

# CREATIVE INDUSTRIES IN THE NETHERLANDS: STRUCTURE, DEVELOPMENT, INNOVATIVENESS AND EFFECTS ON URBAN GROWTH

by

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**ABSTRACT.** Creativity is central in stimulating economic growth in cities, regions and advanced capitalist economies in general. There is, of course, no one-to-one relation of the number of firms in creative industries to economic growth. Innovation is a key mechanism explaining the relationship of creative industries with economic performance. Based on an empirical study in the Netherlands we explore the effect of creative industries on innovation, and ultimately on employment growth in cities. In the Netherlands the three specific domains of creative industries – arts, media and publishing, and creative business services – make up 9 per cent of the business population. Drawing on survey data we find that firms in creative industries are indeed relatively innovative. Yet substantial differences are found across the three domains: firms in the arts domain are clearly less innovative, most likely due to a different (less market-oriented) dominant ideology. In addition, firms in creative industries located in urban areas are more innovative than their rural counterparts. We go on to analyse how the concentration of creative industries across cities is connected with employment growth. With the exception of the metropolitan city of Amsterdam, we find no measurable spill-over effect from creative industries. The presence of the creative class (in all kinds of industries other than creative ones) appears to be a much stronger driver of employment growth than creative industries.

*Key words:* creative industries, creative class, innovation, economic growth, the Netherlands

## Introduction

Creativity plays a central role in stimulating economic growth in cities, regions and advanced capitalist economies in general. If it is to lead to economic growth, creativity has to induce market value via innovation. Creativity may also be particularly useful in knowledge-based economies, where creativity is required to convert scientific and technological knowledge into market value.

Research into the significance of creativity as a driver of economic growth increased greatly with the work of Richard Florida (2002a). His creative class focuses on the presence of people in creative professions. In fact he proposes three major factors

in the relation between the creative class and economic growth: talent, tolerance and technology. The presence of a large creative class leads to a social climate with a high acceptance of minorities and minority points of view (tolerance). In addition, the presence of the creative class improves the attractiveness of an area as a place for highly educated people to live (talent). Social diversity, creativity and talent make an area attractive as a location for (high-tech) firms and facilitate the innovativeness of organizations in this area (technology). Eventually, these three Ts will result in a relatively high economic growth. The extent to which cities and regions accommodate talent, tolerance and technology is one of the most important indicators for future economic success. Florida and colleagues (Florida 2002b; Lee *et al.* 2004) published several articles to prove these causal relations.

Studies that have replicated Florida's empirical findings in other contexts (countries outside the USA) are still few (see Boschma and Fritsch 2007). There have been various discussions on the lack of causality in Florida's (2002a) analyses. When so many causal mechanisms are assumed it is not hard to envisage reversed causality: the creative class may be enabled to grow more easily in a booming economy, rather than be the cause of economic growth. Economic growth correlates with higher incomes and, because the creative classes are often involved in producing luxury goods and services, their presence will grow in such circumstances (Manshanden *et al.* 2004). This all means that creative, and especially cultural activities, will follow economic growth rather than causing it. The value of many creative goods and services will be recognized only if the consumers' budget possibilities extend beyond a certain threshold. Creativity must be valued by a market before it can be recognized as a successful innovation (see Schweizer 2004).

Another drawback is that it is hard to delimit the creative class for research purposes. This is clearly

evident from the large number of definitions and estimations of the size of the creative class (Braaksma *et al.* 2005). The creative class is generally based on types of occupation (Florida 2002a): the 'super-creative core' and 'creative professionals'. The first group consists of people in occupations for which creativity is a must; for example, in science and technology, architecture and design, education, arts, music and entertainment. Creative professionals are active in a broad range of knowledge-intensive industries, such as high-tech, financial services, legal and care occupations, and business management. The problem is that for quantitative analyses, empirical data on the level of individuals are difficult to obtain. As an alternative, many policy and empirical studies focus on creative industries rather than on people in specific professions (Caves 2000; Turok 2003; Gibson and Kong 2005; Jayne 2005). It is easier to analyse these creative industries in terms of firm dynamics and innovation, as such data can be retrieved from contemporary databases (which usually focus on industries rather than types of profession). In this way it is also possible to analyse the assumed mediating effect of innovation on the relation between creative industries and economic growth. In creative industries the ability of firms to live or die depends on their being able to continuously introduce new products to the market (Caves 2000). Many of the relatively small innovating firms in creative industries are important sources of innovation for large corporations that 'subcontract' the creation of radically new products to them (cf. Markides and Geroski 2005).

In this paper we focus on creative industries. The empirical context of this study is the Netherlands, a country with one of the highest concentrations of creative class (Florida 2005) and creative industries. Next to this, the specific spatial context of the Netherlands makes it possible to distinguish the effects of creativity on economic growth via firms (in creative industries) and individuals (in the creative class) in one model. The city system of the Netherlands – with many cities located very close to each other – makes it possible for many people to live in a city (creative class location) other than that in which they work (creative industries location).

We aim to provide an overview of the (industrial and spatial) structure of creative industries, analyse whether such industries are indeed more innovative than other industries, and explore how the concentration of creative industries across cities is linked to employment growth. In the analysis of employment growth, we make use of datasets that allow for a

comparison with the creative class, the alternative way to represent creativity in societies. Drawing on regression analysis we assess whether the presence of creative industries rather than creative professionals correlates better with employment growth rates.

We first describe the structure and development of the creative industries, focusing on three specific domains: arts, media and publishing, and creative business services. We show that the business services domain in particular has been very sensitive to business cycle dynamics. Second, we analyse the innovativeness of the firms in the three domains and compare these to the business population in general. Third, we explore the influence of the presence of creative industries on employment growth in Dutch cities. This analysis shows that with the exception of the metropolitan city of Amsterdam, their presence is not related to employment growth.

### Structure and development of the creative industries in the Netherlands

One of the first definitions of creative industries was established in the UK by the Creative Industries Task Force of the Department for Culture, Media and Sport (DCMS 1998). Creative industries are defined as 'those activities which have their origin in individual creativity, skill and talent and which have the potential for wealth and job creation through the generation and exploitation of intellectual property'. This definition remains rather vague and provides no clear demarcation. Caves (2000, p. 1) defines creative industries as 'industries that supply goods and services that we broadly associate with cultural, artistic, or simply entertainment value. They include book and magazine publishing, the visual arts (painting and sculpture), the performing arts (theatre, opera, concerts, dance), sound recordings, cinema and TV films, even fashion and toys and games.' A recent study in the Netherlands (Rutten *et al.* 2004) defines the creative industries as those sectors in which goods and services are produced that are the result of creative labour. Content and symbolic value are important elements in this definition. In that respect, creative industries play an important role in the development and maintenance of lifestyles and cultural identities in society.

### Classification

In the past six years many theorists have asked themselves what group of industries best reflects

Florida's (2002a) creative class. The arts and media industries should, without any doubt, belong to the group, as the nature of the work in these industries clearly reflects Florida's core of super-creative professions. A classification by Rutten *et al.* (2004) also includes creative business services (consisting of architects, commercial and interior designers), in addition to the arts and the media and publishing industries. Since this classification also captures a large part of Florida's creative professionals, it was adopted for the present study. We do not claim that this fully covers the creative industries, but it does show the distinctiveness of certain parts of the creative industries. We think of the creative industry as a colourful group of industries with some distinct domains. The proposed classification of creative industries consists of three domains:

- 1 arts;
- 2 media and publishing (M&P);
- 3 creative business services (CBS).

The creative industries essentially supply informational media content that requires 'artistic creativity' as a quintessential knowledge-based and labour-intensive input (Handke 2007). The cultural products they supply serve aesthetic, broadly educational or entertainment purposes rather than any immediate 'technical' function (Throsby 2001, p. 4). Basically, creative industries may be schematized as a series of expanding concentric circles (Jacobs 2005). At the core we find the arts domain, consisting of both visual and performing arts (e.g. artists, theatre companies). There is no doubt that these are at the heart of the creative industries. More in the periphery we find media and publishing firms (e.g. photographers, broadcasters, journalists, publishing houses). These two domains also reflect Caves' (2000) definition. In the outer periphery, creative business services such as technical designers and advertising firms complete our demarcation. These firms employ many creative professionals with jobs of a clearly creative nature (e.g. designing a house, creating an advertising campaign). Other recent studies have also taken advertising (Grabher 2002) and design (Reimer *et al.* 2008) as representing creative industries. The Appendix provides more details about these domains, and lists the relevant NACE codes used for our empirical exercises (to be discussed later).

Any demarcation of creative industries is, of course, somewhat arbitrary. This is immediately clear from previous estimates of the share of crea-

tive industries within the business population of countries. Braaksma *et al.* (2005) found that, depending on one's definition, creative industries comprise between 1.7 per cent (just the arts domain) and 19 per cent of the Dutch business population (including knowledge-intensive business services such as consultants and software developers). Illustrative is that when the creative class is mapped using data at the level of individual professions, it includes as much as 47 per cent of the Dutch workforce (Florida 2005). Our classification is much narrower than Florida's (2002a) creative class, but broader than only the cultural industries (arts domain). A plea could be made for including knowledge-intensive business services such as consultancy and software firms, but here we argue that the nature of work in these industries is not necessarily creative. The creative content of such types of industries is open to discussion, because they do not necessarily produce goods or services with content and symbols that are meaningful for users. For similar reasons our classification includes no retail firms, clothes, shoe manufacturers and so forth. Such industries are borderline cases, and the creative nature of their work is debatable (Manshanden *et al.* 2004; Rutten *et al.* 2004).

Previous work in the Netherlands indicated that firms in the three domains probably cannot be treated as a homogeneous group. Rutten *et al.* (2004) discuss differences with respect to their economies of scale, sensitivity to business cycle fluctuations, sources of financial capital (credit and/or subsidies), opportunities in innovation, and managerial constraints. Table 1 summarizes these distinctive characteristics of economic activities in the three domains.<sup>1</sup>

In the arts domain, artistic performance is valued much more highly than commercial performance. This domain is very dependent on subsidies. Businesses in this domain rarely have an explicit innovation strategy. The media domain is very dynamic, with many new entrants and collaborations and, with the exception of the public broadcasting organizations and parts of the movie industry, the market mechanism dominates here. The organizations in this domain often innovate explicitly in order to improve their business proposition (e.g. supplying new content to corporate websites). Creative business services work on a commercial basis; they offer tailor-made solutions to their clients. Their activities are very innovative, either directly or by enabling innovation by their clients. Because of these features, firms in different domains are likely

Table 1. Features of creative firms in three domains

Feature	Arts	Media and publishing	Creative business services
Dominant ideology	<ul style="list-style-type: none"> <li>– Artistic</li> <li>– Autonomous</li> <li>– Fundamental creativity</li> <li>– Non-commercial attitude</li> </ul>	<ul style="list-style-type: none"> <li>– Popular</li> <li>– Market focus</li> <li>– Joint production and authorship</li> </ul>	<ul style="list-style-type: none"> <li>– Customer focus</li> <li>– Functionality of products</li> <li>– Applied creativity</li> </ul>
Share of subsidies in total revenues	<ul style="list-style-type: none"> <li>– Very high</li> </ul>	<ul style="list-style-type: none"> <li>– Partially</li> </ul>	<ul style="list-style-type: none"> <li>– Small</li> </ul>
Most important client	<ul style="list-style-type: none"> <li>– Governments</li> </ul>	<ul style="list-style-type: none"> <li>– Private consumers</li> </ul>	<ul style="list-style-type: none"> <li>– Large businesses</li> </ul>
Production features	<ul style="list-style-type: none"> <li>– Small-scale</li> <li>– Labour-intensive</li> <li>– Both individual and collective production</li> <li>– User does not influence output</li> </ul>	<ul style="list-style-type: none"> <li>– Complex, large-scale, large-scale users of IT, large capital stock</li> <li>– Open culture</li> <li>– Much cooperation</li> </ul>	<ul style="list-style-type: none"> <li>– Usually small-scale</li> <li>– Labour-intensive</li> <li>– Influence of business cycles</li> <li>– Flexible assignments of employees</li> </ul>
Output	<ul style="list-style-type: none"> <li>– Unique products or small series</li> </ul>	<ul style="list-style-type: none"> <li>– Standardized</li> </ul>	<ul style="list-style-type: none"> <li>– Tailor-made</li> </ul>
Source of innovation for non-creative industries	<ul style="list-style-type: none"> <li>– Hardly ever</li> </ul>	<ul style="list-style-type: none"> <li>– Occasionally</li> </ul>	<ul style="list-style-type: none"> <li>– Nearly always</li> </ul>

to perform and grow in various ways and under various circumstances.

#### *Industrial structure*

The number of firms in the creative industries has grown enormously in the past decade. However, the creative industries were not immune to the recession at the beginning of the twenty-first century that had a severe impact on the Dutch economy. Creative industries, with the exception of the arts domain, faced a net loss of business in the 2002 to 2004 period. Creative business services in particular – being dependent on large business clients who faced a severe decrease in demand themselves – have always been very sensitive to business cycle dynamics, both in a positive and a negative sense. On the other hand, the arts domain is relatively unaffected by market mechanisms and thus, to some extent, is insensitive to short-term business cycle dynamics. In the Netherlands arts firms are greatly dependent on public funding. Table 2 presents changes in the number of firms across the three domains since 1994. Creative industries generally realized better growth than other industries in terms of numbers of firms, except during the period 2002 to 2004.

Table 2 also shows that in 2004 creative industries in the Netherlands consisted of 56 900 firms; about 9 per cent of the Dutch business population. The majority of these businesses are self-employed entrepreneurs. Creative industries are dominated

by relatively small-scale activities, most likely because (firm-internal) economies of scale are hard to achieve in their creative activities, and because their work is labour-intensive (Canoy *et al.* 2005). Only 5 per cent of the businesses in creative industries employ ten or more employees, compared to almost 9 per cent of the Dutch business population in general. A high share of large firms is to be found only in media and publishing. The relatively small scale of most of the activities is also reflected in the employment share of creative industries: 5 per cent of all employment in the private sector, although they account for 9 per cent of all private firms.

These figures also confirm some of the differences across the three domains already mentioned (see Table 1). One example is the relatively large share of part-time workers in the arts domain ( $17.7/67.0 = 26\%$ ). It suggests that work in the arts domain often does not constitute the primary source of income. The arts domain has a reputation for consisting of many entrepreneurs that are more oriented towards artistic than business values (Rutten *et al.* 2004). In the other two domains the share of part-time workers is much lower.

#### *Spatial structure*

It is well known that creative industries are often concentrated in (metropolitan) cities (Pratt 1997; Power 2003; Turok 2003; Power and Scott 2004; Reimer *et al.* 2008). The creative industries in the

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Table 2. Development and structure of firms in creative industries across three domains

Feature	Domain				
	Arts	M&P	CBS	Creative industries	All industries
Average change ( $\Delta$ no. of firms in two-year periods):					
1994–1996	6.8%	6.8%	10.2%	8.6%	4.2%
1996–1998	5.5%	3.6%	9.1%	7.2%	5.9%
1998–2000	5.0%	2.4%	7.1%	5.7%	0.3%
2000–2002	4.7%	1.3%	-2.4%	0.4%	-2.7%
2002–2004	3.1%	-3.9%	-3.3%	-1.4%	-1.2%
Number of firms in 2004:					
no employees	18 100	8300	30 500	56 900	642 900
1–9 employees	63.6%	65.9%	68.5%	66.6%	53.6%
10–99 employees	33.3%	27.6%	25.6%	28.3%	37.6%
100 or more employees	2.9%	5.5%	5.6%	4.7%	8.1%
Employment in 2004 (* 1,000 persons):	0.3%	0.9%	0.3%	0.4%	0.7%
>= 12 hour per week	67.0	63.9	161.6	292.5	5541.2
< 12 hour per week	49.3	57.4	147.5	254.2	
	17.7	6.5	14.1	38.3	

Source: Braaksma *et al.* (2005).

Netherlands are no exception to this (see Fig. 1). The strongest concentration may be found in the north wing of the Randstad, which is the main agglomeration in the Netherlands, and includes the cities of Utrecht and Amsterdam. The strong concentration in the – relatively rural – area in between these two major cities may largely be attributed to the location of the Dutch broadcasting industry in the Gooi region: in this region the employment share of the creative industries is the highest in the Netherlands (22%). The lowest shares of the creative industries may be found in the rural peripheral regions of the country.

The metropolitan area of Amsterdam is a concentration area of all the three domains of the creative industries (cf. Bettencourt *et al.* 2007), while the province of Utrecht is particularly strong in media and publishing. Of the three domains, the creative business services are most evenly spread over the country. This is no surprise as, on the whole, creative business services work for business clients including government agencies, manufacturers, banks and insurance companies, project developers and construction firms. These firms are distributed fairly equally across the country although they are, of course, less well represented in the most peripheral regions.

**Innovativeness of firms in creative industries**

To explore the innovativeness of firms within the three domains we analysed a database provided by

EIM Business and Policy Research, a Dutch research institute with a focus on entrepreneurship and small firm dynamics. Our database is compiled using an annual survey that measures how small and medium-sized enterprises (SMEs) organize their business processes. This Business Processes Survey (BPS) covers various topics, including marketing, strategy, human resource management, planned investments, perceived competition and also innovation. It was initiated in 2004 because in the Netherlands no other publicly funded data source records how SMEs organize their business processes. For example, the Dutch version of the Community Innovation Survey does measure how firms innovate, but excludes firms below a threshold of ten employees (CBS 2005) from this survey with, as a consequence, most firms in creative industries being overlooked.

*Data and indicators*

The BPS draws on telephone interviews rather than internet or pen-and-paper surveys. This is to obtain better response rates, since in many industries respondents are hardly motivated to participate in surveys (e.g. hotels and restaurants, car repairs, low-tech manufacturers). Respondents are always those who are in charge of daily operations, usually the owner-manager or otherwise the general manager. For any survey EIM tries to contact a respondent at least five times before he or she is marked as a non-respondent.



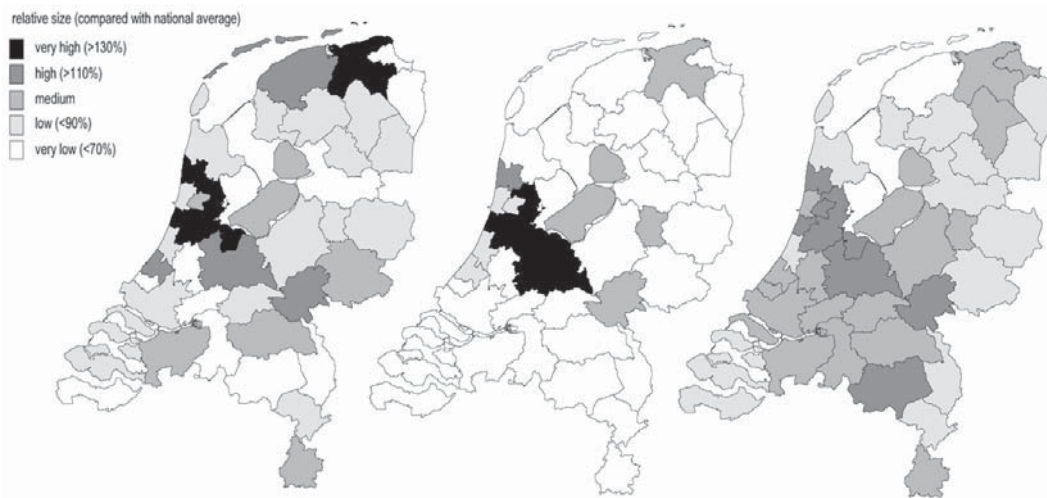


Fig. 1. Spatial distribution of employment in the creative industries (arts, media and publishing, and creative business services) in the Netherlands

To analyse the innovativeness of firms in creative industries we used data collected in the first three waves of the survey; that is, respondents in the period from 2004 up until and including 2006. Our database contains responses from 10 553 firms. A total of 924 firms were located in creative industries, while other firms belonged to other sectors including agriculture, manufacturing, construction, wholesale, retail, hotels and restaurants, transport and communication, financial services and non-creative business services. Altogether we had respondents from 135 firms in the arts domain, 190 from media and publishing, and 599 in creative business services. Compared to the general business population in the Netherlands, arts firms are somewhat underrepresented at the expense of media and publishing and creative business services. We did not expect this to compromise our findings, but as a check we repeated our analyses with weighted responses (weighing up to a representative sample in terms of industries and size classes). Since this check provided similar results, we here present our unweighted output.

Although the database was not specifically created for the current paper, its innovation questions are well suited for empirically testing our hypotheses. We had nine innovation indicators at our disposal: four of them related to innovative outputs and the remainder related to the innovative inputs of SMEs. All indicators are very similar to the ones in the OECD's (2005) *Oslo Manual* for the construction of innovation surveys. One major differ-

ence, however, is that innovation was defined more broadly. The Community Innovation Survey defines innovation from a technological point of view: 'technological product and process innovations comprise implemented technologically new products and processes and significant technological improvements in products and processes' (OECD 2005, p. 31). The BPS employs a much broader definition; innovation is defined as all implemented products and processes which are new to the firm and the aim of which is to provide some kind of benefit (cf. King and Anderson 2002). This definition enables the BPS to cover a wider range of innovative activities in SMEs, rather than just technological innovation. Innovative outputs of firms were recorded by asking for any new or significantly improved (1) products or services, (2) products or services that were also new to the industry rather than just new to the firm, (3) business processes and (4) distribution methods, implemented in the past three years. These objects of innovation are based on the Community Innovation Survey (OECD 2005) and recorded using dichotomous answers. For example, product innovation is measured by asking: 'Did your firm implement any new or significantly improved products or services in the past three years?', to be answered with either 'Yes' or 'No'. The other five indicators dealt with innovative inputs: (5) presence of a documented innovation plan, (6) use of external networks to exchange knowledge, (7) participating in partnerships to develop innovations, (8) employment of

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Table 3. Innovation features of firms in creative industries (2004–2006)

	Creative industries (n=924)	Other industries (n=9,629)	F-value (I)	Domain			F-value (II)	Urban vs. rural		
				Arts (n=135)	Media and publishing (n=190)	CBS (n=599)		Rural (n=545)	Urban K31 (n=379)	F-value (III)
Innovative output in past three years:										
– New product or service introductions	54%	44%	39.4***	58%	45%	57%	4.1*	52%	57%	1.9
– Products or services new to the industry	29%	24%	14.2***	26%	21%	33%	5.4**	26%	32%	2.9
– Process innovation	69%	67%	2.0	64%	62%	73%	5.0**	66%	74%	5.7*
– Innovation in distribution systems	31%	24%	13.7***	34%	27%	32%	0.7	27%	35%	4.2*
Innovative inputs:										
– Documented innovation strategy	41%	35%	10.2**	32%	26%	47%	11.6***	39%	42%	0.9
– Use of external networks to exchange knowledge	61%	51%	34.0***	54%	59%	63%	2.4	57%	67%	6.9**
– Cooperation to develop innovations	57%	44%	62.1***	57%	52%	59%	1.7	54%	60%	3.5
– Employment of specialised innovation workers	65%	60%	8.7*	62%	54%	70%	8.1***	65%	67%	0.4
– Recent expenditures on training or education	59%	58%	0.1	62%	53%	61%	1.1	54%	65%	4.3*

Notes: \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05.

specialized innovation workers, and (9) having had recent expenditures for training and education.

*Analysis and results*

Our analysis of innovation indicators consisted of three steps. We first used one-way analysis of variance to test for any significant differences between firms in creative industries (924 cases) and firms in other industries (9629 cases). Next, we investigated whether any differences could be revealed between the three domains of the creative industries (arts versus media and publishing versus creative business services). Finally, a comparison was made between creative firms in urban areas and those in rural areas. All differences were tested for significance using one-way analysis of variance, and, in addition, a number of robustness tests were performed.

Results in Table 3 confirm that SMEs in the creative industries are indeed more innovative than the average SME in other industries in the Netherlands. They particularly excel in product innovation, as the share of firms with recent new product or service introductions is clearly higher, also when product introductions new to the industry are taken into account. Firms in creative industries realize inno-

vation in distribution systems more often. In addition to innovative outputs, firms in creative industries are also more used to investing in and being occupied with innovation practices. They document their innovation plans more often, use external networks and participate in innovation partnerships more frequently and a higher share of firms employs specialized employees for innovation purposes. Firms in creative industries appear to embrace ‘open innovation’ practices (Chesbrough 2003) more strongly than the average business in the Netherlands; this is reflected in the high share of businesses in the creative industries that use external sources or cooperate with other organizations to innovate.

We went on to investigate if any differences could be found between the three domains of the creative industries. Table 3 shows these differences to be more subtle. On the whole, firms in the media and publishing domain are modest in their innovative outputs and inputs. On most indicators media and publishing firms cannot compete with their counterparts from the arts and business services domains. The most distinctive differences are related to the documentation of innovation strategies and the employment of specialized innovation workers. It seems that, in media and publishing, innovation

is an implicit part of daily operations and less often regarded as something that requires explicit actions. Table 3 also shows that, in general, firms in the creative business services domain are most innovative; one striking difference with the arts domain is the share of firms with products introductions new to the industry (33% vs. 26%). A similar result is found for the frequency of innovation planning and the assignment of specialized innovation workers.

In the third and final step, we analysed if creative firms in urban areas are more innovative than firms in rural areas. It appeared that 545 cases were located in rural areas while the remainder (379 cases) were in an urban area. We used the K31 classification of the thirty-one core cities (administrative municipalities) in the Netherlands to distinguish between urban and rural (see Van Oort 2002). Table 3 shows that firms in urban areas perform better on all innovation indicators, but the differences are not large and are significant for only four indicators. Creative firms in urban areas realize more process innovations and innovations in their distribution systems. They also have a higher share of firms with external networks for exchanging knowledge, and recent expenditures for training and education. It seems that cities provide more opportunities for networking and demand more knowledge-intensive strategies.

We performed a number of alternative univariate analysis of variance models to check our findings. Log transformed firm size and industry dummies were entered as control variables. For the comparison between creative and other industries, we entered dummies for high-tech manufacturing and services firms (low-tech manufacturing as reference group). In the other analyses we used dummies for media and publishing and creative business services (arts domain as reference group). After checking for variations in firm size and type of industry, all differences remained significant. We found estimates of F-values and significance levels similar to the ones reported here.

### **Creative industries and urban economic growth**

It has been said that urban environments are more conducive to creative activities than their rural counterparts (cf. Jacobs 1961; Hall 1998; Florida 2005). This would mean that the direct employment effect of the creative industries is especially relevant in cities, because employment in these in-

dustries grew substantially in the past ten years. However, if creative industries also have the claimed effects on innovation and entrepreneurship, a concentration of these industries in cities should also result in spill-over effects (cf. Scott 2000). These spill-overs to other economic activities could then be traced in the increased competitiveness of regions with concentrations of creative industries.

In this section we deal with the question of whether a concentration of creative industries has a positive effect on the competitiveness of a region. We measured competitiveness with the only available empirical indicator, namely employment growth. This leaves aside the potential relations with other competitiveness indicators such as productivity. In order to trace these – localized – spill-overs we used the municipal spatial level of analysis, the thirty-one core cities in the Netherlands. (see Fig. 3 for the location of these core cities in the Netherlands).

A cross-sectional analysis with several regression models was used to estimate the relation of various factors with employment growth in cities in the Netherlands in the period 1994 to 2004. Several control variables, based on existing urban economics literature, were used, including sectoral diversity (Jacobs 1969), some indicators for industrial concentration (Porter 1990),<sup>2</sup> population growth, unemployment rates and access to jobs (labour market potential) as indicators of urbanization and agglomeration economies, and traffic congestion as an indicator of diseconomies. The share of creative class in the city (Florida 2002a) is also among the control variables discussed; this differs from creative industries because it measures the number of people with creative occupations living in the city rather than the firms active in creative industries located in the city. As expected, the share of the creative industries and the share of creative class in a city are correlated; however, less so than one would expect with such similar indicators of creativity: the correlation coefficient is only 0.6 (see Fig. 2).

Most cities in the upper right-hand part of Fig. 2, combining a relatively high share of creative industries with a large creative class, are located in the Western – most urbanized – part of the country, but there are also important exceptions and differences (see Fig. 3).

There are cities that have relatively many creative residents, compared to the city's share of creative industries. Examples of this category are the



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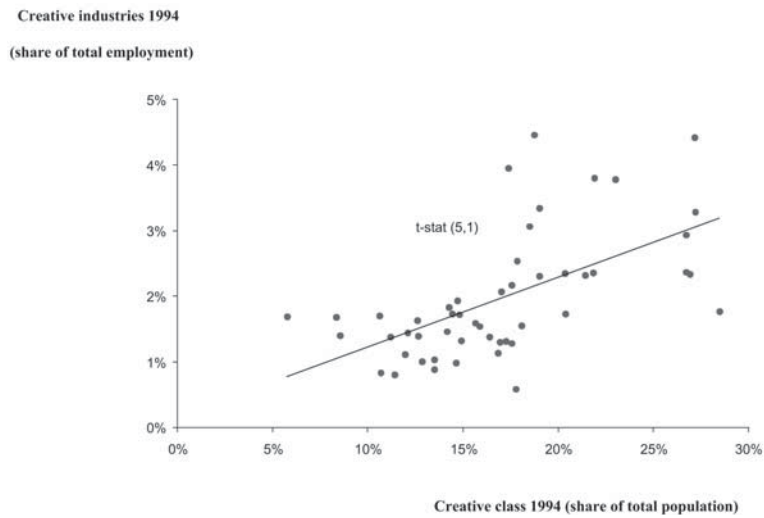


Fig. 2. Correlations between creative class and creative industries in the fifty largest cities of the Netherlands

city of Leiden, a relatively small university town located near The Hague and Groningen, a city with a large university located in the most northern part of the Netherlands. There are also cities with relatively few residents in creative occupations, compared to the city's share of creative industries. One example is Hilversum, located near Amsterdam and the broadcasting centre of the Netherlands.

The absence of a perfect correlation between the location of creative firms and the location of creative labour may be explained by the city system of the Netherlands, with many cities located very close to each other. Thus, in the Netherlands, many people are easily able to live in a city other than that in which they work. This specific spatial context makes it possible to distinguish the effects of creativity on economic growth via firms (in creative industries) and individuals (in the creative class) in one model. The results of the model estimations are shown in Table 4.

The models provide relatively high R-squares (47.1 and 47.7 for models III and IV) compared to other attempts to explain urban growth differences in the Netherlands (cf. Van Oort 2002), which increases our confidence in the quality of our model specification and the absence of possible important omitted variables. In our first model containing the share of the creative industries in the business population of a city (model II), our variable of interest is significantly related to employment growth in a city. However, the share of people belonging to the creative class in a city seems to be a stronger determinant of employment growth (model III). If we take Amsterdam out of the sample (model IV), the

creative industries are no longer related to employment growth, although the relation with the creative class remains positive and significant. This might indicate that the positive employment effect of creative industries takes place only in the metropolitan area of Amsterdam. It seems that the creative industries matter only for urban competitiveness in Amsterdam, and not for other cities in the Netherlands.

Most cities in the Netherlands are relatively small, with only one city (Amsterdam) having more than one million inhabitants. It could be argued, therefore, that perhaps only Amsterdam is 'urban' or metropolitan enough to accommodate a concentration of creative class or industries in the Netherlands, or more specifically a spill-over effect from these activities. Perhaps a critical mass of creative activities is necessary to achieve a substantial effect on the local economy, but the creative industries indicator could also serve as a proxy for other specific advantages of Amsterdam. However, the rise of the creative industries seems to have had the most favourable direct and indirect effects in Amsterdam and these were probably one of the most important drivers of the resurgence of the Amsterdam economy in the second half of the 1990s (cf. Rutten *et al.* 2004, pp. 44–45).

Our analyses included a number of checks on robustness. First, the analysis at the city level could be too narrow if creative industries in neighbouring areas also affect urban economic growth. We took this into account with analyses of the regionally weighted averages of the share of creative industries (creative industries in the region). The as-



Fig. 3. Creative class as share of total population in the thirty-one core cities in the Netherlands (dark = high, white = low)

sumption is then, for example, that all regions profit from the design industry in Amsterdam, but that neighbouring regions profit more than regions further away. Again, the proximity of concentrations of creative industries had a significant positive relation with employment growth; this disappeared when Amsterdam was left out of the sample.

We realize that the thirty-one core cities used in the regression is a rather small sample; we therefore conducted the same analyses using a sample of the fifty largest cities and towns in the Netherlands, the results remaining largely unchanged. Further robustness checks were executed by using another broader definition of creative industries, including, for example, bookstores (see Marlet and Poort 2005). We also tried several other periods of growth and every variable was included and excluded separately. In all cases our main findings turned out to be robust.

If we take a closer look at the control variables, we may conclude that population growth is the strongest determinant of employment growth,

while unemployment, lack of sectoral diversity, share of employment in manufacturing (concentration) and congestion all have a relatively strong (negative) relation. However, most important, in all cases the presence of the creative class was found to have a much stronger and more persistent positive relation with employment growth in cities than had the creative industries.

### Conclusion

The aim of this paper is to provide an overview of the (industrial, spatial) structure, development, innovativeness and employment effects of the creative industries. The creative industries have grown enormously in the past decade. The creative industries are often treated as a homogeneous group in policy and research. In this paper we have shown that there are very distinctive domains within the creative industries that differ with respect to their dominant ideology, output markets, production

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Table 4. Creative industries and employment growth in cities (1994–2004)

	I	II	III	IV (without Amsterdam)
% Creative industries		0.0058 (4.68)***	0.0028 (2.38)**	0.0015 (1.03)
Control variables				
% Creative class	0.88 (5.30)***		0.57 (3.73)***	0.48 (2.26)**
Population growth	1.17 (6.67)***	1.27 (3.60)***	1.14 (4.87)***	1.24 (6.32)***
Congestion	-0.05 (-0.99)	-0.13 (-3.7)***	-0.10 (-3.6)***	-0.06 (-1.79)*
(Lack of) sectoral diversity	-0.42 (-1.54)	-0.57 (-2.6)***	-0.43 (-2.03)*	-0.36 (-1.33)
Share manufacturing	-0.27 (-1.56)	-0.29 (-2.48)**	-0.20 (-1.58)	-0.24 (-1.74)*
Unemployment	-0.90 (-1.88)*	-0.48 (-1.32)	-0.72 (-2.21)**	-1.03 (-2.93)***
Method:	WLS	WLS	WLS	WLS
N	31	31	31	30
R <sup>2</sup> adj.	44.0%	31.9%	47.1%	47.7%

Notes: \*\*\* p < 0.01; \*\* p < 0.05; \* p < 0.1

features, employment growth, sensitivity to business cycles, and innovativeness.

The creative business services domain in particular is very sensitive to business cycle dynamics, while the arts domain is relatively unaffected by these dynamics. Firms located in urban areas are more innovative than their rural counterparts: not only is there a higher presence of creative industries in urban areas, but these urban firms are also substantially more innovative. On average, firms in creative industries are more innovative (based on nine indicators) than firms in other industries. Only the firms in the arts domain are usually less innovative, most likely due to a different (less market-oriented) dominant ideology. Creative business service firms within creative industries invest much more in innovation than do firms in the other domains.

Our analyses show that firms in the creative industries are more innovative than firms in other industries and that creative industries in urban areas are more innovative than their counterparts in rural areas. Employment growth within these urban areas is more strongly determined by the presence of creative class than creative industries. The analyses show that, with the exception of the metropolitan city of Amsterdam, there is no relation of the presence of creative industries with employment growth. In general, it seems that a concentration of creative industries is a less important determinant for employment growth in cities than a concentration of creative people/creative class. Creative industries do not seem to

act as a catalyst for the effect of knowledge (spillovers) on urban economic growth in general. This seems to occur only in the metropolitan city of Amsterdam. This role is more likely to be taken by the creative class, which was shown to have a much stronger relation with employment growth than the creative industries. If the objective of local economic policy is employment growth, improving living conditions for the creative class (see Marlet and van Woerkens 2005) could be more effective than creating conditions for stimulating the creative industries, which is currently widespread policy in the Netherlands (Raes and Hofstede 2006). If the objective is not specifically employment growth, but is more focused on the innovativeness of the business population, creating conditions to stimulate the creative industries seems a reasonable policy, as we have shown that firms in the creative industries are more innovative than firms in other industries. However, our study shows that the creative industries are very heterogeneous; businesses in the distinctive domains face different constraints. One policy to stimulate all the creative industries will be less effective than more specific policies tailored to the nature of the specific domains.

Our findings call for a focus on living conditions and labour markets (cf. Houston *et al.* 2008) attracting and retaining individuals in the creative class, instead of business conditions for attracting firms belonging to the creative industries if employment growth in cities is the objective. Only in very specific

urban environments, such as the metropolitan city of Amsterdam, does a policy to attract and stimulate business activities in the creative industries seem to be justified. Perhaps metropolitan environments distinguish themselves from other lower order cities by their intensive social and cultural activity (including creative industries) that provides a source of inspiration for other economic activities (Jacobs 1961; Drake 2003), the local 'buzz' of unpredictable, innovative interactions (Storper and Venables 2004).

The results indicate that spill-overs are created particularly at the place where people live, not so much at the location of firms. This picture confirms the image of the city as a place where new ideas are generated and where knowledge is accumulated by individuals (Jacobs 1984; Hall 1998). The question is how these spill-overs occur: via productivity, consumption, or new businesses? Existing evidence appears to indicate the mechanism of new business creation (see Lee *et al.* 2004; Marlet and van Woerkens 2004; Van Aalst *et al.* 2006; Boschma and Fritsch 2007; Reimer *et al.* 2008): individuals belonging to the creative class start new businesses (within and outside the three domains of the creative industries). There may also be a consumption effect via the residential preferences and local consumption of the creative class. More research is needed to uncover the underlying mechanisms and to disentangle their effects on the growth of cities.

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### Notes

1. This characterization is based on observations in the Netherlands, which may not apply to creative industries in other countries (see Izushi and Aoyama 2006; Lorenzen 2007).
2. To indicate sectoral diversity we used the Hirschman-Herfindahl index. This is equal to the squared sum of the shares of various sectors. Concentration is indicated by the share of manufacturing employment in total employment.

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## APPENDIX: DEFINITION OF CREATIVE INDUSTRIES

Domain	Industries	NACE codes	Description
Arts	Visual arts	92.31	Artistic and literary creation and interpretation
		74.81	Photographic activities
		92.5	Library, archives, museums and other cultural activities
	Performing arts	92.32	Operation of arts facilities
		92.34	Other entertainment activities n.e.c.
Media and entertainment	Media	92.11	Motion picture and video production
		92.12	Motion picture and video distribution
		92.13	Motion picture projection
		92.20	Radio and television activities
	Publishing	92.40	News agency activities
		22.11	Book publishing
		22.12	Newspaper publishing
		22.13	Journal and periodical publishing
		22.14	Publishing sound recordings
		22.15	Other types of publishing
Creative business services	Technical design	74.20	Architectural and engineering activities and related technical consultancy
	Advertising and non-technical design	74.40	Advertising
		74.87	Interior and fashion design