longer correlated with knowledge spillovers. This suggests that simple co-location in a cluster is not sufficient for knowledge spillovers to occur; rather, social networks are necessary to exchange knowledge and not all firms are equally well connected, both within a cluster and over larger distance (Bathelt et al. 2003; Bathelt 2005; Giuliani 2007).[3] Yet, because the density of social networks is higher within clusters than between clusters, co-location is expected to be, on average, advantageous for firm performance (Sorenson 2003).[4]

The concept of agglomeration economies has been developed traditionally with reference to manufacturing industries. However, the forces operating in manufacturing may apply to cultural industries as well, where we define cultural industries as all industries active in the fabrication of cultural

products characterised by symbolic value.[5] In stead of using the concept of agglomeration economies, Scott introduced the concept of 'creative fields', which he defines as:

> "… the locationally-differentiated web of production activities and associated social relationships that shapes patterns of entrepreneurship and innovation in the new economy. … [T]he creative field functions as a site of (a) entrepreneurial behavior and new firm formation, (b) technical and organizational change, and (c) the symbolic elaboration and re-elaboration of cultural products." (Scott, 2006, p. 1).

Even though Scott (2002, 2006) acknowledges that creative fields might encompass different spatial scales, he puts a special emphasis on the regional and urban level. He regards clusters in cultural industries as places that are endowed with rich infrastructures of specialised production chains and skilled workers. Note that the importance of local availability of specialised suppliers and skilled workers refer to the first two forms of Marshallian economies. Scott also speaks of creative fields as 'places of trust'. Trust in a creative field is important to facilitate interaction and knowledge exchange, referring to the third form of agglomeration

economies. Interaction, collaboration and networking is especially crucial in cultural industries, where a tension exists between their atomistic and hyper-competitive market structure (Banks et al., 2000) and their need for symbolic knowledge exchange (Asheim and Gertler, 2005; Vinodrai, 2006; Asheim et al., 2007). Local communities of creative individuals provide the basis for knowledge exchange in social networks on a *quid pro quo* basis (Scott, 2000; Banks et al., 2000) similar to the role of social networks in knowledge spillovers between inventors (Breschi and Lissoni, 2003).

A specific kind of knowledge spillover is the knowledge – or capabilities put more generally – that is transferred between parent company and spin-off. Several studies have shown that the performance of parent firms and spin-off firms is highly correlated suggesting that entrepreneurs benefit from the experience from previous employment (Klepper, 2002; Klepper and Sleeper, 2005; Boschma and Wenting, 2007; Dahl and Reichstein, 2007). A similar finding has been reported by AUTHOR REFERENCE (2007) in a recent study of the global high fashion design industry.

Since most spin-off locate close to the parent firm, this type of knowledge spillover tends to be geographically localised. The emergence and success of a cluster can thus be related to the genealogy of firm formation with a few founding fathers creating many successful offspring. This means that

the performance of cluster firms compared to firms located outside clusters has to be analysed while controlling for differences in pre-entry experience (Klepper 2007). In general, one expected those firms located in clusters to have gained more experience from previous employment than firms located elsewhere.

Cultural industries are generally even more clustered than manufacturing industries, specifically in urban areas (Scott 1996, 2000). Given the short product lifecycle of symbolic goods – which in fashion design is only six months – there is a rapid turnover of ideas with the value of ideas decaying rapidly in time and space. This implies that most spillovers are expected to occur within the local creative field. By contrast, manufacturing knowledge is of a more accumulative nature and more often codified in patents, standards, handbooks and machinery. This means that such knowledge remains relevant over a longer period of time and can be transmitted over long distance at lower costs. Both aspects render global spillovers to be more common in manufacturing industries in comparison to cultural industries, and provides an explanation for agglomeration forces to be less strong for manufacturing compared to cultural industries. A second important difference between manufacturing and cultural industries holds that the share of transportation costs in total costs is much lower in cultural industries than in manufacturing industries. This is especially true for

cultural products such as fashion designs, music and film, which can be transported at relatively low costs over long distances. This means that for creative firms geographical proximity to clients and suppliers is expected to be relatively less important than geographical proximity to peers.

The competitive advantage of clusters is then sustained by a dynamic of intensifying agglomeration economies (Scott, 2006). Such a mechanism of positive feedback was introduced by Arthur (1994) as a chance process in which small differences in the spatial distribution of economic activity might have drastic and lasting consequences – in effect locking it into an 'oligopoly' of a few large creative cities.

The Marshallian view on agglomeration economies and clustering has recently been challenged by Florida's (2002) work on the creative class. Starting from the concept of class rather than industry, Florida provided a new understanding of spatial clustering in cultural industries. According to his Creative Capital theory the existence of an attractive people climate is much more the key to success than an attractive business climate (Florida, 2005). Florida argued that members of the creative class, most of whom working in cultural industries, have distinct locational preferences that are driven by personal motives rather than business motives. They locate in cities with certain amenities that fit with their values, aesthetics, lifestyles

and consumption patterns. Florida states that "… tolerance is the key factor in enabling places to mobilize and attract technology and talent." (Florida, 2005, p. 6) Cities "… that are open to immigrants, artists, gays and racial integration … gain an economic advantage in both harnessing the creative capabilities of a broader range of their own people and in capturing a disproportionate share of the flow [of creative class members] …" (Florida, 2005, p. 7). According to Florida it is the quality of places that attract creative people and because of their presence it attracts high tech industries and cultural industries. The concentration of a diversity of talented people powers the economic growth of creative cities. The central idea is that "… tolerance and low entry barriers to human capital helps to attract talent and that talent is in turn associated with high technology industry and regional growth." (Florida, 2005, p. 139).

Such a line of reasoning should also hold for entrepreneurs in cultural industries, such as fashion design. Note that Florida (2002, 2005) does not clarify through which exact mechanisms the local presence of a creative class generates regional economic growth. In Florida (2002) it is argued that some cities are home to a larger absolute share of the creative class, and hence these cities experience higher growth rates compared to other locations. Later Florida and Stolarick (2006) argue that the clustering of creative people might stimulate regional growth through local knowledge

spillovers occurring in (in)formal networks relation among creative individuals. The latter is a typical externalities argument related to local density, and is more in line with Scott's creative field thesis (2006), and Breschi and Lissoni (2003) work on co-inventors.[6]

Florida's explanation of spatial clustering in cultural industries is, however, fundamentally different from explanations based on agglomeration economies, because he reasons from personal motives of members of the creative class rather than from the business motives of entrepreneurs.[7] Following this reasoning, workers first decide where to live according to their preferences regarding residential amenities (Storper and Manville, 2006). Firms then follow these decisions in their quest for qualified workers. However, the cause-effect relationships are generally expected to run both ways and statistically it is hard to distinguish between people following firms and firms following people (Van Oort et al. 2003). Yet, in fashion design most entrepreneurs are self-employed or employ only one or two assistants. This means that the location decision from a worker's perspective and from a firm's perspective coincide, which makes it possible to analyse the relative importance of personal versus business motives in location decisions.

3. Methodology

3.1. Research design

The main question to be answered is whether agglomeration economies or urban amenities trigger fashion designers to cluster in space. Put differently, we ask the question whether business motives, especially related to agglomeration economies, drive the location decision of designers or whether personal motives, specifically concerning urban amenities, drive the location decision of designers. As explained, with the large majority of designers being self-employed or leading small firms, one can analyse the business and personal motives simultaneously as the employer and entrepreneur coincide. We did so by sending out a questionnaire to all known independent fashion designers in The Netherlands.

In addition to comparing business and personal motives, we also estimate a statistical model that explains entrepreneurial success by the personal income of fashion designers. In this way, we can assess whether designers in clusters benefit from co-location. Importantly, in this exercise we control for a host of other variables affecting success. Notably, we take into account the size of the socio-professional network of an entrepreneur as a proxy for

knowledge spillovers. This allows us to distinguish between benefits arising from co-location and benefits stemming from social networks.

3.2. Data collection

We have collected data by a telephonic survey of all 1496 firms classified as fashion designers in The Netherlands as registered at the Chambers of Commerce. A total of 511 firms appeared to be (still) active in fashion design. Others were active in a wide variety of fields, from graphic design to interior design or teaching. Out of the 511 designers contacted, 275 questionnaires were completed, resulting in a response rate of 54 per cent. The responses are representative for the entire population concerning the variables location and in terms of firm size in number of employees.[8]

3.3. Main variables

Similar to earlier results on the creative class (Florida 2002; Boschma and Fritsch 2007), most fashion design entrepreneurs are located in cities. Here, location refers to the business location of designers. Note, however, that almost all designers live in the same labour market area (NUTS3 region) as they work. Defining cities as municipalities with over 50,000 inhabitants, over 60 percent of all fashion designers is located in cities while only 49

percent of the Dutch population does so. This preference for city-life is most apparent for Greater-Amsterdam, where 26 percent of all fashion designers locate against less than 8 percent of all Dutch inhabitants. This renders the location quotient of Amsterdam (i.e. the regional share of fashion designers divided by the regional share of total population) larger than 3. Fig. 1 shows the absolute numbers and location quotients for all 40 labour market areas (NUTS3 regions) in The Netherlands. The location pattern of the fashion design industry is in line with the general geographical pattern of the cultural industries in The Netherlands, which tend to concentrate in the Amsterdam region (Kloosterman, 2004; Van Aalst et al., 2006).

Formatted

<Fig. 1 around here>

Most fashion design entrepreneurs are women, accounting for 80 percent of all fashion designers. The lion's share (87 per cent) of all firms in the Dutch fashion design industry are self-employed. The remaining designers generally have one or two employees, while only one percent exceeds ten employees. Interestingly, most fashion designers (55 per cent) earn a low income from their fashion design activities, where low income is defined as less than 20,000 euro a year[9]. Only 21 per cent earn a high income over 40,000 euro a year, which leaves 24 percent with an income between 20,000 and 40,000 euro. These figures suggest that the group of designers is very

heterogeneous, since many are struggling to stay in business and only a few are prospering.

4. Locational preferences

To analyse the relative importance of business and personal motives in designers' location decision, we ask them about seven potential factors. Respondents have been asked to grade the extent to which each factor was of no importance (grade 1), some importance (grade 2), or much importance (grade 3) for their location decision. The first three questions concern the importance of the proximity to suppliers, customers and fellow designers. A high score on these motives indicates the operation of agglomeration economies. The last three questions concern personal motives related to the location of residence and reflect the urban amenities present in the place of choice. We finally asked whether the location decision was driven by reputation of the location. Such locational behaviour can be thought of as imitative rather than autonomous. Reputation relates to both business and personal factors, since the reputation of location may refer to the 'place-to-be' to set up your business or the 'place-to-be' to live comfortably.

Fig. 2 shows the average of these values for all respondents in The Netherlands on the left side of the graph, and broken down at different spatial scales on the right side of the graph. Note that we only asked designers who had moved to a new location when setting up their business amounting to 163 respondents. To see whether creative entrepreneurs tend to settle in cluster, urban or rural locations, we differentiated the results for Amsterdam, other cities with more than 50,000 inhabitants and the rest of the country.

<Fig. 2 around here>

The results in left side graphs in Fig. 2 show that personal motives tend to be more important than business motives in the location decision of fashion designers. The average scores for personal motives are all higher than the scores for the business motives. This suggests that location decisions of fashion designers are indeed predominantly, though by no means exclusively, driven by amenities of the residential environment.

Fig. 2 also shows that those who value certain location factors as more important tend to have chosen more often to locate in the Amsterdam cluster. Indeed, with the exception of tolerant social atmosphere, t-tests show that all location factors are significantly better met in Amsterdam than

elsewhere in the country. Since many fashion designers are located in Amsterdam, this shows that location motives and location decisions are indeed consistent: Dutch fashion designers acted according to their locational preference. Concerning Amsterdam, Florida's creative city thesis receives support predominantly because of attractiveness of cultural and atmospherical amenities to creative entrepreneurs.

Even though we concluded from the results shown in left side graphs in Fig. 2 that Marshallian agglomeration economies (i.e. business motives) are valued considerably lower in designers' location decisions than 'creative city' economies (i.e. personal motives), the right side graphs in Fig. 2 show that the situation is more complex. Indeed, Marshallian economies might not be valued highly, but they are important for startups in Amsterdam and less relevant for designers located elsewhere. To the extent that agglomeration economies are at play, this result implies that Amsterdam is the only Dutch cluster of fashion design that has attained the critical mass necessary to generate Marshallian economies for entrepreneurs.

Amsterdam also scores significantly higher on reputation. This indicates that the Amsterdam cluster profits from a self-reinforcement mechanism: its reputation as a fashion city attracts fashion designers whose presence adds again to its reputation, et cetera.[10] The importance of reputation as a

location factor for those who choose to live in the cluster supports Scott's (2006) argument for creative fields enjoy self-sustaining agglomeration economies.

5. Entrepreneurial success

Our results so far were based on the subjective perception and appreciation of these various locational factors. The question remains whether, indeed, fashion designers benefit from agglomeration economies, whether they are aware or not. If agglomeration economies would operate in the Dutch fashion design industry, designers in the Amsterdam cluster would outperform designers outside the cluster.

5.1. Dependent variable

To analyse the agglomeration economies hypothesis, we are in need of an unambiguous performance indicator. In cultural industries, however, traditional proxies for success based on size or growth do not apply, as most designers do not aim at growth. Profit, however, is also problematic as a performance indicator, because profit figures are extremely volatile and – as we discovered – often unknown to the designer. We therefore opted for a

less ambiguous indicator: whether a designer earns more than 20,000 euro per year from his or her fashion design activities, defined as a dummy variable, named HIGH.INCOME.[11] This indicator yields two groups of almost equal size with 55 percent earning less than 20,000 euro per year and 45 percent earning more than 20,000 per year. This dummy variable proxies the extent to which fashion entrepreneurs are able to solely rely on their design activities to make a living, or in other words, and corresponds with Florida's (2005) view that the quality of economic growth is reflected in the wages and income that people make.

5.2. Independent variables

- *Agglomeration economies.* To test whether agglomeration economies exist in the Amsterdam cluster, we introduce a dummy variable AMSTERDAM for those working in the labour market region of Greater-Amsterdam (NUTS3 level). In this way, we can assess whether co-location in the Amsterdam cluster contributes to entrepreneurial success as proxied by the personal income of the head designer.

However, the cluster benefits have to be assessed while including alternative determinants possibly affecting the success of fashion designers

(cf. Boschma and Weterings, 2005). From our theoretical discussion, two alternative explanations for the superior performance of firms in clusters were proposed: networking and pre-entry experience.

- *Networking*. The questionnaire asked designers about the number of collaborations with other fashion designers during the last year. Two out of every five fashion designers collaborates with other fashion designers. The number of collaborations varies between 0 and 50. This number is captured by the variable COLLABORATION. The questionnaire also asked to those designers who had collaborated, what type of collaboration was considered important for them (with the possibility to mark more than one answer): collaboration in the production of designs (COLL.PRODUCTION), collaboration in marketing of designs (COLL.MARKETING), or collaboration by information and knowledge exchange in general (COLL.INFORMATION). We use both the number of collaborations and the type of collaboration considered as most important as explanatory variables for success. In this way, we can test the importance of networks as a source of competitiveness as well as the type that is most conducive for this success.

- *Experience*. Another important determinant of success is the experience of an entrepreneur. Aforementioned research in industrial dynamics has shown that spin-off outperform startups reflecting the experience inherited from the parent firm (Klepper 2002; Dahl and Reichstein, 2007). Experience is also gained by setting up several firms and by managing your own firm for a prolonged period of time. We thus include three variable to capture experience: a spinoff dummy (SPINOFF), a serial entrepreneur dummy (SERIAL), and the number of years a person has been an entrepreneur independently from the type of industry (YEARS.ENT).

Apart from the determinants of success related to co-location in the cluster, networking and pre-entry-experience, a number of controls need to be taken into account that are expected to affect fashion designer incomes.

- *Human capital*. Human capital of the entrepreneur is also expected to be an important determinant of personal incomes as it holds for virtually all professions. In the Dutch fashion design industry, three quarters graduated from a fashion design academy, which is part of the Dutch higher education system. A dummy variable

(ACADEMY) captures all designers with a higher education background in fashion design.

- *Fulltime.* One important and obvious control is how many hours a week a designer devotes to fashion design. From the questionnaire we know whether the designers works part-time or full-time, where full-time is defined as working more than 32 hours a week on fashion design activities. This is captured by a dummy variable FULLTIME. The vast majority (81.1 per cent) of our respondents are classified as full-timers.

- *Market segment*. Fashion design is a peculiar market in that it ranges from the design of simple T-shirts to works of art in *haute couture*. Although the price for a cloth item goes up with the symbolic value added, so does its exclusivity. Fashion designers active in the volatile and competitive market of high fashion have a lower average income, compared to those active in more commercially viable parts of the (mass)market. Fashion designers that work freelance for large, mass-producing clothing companies earn more steady and higher average incomes than designers who design very unique pieces of clothing for small, shifting market niches. The latter group considers themselves often as artists more than business

people and accept lower income for more artistic freedom (AUTHOR REFERENCE). We therefore introduce two dummies for middle fashion segment (PRICE.MID) and high fashion segment (PRICE.HIGH), both of which are expected to contribute negatively to income compared to the omitted variable (PRICE.LOW).

Table 1 and 2 summarise all variables used in the various regression analyses. Using a binominal logistic regression, we assess which determinants have a significant effect on the personal income of Dutch fashion designers as a proxy for entrepreneurial success.

<Table 1 around here>

<Table 2 around here>

5.3. Results

The correlation matrix between independent variables is given in table 3. The correlation between the variables is low, except for COLLABORATION and three variables denoting the type of collaboration. This is to be expected because we only asked entrepreneurs with a positive number of collaboration which type of collaboration they thought to be

important. Because the number and the type of collaborations are intrinsically related, and strongly correlated, we decided not to include them in the same regression models below.

Regarding the correlation between other variables, a number of interesting patterns can be discerned. The experience variables SPINOFF and YEARS.ENT are significantly and positively correlated. This implies that spinoff firms are able to survive for longer periods of time, compared to other entrants in line with aforementioned research by AUTHOR REFERENCE (2007) on the global high fashion design industry. Furthermore, a positive and significant correlation between SPINOFF and COLLABORATION shows that spinoffs tend to collaborate more with fellow fashion designers, compared to other entrants. This may reflect that spinoffs continue to profit from networks of the parent firm, as was found by other studies as well (Sorenson, 2003; Klepper and Sleeper, 2005).[12] A positive and significant correlation between AMSTERDAM and COLLABORATION shows that fashion designers in Amsterdam are more inclined to collaborate. This correlation is in line with previous studies on (social) networking in clusters (Sorenson, 2003; Dahl and Pederson, 2005), including studies on networking in design industries (Florida and Stolarick, 2005; Vinodrai, 2006). Finally, the correlation between AMSTERDAM and SPINOFF shows that Amsterdam designers are more likely to be spinoff

entrants compared to designers located elsewhere. These results are in line with research on clusters as seedbeds of spinoffs (Klepper, 2002; Boschma and Wenting, 2007).

<Table 3 around here>

Table 4 shows the results of the multivariate regression analyses. Model 1 presents the regression coefficients of the agglomeration economies variable AMSTERDAM and our control variables. Here, we test for the advantage of co-location of fashion designers in the Amsterdam cluster. The effect is positive and significant reflecting the higher incomes of Amsterdam-based designers compared to designers located elsewhere. Model 1 also shows the coefficients for the control variables ACADEMY, FULLTIME, PRICE.HIGH, and PRICE.MID. The control variables for higher education and full-time employment have positive coefficients, as expected, but are insignificant. Furthermore, designers active in higher price "artist" segments earn significantly less income than their colleagues active in lower-priced "commercial" segments. The effects of our control variables on income in all subsequent regression models are similar to the results of Model 1.

<Table 4 around here>

In the two subsequent models we test whether socio-professional collaboration with peers affects income. In Model 2 we add the number of collaborations and in Model 3 the types of collaboration that collaborating designers find important. The number of collaborations contributed positively and significantly to income, while collaboration in production is the only type of collaboration that contributed to income. Networking – and the alleged knowledge spillovers resulting from it – indeed contributes to entrepreneurial success. The latter result on the type of collaboration reflects that not all types of collaboration are important for success; only when working together on the production of design benefits designers. We understand this result as stemming from the highly tacit nature of knowledge spillovers in cultural industries, which means that most knowledge is transferred when two designers truly work together in the design process.

Importantly, including the networking variables in our model renders the AMSTERDAM dummy variable insignificant. Thus, agglomeration economies are not contributing to entrepreneurial success. This result shows that spatial clustering per se is not beneficial; rather, cluster-based designers are more attractive as collaboration partners – both for peers inside *and* outside the cluster – than designers located elsewhere. Indeed, 44 percent of the networking designers outside of Amsterdam who did not collaborate

locally, indicated to collaborate primarily with designers in Amsterdam, while Amsterdam hosts only 26 percent of all designers. This implies that the cluster functions not so much as a local network, but rather as a national 'hub' of network interaction. Such an interpretation is further supported by the positive and significant correlation between the AMSTERDAM and COLLABORATION.

In Model 4 and Model 5 we include the experience variables. As expected, spinoffs and the number of years of entrepreneurial experience are both significant determinants of success. Serial entrepreneurship in fashion design, however, does not affect success. Again, the AMSTERDAM dummy is insignificant and its coefficient gets closer to zero compared to Model 3 and Model 4, which further supports our conclusion that agglomeration economies per se are absent. This reflects the positive correlation between the Amsterdam variable and the experience variables. Knowledge spillovers are not of a pervasive nature, but are specific to the firm and its network. We conclude that networking and experience are crucial determinants of entrepreneurial success.

6. Discussion

Theories in cultural industries can be divided in the traditional agglomeration economies theory (Scott, 2000) and the creative-class theory based on urban amenities (Florida, 2002). Statistical research so far, however, has found it difficult to distinguish between the two on the basis on employment and amenities data alone. Using a questionnaire among Dutch fashion designers instead, we find that the locational behaviour of fashion designers is better explained by urban amities than by agglomeration economies. The agglomeration economies thesis was further analysed using data on the personal income of fashion designers as a proxy for entrepreneurial success. Our study showed that Amsterdam-based designers indeed have a higher income, but that their success cannot be attributed to agglomeration economies stemming from co-location. Rather, network ties with fellow designers and experience gained in the past explain entrepreneurial success. Yet, these success factors are more commonly associated with Amsterdam-based designers than with designers located elsewhere.[13] Co-location affects entrepreneurial success indirectly by facilitating learning through increased opportunities to gain valuable experience and socio-professional networking.

Our study has three important implications: methodological, theoretical and policy-related. Methodologically, our study points to the value of questionnaires in studying locational behaviour in general and members of

the creative class in particular. To delineate the creative class in a precise manner, or a specific profession like fashion designers within the creative class, questionnaires have the important advantage of direct validation by asking people about the exact activities. What is more, one can directly pose questions regarding location decisions and the underlying motives, rather than to derive them indirectly from aggregate data from statistical offices.

Theoretically, our results suggest that Florida's theory on location decisions of the creative class is indeed an important supplement to theories in economic geography and urban studies. Since most fashion design firms consists solely of the entrepreneur, personal valuations regarding (urban) amenities are an important part of location decisions. We also question the notion of agglomeration economies as pure co-location advantages. Rather, our result shows that cluster-based entrepreneurs obtain higher network connectivity – both with peers within and outside the cluster - than designers located elsewhere. The cluster functions not so much as a local network, but rather as a national 'hub' of network interaction. We understand this result as stemming from the highly tacit nature of knowledge spillovers in cultural industries, which means that most knowledge is transferred when two designers truly work together in the design process. The further development of cluster theories could benefit from integrating theories of social networks and the social network analysis

tools that have been developed within this field (Wasserman and Faust, 1994; Uzzi 1997; Giuliani 2007). A particular feature of such networks, which has remained underexplored, is the role of strong overlap between business and personal networks specific to cultural industries as supporting trust among entrepreneurs (Scott, 2006; Vinodrai, 2006).[14]

Our findings for the locational behaviour and success of entrepreneurs in cultural industries also deserve policy attention. In addition to Florida's thesis, we find that socio-professional networks within a cultural industry affect the relationship between the concentration of creative people and regional growth. Our analysis shows that without experience and (social) networks in the sector, it can be very difficult to obtain a sufficient income. Low income is expected to discourage potentially talented designers. This is why the shown importance of residential amenities should not be taken to mean that local governments should concentrate primarily on the built environment as the main parameter nor on subsidies for cultural activities (cf. Martinez 2007). Urban amenities may attract young creative entrepreneurs but they do not impact their success. Rather, most of them do not succeed to earn an income required to live comfortably in large cities – and most likely will give up soon after. Rather, students can be advised to learn from established designers first, before venturing out on their own. Second, entrepreneurs are advised to share risks and knowledge by

networking. Such socio-professional networks are often derived from previous employment as well (Sorenson, 2003). Both critical success factors point to the importance of incumbent firms in clusters as seedbeds for talent and hubs for networking.

Although our analysis is based on a snapshot of an otherwise evolving cluster, our result can – albeit on a more speculative note – support a dynamic interpretation. Our results suggest that, at least in rather small countries like The Netherlands with a domestic market of only 16 million inhabitants, cultural industries most likely self-organise into a single dominant cluster. The importance of gaining experience and building networks attracts young designers to Amsterdam as the dominant cluster. In spite of ambitions of other Dutch cities such as Arnhem and Utrecht with fashion academies and cultural amenities, it is unlikely that a cluster once established, will loose its dominance. The attractiveness of the Amsterdam cluster is precisely the opportunities to collaborate – with peers within and outside the cluster - as well as the amenities that are – at least partly – created by the cluster itself. The density of fashion designers and incubator firms in the Amsterdam cluster attracts new entrants, who, after locating in the cluster, will make the cluster even more attractive for future entrepreneurs. Our conclusion is in line with Scott (2006) who argues that such a reinforcing mechanism of growth is a central element of creative

fields. Due to the self-sustaining nature of the attractiveness of Amsterdam as the Dutch fashion capital, it will be difficult for other Dutch cities to equal her success in the near future. The city of Amsterdam now faces the challenge to compete with the established centres of fashion design across the globe.

References

ARTHUR, W.B. (1994) *Increasing Returns and Path Dependence in the Economy*. Ann Arbor: University of Michigan Press.

ASHEIM, B., COENEN, L., MOODYSSON, J. and VANG, J. (2007) Constructing knowledge-based regional advantage: implications for regional innovation policy, *International Journal of Entrepreneurship and Innovation Managemen*t, 7(2/3/4/5), pp. 140–155.

ASHEIM, B. and GERTLER, M.S. (2005) Regional innovation systems and the geographical foundations of innovation, in: J. Fagerberg, D. Mowery, R. Nelson (Eds.) *The Oxford Handbook of Innovation*, pp. 291–317. Oxford: Oxford University Press.

BANKS, M., LOVATT, A., O'CONNER, J. and RAFFO, C. (2000) Risk and trust in the cultural industries, *Geoforum*, 31, pp. 453–464.

BATHELT, H., MALMBERG, A. and MASKELL, P. (2003) Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation, *Progress in Human Geography*, 28, pp. 31–49.

BATHELT, H. (2005) Cluster relations in the media industry: Exploring the 'distanced neighbour' paradox in Leipzig, *Regional Studies*, 39, pp. 105–127.

BETTENCOURT, L.M.A., LOBO, J. and Strumsky, D. (2006) Invention in the city: Increasing returns to patenting as a scaling function of metropolitan size, *Research Policy*, 36, pp. 107–120

BIKHCHANDANI, S., HIRSHLEIFER, D. and WELCH, I. (1992) A theory of fads, fashion, custom, and cultural change as informational cascades, *Journal of Political Economy*, 100(5), pp. 992–1026.

BOSCHMA, R.A. (2005) Proximity and innovation. A critical assessment, *Regional Studies*, 39(1), pp. 61–74.

BOSCHMA, R.A. and FRITSCH, M. (2007) Creative class and regional growth: Empirical evidence from eight European countries, *Jena Economic Research Papers in Economics* 2007-066, <http://www.jenecon.de>.

BOSCHMA, R.A. and TER WAL, A.L.J. (2007) Knowledge networks and innovative performance in an industrial district: The case of a footwear district in the South of Italy, *Industry and Innovation*, 14(2), pp. 177–199.

BOSCHMA, R.A. and WENTING, R. (2007) The spatial evolution of the British automobile industry: Does location matter?, *Industrial and Corporate Change*, 16(2), pp. 213–238.

BOSCHMA, R.A. and WETERINGS, A.B.R. (2005) The effect of regional differences on the performance of software firms in the Netherlands, *Journal of Economic Geography*, 5(5), pp. 567–588.

BRESCHI, S. and LISSONI, F. (2003) Mobility and social networks: Localised knowledge spillovers revisited, *CESPRI Working Paper* 142, <http://www.cespri.unibocconi.it>.

DAHL, M.S. and PEDERSON, C.Ø.R. (2005) Knowledge flows through informal contacts in industrial clusters: myths or realities?, *Research Policy*, 33(10), pp. 1673–1686.

DAHL, M.S. and REICHSTEIN, T. (2007) Are you experienced? Prior experience and the survival of new organizations, *Industry and Innovation*, forthcoming.

FLORIDA, R. (2002) *The Rise of the Creative Class*. New York: Basic Books.

FLORIDA, R. (2005) *The Flight of the Creative Class*. New York: Harper Collins.

FLORIDA, R. and STOLARICK, K. (2005) Creativity, connections and innovation: a study of linkages in the Montreal region, *Environment and Planning A*, 38, pp. 1799–1817.

GIULIANI, E. (2007) The selective nature of knowledge networks in clusters: evidence from the wine industry, *Journal of Economic Geography*, 7(2), pp. 139–168.

GLAESER, E., KALLAL, H., SCHEINKMAN, J. and SHLIEFER, A. (1992) Growth of cities, *Journal of Political Economy*, 100, pp. 1126–1152.

GORDON, I.R. and MCCANN, P. (2000) Industrial clusters: complexes, agglomeration and/or social networks? *Urban Studies*, 37, pp. 513–532.

GOTTLIEB, P.D. (1995) Residential amenities, firm location and economic development. *Urban Studies*, 32, pp. 1413–1436.

HALL, P. (2000) Creative cities and economic development, *Urban Studies*, 37(4), 639–649.

HITE, J.M. and HESTERLEY, W.S. (2001) The evolution of firm networks: From emergence to early growth of the firm, *Strategic Management Journal*, 22(3), pp. 275–286.

JAFFE, A.B., TRAJTENBERG, M. and HENDERSON, R. (1993) Geographic localization of knowledge spillovers as evidenced by patent citations, *Quarterly Journal of Economics*, 108(3), pp. 577–598.

KLEPPER, S. (2002) The capabilities of new firms and the evolution of the U.S. automobile industry, *Industrial and Corporate Change*, 11(4), pp. 645–666.

KLEPPER, S. (2007) Disagreements, spinoffs, and the evolution of Detroit as the capital of the U.S. automobile industry, *Management Science*, 53(4), pp. 616–631.

KLEPPER, S. and SLEEPER, S. (2005) Entry by spinoffs, *Management Science*, 51(8), pp. 1291–1306.

KLOOSTERMAN, R.C. (2004) Recent employment trends in the cultural industries in Amsterdam, Rotterdam, The Hague and Utrecht: a first exploration, *Tijdschrift voor Economische en Sociale Geografie*, 95(2), pp. 243–252.

MARLET, G.A. and VAN WOERKENS, C.M.C.M. (2004) Skills and creativity in a cross-section of Dutch cities. *Utrecht School of Economics Discussion Paper Series* 04-29, <www.econ.uu.nl>.

MARSHALL, A. (1920) *Principles of Economics*. London: Macmillan.

MARTINEZ, J.G. (2007) Selling *Avant-garde*: How Antwerp became a fashion capital (1990-2002), *Urban Studies*, 44(12), 2449–2464.

MORRISON, A. (2007) *Gatekeepers of knowledge* within industrial districts: Who they are, how they interact, *Regional Studies*, forthcoming.

SCOTT, A.J. (1996) The craft, fashion, and cultural-products industries of Los Angeles: Competitive dynamics and policy dilemmas in a multisectoral image-producing complex, *Annals of the Association of American Geographers*, 86(2), pp. 306–323.

SCOTT, A.J. (2000) *The Cultural Economy of Cities*. London: Sage.

SCOTT, A.J. (2002) Competitive dynamics of Southern California's clothing industry: The widening global connection and its local ramifications, *Urban Studies*, 39(8), pp. 1287–1306.

SCOTT, A.J. (2006) Entrepreneurship, innovation and industrial development: geography and the creative field revisited, *Small Business Economics*, 26, pp. 1–24.

SORENSON, O. (2003) Social networks and industrial geography, *Journal of Evolutionary Economics*, 13, pp. 513–527.

STORPER, M. and MANVILLE, M. (2006) Behaviour, preferences and cities: Urban theory and urban resurgence, *Urban Studies*, 43(8), pp. 1247–1274.

UZZI, B. (1997) Social structure and competition in inter-firm networks: The paradox of embeddedness, *Administrative Science Quarterly*, 42 (1), pp. 35–67.

UZZI, B. and SPIRO, J. (2005) Collaboration and creativity: The small world problem, *American Journal of Sociology*, 111(2), pp. 447–504.

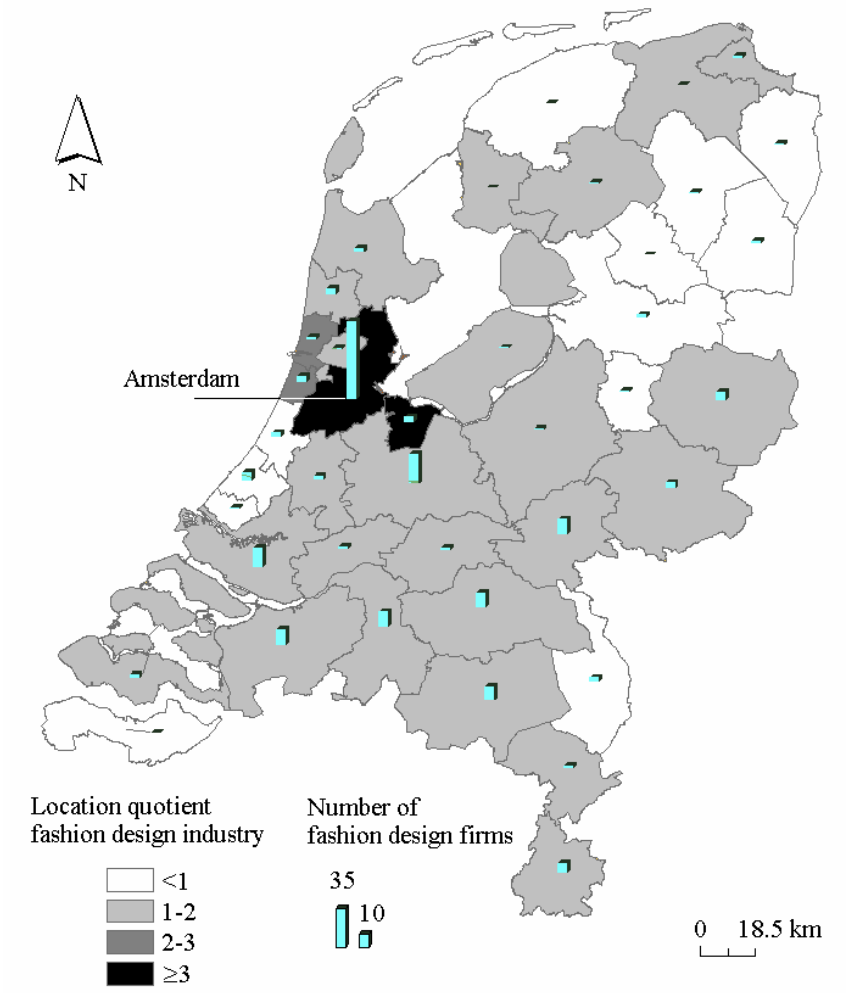
VAN AALST, I., ATZEMA, O.A.L.C., BOSCHMA, R.A. and VAN OORT, F.G. (2006) Creatieve klasse en economische groei in stedelijk Nederland, in: B. Hofstede and S. Raes (Eds.), Creatief Vermogen, pp. 123–155. The Hague: Elsevier Overheid.

VAN OORT, F.G., WETERINGS, A. and VERLINDE, H. (2003) Residential amenities of knowledge workers and the location of ICT-firms in The Netherlands, *Journal of Economic and Social Geography*, 94, pp. 516–523.

VINODRAI, T. (2006) Reproducing Toronto's design ecology: Career paths, intermediaries, and local labor markets, *Economic Geography*, 82(3), pp. 237–263.

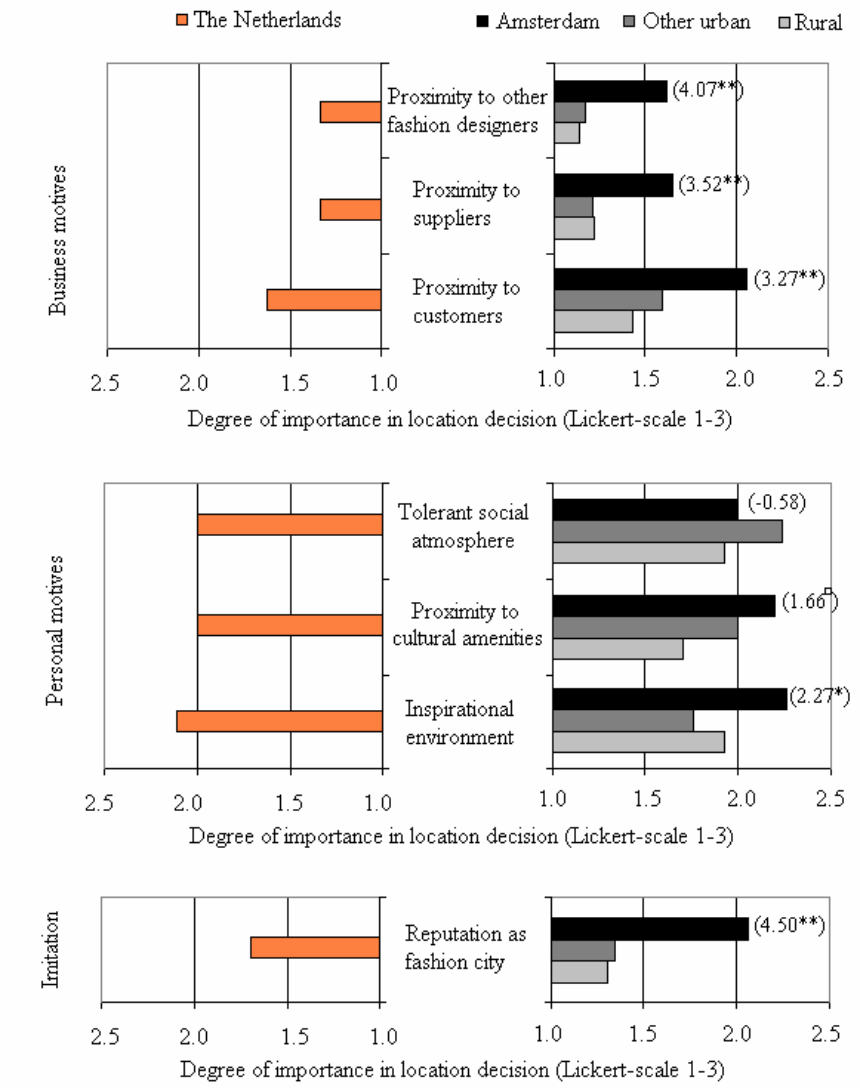
WASSERMAN, S. and FAUST, K. (1994) *Social Network Analysis: Methods and Applications*. Cambridge: Cambridge University Press.

Fig. 1. The spatial distribution of fashion designers in The Netherlands (N=275).



Source: Own data collection.

Fig. 2. Business and personal motives for entrepreneurs in fashion design on various spatial levels (outcome of independent samples t-tests for equality of means in parentheses; N=163).



** Significant at the 0.01 level (2-tailed)
* Significant at the 0.05 level (2-tailed)
□ Significant at the 0.10 level (2-tailed)

Source: Own data collection.

Table 1. Definition of the variables used in the logistic regression analyses

Variable	Description
HIGH.INCOME	Income of more than 20,000 euro per year from fashion design activity
AMSTERDAM	Located in the Amsterdam labour market region (NUTS3 level)
COLLABORATION*	Number of collaborations with fellow fashion designers
COLL.PRODUCTION	Finds collaboration in production important
COLL.MARKETING	Finds collaboration in marketing important
COLL.INFORMATION	Finds collaboration in information and knowledge sharing important
SPINOFF	Has been employed by an fashion design firm prior to start-up
SERIAL	Has previously started a firm in the fashion design industry
YEARS.ENT**	Number of years experience as an entrepreneur
ACADEMY	Bachelor's degree or higher in fashion design
FULLTIME	Working more than 32 hours a weeks on fashion design activity
PRICE.MID	Is active in the middle and middle-to-high price segments
PRICE.HIGH	Is active in the high and *haute couture* price segments

* We log transformed this variable to reflect the marginal decrease in the utility of each additional collaboration link. The exact variable definition becomes COLLABORATION = log(x+1), where x stands for the number of collaborations as indicated in the questionnaire.

** We log transformed the number of years an entrepreneur has been active as an independent fashion designer to reflect the marginal decrease in the utility of each additional year in business. The exact variable definition becomes YEARS.ENT = log(y+1), where y stands for the number of years an entrepreneur has been active as an independent fashion designer as indicated in the questionnaire.

Table 2. Descriptive statistics of the variables used in the logistic regression analyses

Variable	N	Minimum	Maximum	Mean	Std. Deviation
1. AMSTERDAM	275	0.00	1.00	0.26	
2. COLLABORATION	273	0.00	1.70	0.17	0.30
3. COLL.PRODUCTION	271	0.00	1.00	0.30	
4. COLL.MARKETING	271	0.00	1.00	0.07	
5. COLL.INFORMATION	271	0.00	1.00	0.20	
6. SPINOFF	275	0.00	1.00	0.43	
7. SERIAL	275	0.00	1.00	0.11	
8. YEARS.ENT	274	0.00	1.72	0.91	0.41
9. ACADEMY	214	0.00	1.00	0.75	
10. FULLTIME	275	0.00	1.00	0.81	
11. PRICE.HIGH	268	0.00	1.00	0.32	
12. PRICE.MID	268	0.00	1.00	0.59	

Table 3. Correlation matrix of the variables used in the logistic regression analyses

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. AMSTERDAM	1.000**											
2.COLLABORATION	0.145*	1.000**										
3. COLL.PRODUCTION	0.099	0.543**	1.000**									
4. COLL.MARKETING	0.072	0.239**	0.144*	1.000**								
5. COLL.INFORMATION	-0.042	0.507**	0.285**	0.221**	1.000**							
6.SPINOFF	0.156**	0.177**	0.147*	-0.006	0.097	1.000**						
7.SERIAL	0.007	-0.306	-0.051	-0.005	-0.061	-0.026	1.000**					
8.YEARS.ENT	0.097	-0.096	-0.049	-0.031	-0.128*	0.166**	-0.017	1.000**				
9.ACADEMY	0.098	0.049	0.094	-0.113	0.028	-0.071	0.136*	0.067	1.000**			
10.FULLTIME	0.073	0.028	-0.071	0.060	0.013	0.050	0.120*	0.024	0.049	1.000**		
11.PRICE.HIGH	-0.020	-0.070	-0.066	0.013	-0.064	0.007	0.048	0.009	-0.010	-0.023	1.000**	
12.PRICE.MID	0.016	0.003	0.063	-0.001	0.083	0.032	-0.047	0.005	0.034	-0.007	-0.831**	1.000**

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Table 4. Estimates of the binominal logistic regression models (dependent variable: average or higher income; standard errors in parentheses).

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
AMSTERDAM	0.793*	0.693	0.708	0.512	0.540
	(0.353)	(0.365)	(0.371)	(0.395)	(0.400)
COLLABORATION		1.711**		1.620**	
		(0.568)		(0.611)	
COLL.PRODUCTION			1.126**		1.139**
			(0.363)		(0.389)
COLL.MARKETING			-0.136		-0.001
			(0.625)		(0.677)
COLL.INFORMATION			-0.085		-0.102
			(0.407)		(0.431)
SPINOFF				0.735*	0.719*
				(0.359)	(0.364)
SERIAL				0.246	0.173
				(0.544)	(0.552)
YEARS.ENT				1.727**	1.747**
				(0.463)	(0.468)
ACADEMY	0.460	0.425	0.286	0.331	0.213
	(0.350)	(0.358)	(0.367)	(0.387)	(0.395)
FULLTIME	0.603	0.583	0.769	0.428	0.611
	(0.370)	(0.381)	(0.392)	(0.407)	(0.417)
PRICE.HIGH	-1.967**	-2.027**	-2.280**	-1.948**	-2.097*
	(0.709)	(0.710)	(0.821)	(0.746)	(0.848)
PRICE.MID	-1.707*	-1.781**	-2.097*	-1.709*	-1.946*
	(0.688)	(0.688)	(0.803)	(0.720)	(0.826)
Constant	0.505	0.345	0.563	-1.486	-1.405
	(0.740)	(0.748)	(0.864)	(0.902)	(1.021)
-2 Log Likelihood	259.997	249.356	245.226	229.744	226.119
Chi-square	19.996**	29.070**	31.980**	47.462**	49.859**
R Square (Nagelkerke)	0.125	0.179	0.197	0.281	0.295
Overall Percentage correct predicted	61.1	66.3	68.2	66.2	70.5
N (included in analysis)	203	202	201	201	200

** Significant at the 0.01 level.
* Significant at the 0.05 level.

[1] Note that our definition of urban amenities encompasses many aspects that go beyond the physiological environment of the city. It also encompasses the social and cultural atmosphere of a place.

[2] Social distance is defined as the geodesic distance (shortest path) in the social network, where a social tie between two inventors is defined as previously having co-authored a patent.

[3] See also Guiliani (2007), Boschma and Ter Wal (2007) and Morrison (2007) using survey data rather than patent citations.

[4] Apart from knowledge spillovers, it has also been found that the socio-professional network of the entrepreneur is often critical to the formation and early growth of new entrants (Hite and Hesterley, 2001).

[5] Definitions of creative and cultural industries tend to overlap to varying degrees in the literature, and some authors oppose their interchange-ability. Note that our definition of cultural industries is similar to that of Granham's (1987) and Scott's (2000) of cultural industries.

[6] Based on patent data, Bettencourt et al. (2006) attempt to distinguish between amenities and spillovers as explanation for the clustering of inventors in cities. They found that inventors are equally productive in larger cities and in smaller cities. Hence they conclude that amenities attract inventors to larger cities.

[7] One could still argue that Florida's explanation is based on economies, though, namely economies arising in the consumption sphere instead of the production sphere. By spatially concentrating in certain cities, members of the creative class create the required local demand for a variety of symbolic goods including arts, cinema, bar, restaurants, architecture, and the like.

[8] For more details, see AUTHOR REFERENCE.

[9] The category 20,000 to 40,000 euro income per annum captures the income levels around the modal gross income per capita in the Netherlands.

[10] Such mechanisms are known as information cascades (Bikhchandani et al., 1992).

[11] Note that we define success purely in income per year, and not on the basis of artistic 'genius', despite the fact that some fashion designers consider their work as artistic activity rather than as a commercial activity. However, one can assume that personal income and artistic success also correlate, albeit less strong than commercial success and personal income.

[12] Spinoffs might simply be more attractive collaboration partners for other designers because they outperform other entrants – implying an endogenous relationship between success and collaboration, which is a common problem in social network studies.

[13] This result is in line with the study by Marlet and Van Woerkens (2004) on the effect of the creative class on urban economic growth. They found that there exists a significant

positive relationship between the presence of cultural industries and urban economic growth, but this relationship disappears once Amsterdam is removed from the data.

[14] In our study, we also found that in the Dutch fashion design industry a third of all business networks overlapped with friendship networks.