

Creative Industries as a Flywheel



A study commissioned by Creative Amsterdam

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The value of the creative industries to the economy and society has generally been viewed in terms of jobs created and contribution to gross national or regional product. This study shows that it's time to reassess the industry's image and its social and economic significance. It looks beyond job creation and contribution to GDP of the creative industries, to possible broader social and economic added value. In particular it examines the specific positive external impact of the creative industries on our society and economy and the sector's contribution to innovation. The creative industries, it seems, is not merely another sector but is also a driving force behind various economic and social processes. The sector is characterized not only by a relatively high growth rate but also by extensive crosslinking with other sectors and branch industries. This crosslinking not only occurs through customer and supplier relations, but also through staff migration from one branch to another, resulting in knowledge transfer beyond specific branch boundaries. It is precisely the knowledge and specific skills of these creatively active professionals fanning out from creative industries companies which is of particular interest here. As our economy continues to emerge as a creative economy this knowledge and these skills are of crucial importance. The broader added value of the creative industries manifests itself in the contribution by creatively active professionals to innovation and competitiveness in the broader economy. This development is clearly identified in the study and should be further investigated. The research focus should move away from a static view of creative industries as a sector which creates jobs and wealth and focuses more on the dynamic which the core competencies and skills emerging from the sector can bring about in society and the broader economy. This should be taken into consideration in policy-making.

The creative industries have long been of interest to policy makers, scientists and politicians but now entrepreneurs and sector organizations are also showing more interest. The creative industries deal with the creation, production and exploitation of all kinds of significance and symbolism aimed at not only consumers and citizens but also commercial customers. Three subsectors are identified in the Netherlands, each with its own dynamic; media and entertainment, the arts and cultural heritage and creative business services.

In the past decade, most studies into the creative industries focused on definition and delineation of the sector and the mapping of associated economic value and job creation. These mapping studies have generally identified the creative industries as a distinct sector with above average growth. At the same time there is a growing recognition of the special role the creative industries play in the modern economy, and that the sector also, and above all, provides a dynamic beyond its own ranks. These issues are further addressed in this study. Creative Amsterdam, a consortium of the cities Amsterdam, Utrecht, Zaanstad, Haarlem, Alkmaar, Hilversum and Amersfoort in conjunction with the Amsterdam Chamber of Commerce, the Amsterdam Innovation Motor (AIM) and the Regional Innovation Taskforce Utrecht (TFI) will, through this study, trace the broad economic and social significance of the creative industries and thence formulate broader policy options.

This study shows that creative industries sectors are well embedded in the economy of the 'Noordvleugel'. In particular radio and television, publishing and advertising play an important role. The interconnection of creative industries sectors with each other and the rest of the economy can be determined by observing how personnel switch from one branch to another. When personnel can easily switch between sectors it is clear that similar skills and knowledge are required in these sectors; they are skill-related. The resulting overlap in economic domains forms a basis for cooperation and knowledge sharing and can even lead to professionals from creative industries switching to, for example, financial services. Regions with a diversity of sectors which are thus connected have a clear advantage over regions with diversity, but lacking in knowledge and skills. It is this so-called connected diversity that is important for innovation and the resilience of the regional economy. Well embedded companies and sectors can recruit from neighbouring sectors. Hereby, innovation is stimulated because of fresh insights brought by these new recruits. New combinations form the basis for innovation. Knowledge spillovers occur through this movement of personnel between companies and sectors and are a prerequisite for innovation.

By building on the combination of existing knowledge and skills in creative industries and ICT, the 'Noordvleugel' can develop new economic sectors. Examples of this are gaming or more generically cross media. The latter concerns the development whereby individual channels are less important for the exploitation of content in creative industries. Currently there exists an amalgam of digital networks and platforms which, often in combination, can be used to connect message content and target group, and often on a one to one basis. The strong regional position of ICT services is hereby of great importance. Government policy can play a crucial part in this development. The business community on its own is not always capable of making the necessary connections at regional level to create opportunities. These connections are often outside the scope and direct economic interests of individual companies. The fact that the digital media economy is global to a large extent can be seen as an important complicating factor. As a result regional strengths must be established in a global setting wherein allotment of tasks takes place based on a dynamic which, certainly in the case of a small country like the Netherlands, can only to a limited degree be regionally influenced. Often countries with a large market and therefore larger companies set the tone. Nevertheless government policy, by good positioning of a suitably related variety of knowledge and skills, can support regional strengths. However, network formation between branch organisations, companies and knowledge institutions is indispensable to support the policy process.

Embedding of sectors in the economy is an important pre-condition for contributing to innovation. The fact that talent migrates from creative companies to other sections of the economy does not necessarily mean a substantial contribution to innovation and economic growth. This theory is plausible in view of the results of years of research into innovation dynamics in regional economics.

Those in creative occupations outside the creative industries constitute, with their colleagues within the sector, a highly productive labour potential within the Dutch economy. Their mobility in the labour market ensures a developing knowledge environment which is essential for innovation and competitiveness, in the regional economy. Nevertheless, we examined the relationship between the interests of the creative industries and the creatively active professionals on the one hand and economic growth on the other. Ultimately, there is a clear link between the percentage of the super creative core residents in the fifty largest cities in the Netherlands and the economic growth of those cities. This link is not apparent in the number of jobs in creative industries in those cities.

This would suggest that not the location of the creative industries companies, but the place of residence of the creative individuals is the influencing factor in the creation of competitive advantage, innovation and economic growth. This would seem to advocate less for sector policy, and more for a policy geared to accommodation of creative individuals by providing them with an attractive living environment. We would argue that such a rigorous step should not be taken lightly and propose to investigate these issues further. This is partly due to the influence the methods used may have had on the study.

Ideally we wanted to determine the relationship between economic growth in the fifty largest cities in the Netherlands and the number of creative occupations in the city, both in and outside the creative industries. Now we have limited ourselves to two variables that approximate to the ideal situation. The first variable, the total number of jobs in the creative industries, seems unrelated to the economic growth in the fifty largest cities in the Netherlands. With regard to the second variable which we brought into play, the percentage of residents of a city which can be considered a part of the so called super creative core, there does seem to be a positive correlation with economic growth. The problem here is that this category is broader than the traditionally considered creative occupations from the creative industries both inside and outside the sector. However, this relationship is an important indicator as to the position of creative professionals in the urban economy. It is interesting to note that in drawing this conclusion the subsector art and cultural heritage appears on the scene via a back door. Arts and cultural heritage produce no directly measureable positive economic effect. However they attract creative individuals who are crucial for an innovative and competitive economy. Thus they do have an indirect positive economic effect.

The former static view of the creative industries, that of a more or less isolated collection of branches, is no longer valid. This should be replaced by a more dynamic view of a sector which, in interaction with other sectors, supplements the dynamic of innovation within the modern creative economy. The importance of this dynamic function appears to outweigh the static function.



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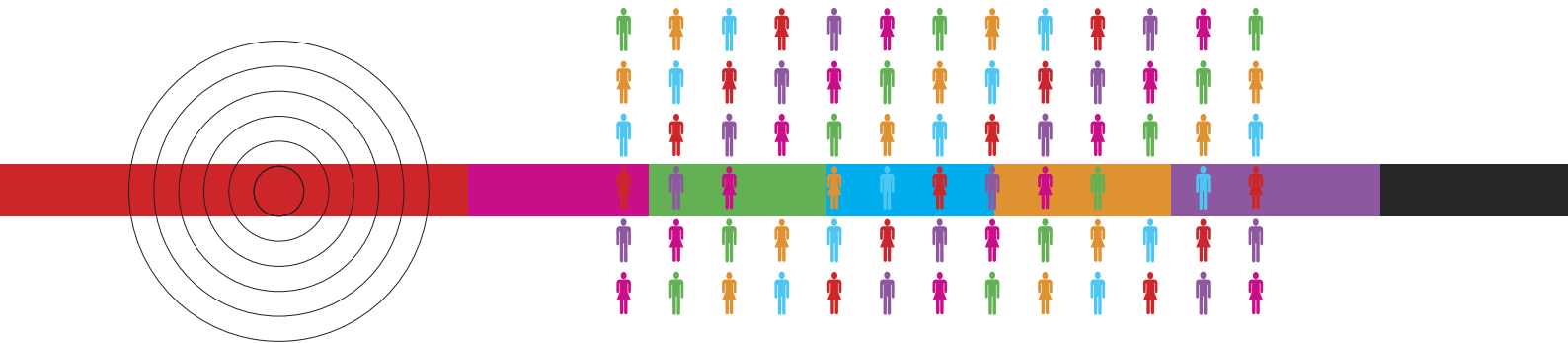
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Chapter 1

Introduction and problem formulation

This study deals with the value and significance the creative industries have for the economy of the cities in the consortium CREATIVE AMSTERDAM. These are Amsterdam, Utrecht, Zaanstad, Haarlem, Alkmaar, Hilversum and Amersfoort. Besides the cities mentioned this network includes a number of organisations; the Chamber of Commerce Amsterdam, the Amsterdam Innovation Motor (AIM) and the Taskforce Innovation Utrecht Region (TFI).

1.1 Broader added value

Particular attention is paid here to the broader added value the creative industries have to the economy and society. This goes further than the creative industries contribution to gross national product and national employment. The creative industries should function as a flywheel for the broader economy and be of special significance socially.

Research into these broader effects is necessary and desirable because decisions within local and regional economic and social policy agendas are generally based on empirical evidence. Indeed when the real possibility of such positive external effects should arise, policy should reinforce them. For this reason CREATIVE AMSTERDAM is investigating the existence of such effects and will try to quantify them. Particular attention will be paid to the sector information and communication technology because of the close links between ICT and developments in the creative industries over the past decades.

To this end the study has three goals:

- To determine the significance of broad added value of the creative industries, possibly in relation to the ICT sector;
- To quantify the broad added value of creative industries and ICT;
- To develop an instrument for the determination of this value.

1.2 Core questions

Compared to most previous studies into the creative industries the area of focus here will be broader. Core questions for the proposed study are:

- Do the creative industries have a broader added value for society and the economy which goes beyond a contribution to national employment and gross domestic product (GDP). How does this arise and how can it be empirically established? What is thereby the significance and importance of ICT?
- What positive external effects can be identified? What do the creative industries contribute to innovation? What is thereby the possible role of ICT?
- How can this pattern be established in order to understand the development of broader added value of the creative industries?

The economic and social significance of the creative industries is a much debated topic. In this study the core questions are looked at from different perspectives. The 'claims of the creative industries' of certain positive social and economic effects are investigated and modeled. In the following chapter we will look more closely at previous investigations into the creative industries and develop further our approach for this study.

In **chapter 3** we establish the concrete reference points for the empirical investigation based on a perspective developed in a previous study. From this perspective precisely the different ways in which the creative industries achieve their economic and social significance will be looked at. In the following chapters the development of the creative industries and information and communication technology in the CREATIVE AMSTERDAM receives attention.

In **chapter 4** the direct significance in the CREATIVE AMSTERDAM, with respect to the rest of the fifty largest cities in the Netherlands, of the creative industries and ICT (including the various segments) is first examined. This significance is measured by the percentage of jobs in the total labour market. A comparison between the CREATIVE AMSTERDAM cities and other Dutch cities gives a better indication of relative significance than a national average. This is because previous studies have shown that creative industries occur mostly in an urban environment.

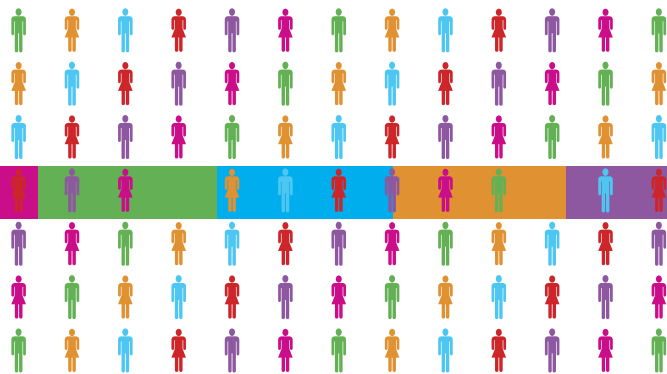
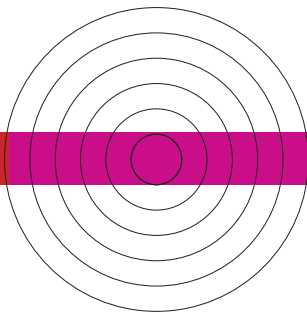
Chapter 5 looks at how the creative industries, and some specific parts thereof, are embedded in the economy of the 'Noordvleugel'* of the Randstad. Practically all of the CREATIVE AMSTERDAM municipalities are situated in this part of the Netherlands. Thus it becomes clear how relationships are maintained between different business sectors through personnel exchange from different sections of the creative industries. These relationships are an important precondition for mutual influence and new combinations. To this end the upward mobility of talent between sectors over the whole 'Noordvleugel' economy is analysed. Here we mean all job changes of individuals over the boundaries of sectors where an upward career move is involved. A network of sectors emerges from this assembly of interconnections which occurs between sectors. This is referred to as 'industry space' or economic space. These connections denote sectors which are linked to each other on the basis of staff with similar skills and abilities. This can be seen in the migration of personnel from one branch to

another. These patterns define the industry space of the 'Noordvleugel': the embedding of sectors with respect to each other within the broader economic space. The extent of interconnection of sectors in the creative industries indicates their relative position in the industry space. Through staff mobility, knowledge moves beyond branch boundaries to be applied and adapted in new contexts. This brings about new combinations and stimulates innovation.

Chapter 6 is the report of a sub study which was carried out in the context of this study. With regard to the collective municipalities of the CREATIVE AMSTERDAM network it was firstly investigated if a connection exists between the significance of the creative industries and the ICT sector, and locally generated value in the overall economy. This broad added value is established on the basis of employment growth in the rest of the economy, excluding the creative industries. The connection between the availability of creative talent in the region and regional economic growth was also analyzed. In determining possible effect, where possible other factors affecting economic growth were taken into consideration. A positive effect is an indicator of broader added value of the creative industries or creative talent on the economy in general.

Chapter 7 contains the synthesis of findings, draws conclusions and delivers policy recommendations resulting from this study. This study is based on the integrated knowledge of various scientists from various institutions and disciplines. Project leader was Paul Rutten, independent researcher and guest professor creative industries and innovation at the Antwerp University. Also involved were Gerard Marlet, researcher with the Atlas municipalities and Frank van Oort, professor of Urban Economy at Utrecht University. Joost Poort (IViR) was involved in the initial development and setting up of the study. Frank Neffke (Erasmus University Rotterdam), Martijn Burger (idem) and Ron Boschma (Utrecht University) co-operated specifically in chapter 5.

*The North Wing of the Randstad in the Netherlands



Chapter 2

Creative industry, Innovation
and Development

The creative industries are increasingly seen as a possible driving force in economic development. The creation and production of a trade in knowledge not only has cultural, but also economic and social relevance. Countries, regions and cities with specific strengths in the creative industries area have therefore a competitive advantage. Firstly because the creative industries through the creation of value and jobs contribute directly to prosperity but also indirectly because this sector promotes innovation and development in the broader economy and is of particular social significance. Yet research into the broader significance of the creative industries is still in its infancy. For the most part this entails establishing the importance of the creative industries in the local and regional economy in terms of employment and contribution to the gross national, regional or local product. Mapping studies are rife in this field and still prove their worth. Policy makers and politicians are keen to see proof that the sector is of importance: size matters. Secondly, the question of the importance of the creative industries for the rest of the economy is often raised, in particular its role in reinforcing and stimulating innovation and competitiveness in cities and regions. Research which formulates answers to this question is scarce and proof mostly anecdotal.

The creative industries debate originates in policy, firstly in the United Kingdom and later in other countries, including the Netherlands. The policy debate was followed by the first study into the creative industries; followed later by more academic work. The debate around the broader economic and social importance of the creative industries continues. Research attempts to underpin this discussion with empirical evidence. So does this study.

2.1 Creative industries and ICT

The creative industries differ from other sectors through the specific nature of its goods and services. Symbolism and significance are crucial here, consumers and business customers primarily purchase these goods and services for their symbolic value, the significance. Their usefulness should be seen from the point of view of the experience or lifestyle value the products have for consumers; also when the media is involved, news and newsworthiness come into play.

In order to statistically establish the sector realized value and the number of jobs involved in the sector researchers use a definition based on SBI (Standaard Bedrijfsindeling) codes. This is also done in this study. Empirical research can be based on a specific division of business sectors within the creative industries. In the Dutch creative industries study, the main pillars identified with this sector are divided into three main categories:

- (1) The arts and cultural heritage.¹
- (2) Media and entertainment.
- (3) Creative business services.²

The most important aspect of arts and cultural heritage is an aesthetic experience based on works and artifacts which are usually created from artistic and cultural needs, with a lesser view to commercial exploitation. This is less applicable to the media and entertainment industry where profitable exploitation and servicing a broader public is paramount. Which is not to say that this subsector too does not strive for a high aesthetic quality. The creative business services are mainly concerned with provision of creative services to business customers. So clearly, the boundaries between the different subsectors are not impenetrable. Rather they are fluid and even sometimes in motion. In this way a

1 Note that the arts and cultural heritage part of this definition is almost identical to what are considered the cultural industries in both the European definition and the Anglo-saxon definition. Under media and entertainment only the creative side of ICT can be found. ICT as such is not considered to be a part of the Creative Industries in The Netherlands.

2 The operational definition applied for the various branches is to be found in appendix 1. This derives from a working paper by Rutten, Koops & Rosso (2010) drawn up in a previous study into the creative industries. It is an update of a previous definition (Rutten et al 2004) in response to international harmonization of statistics. This resulted in a partial revision of SBI codes. Included in this update the operational definition has on some points been essentially altered. This classification has been adopted by the CBS as a basis for periodic reporting.

part of the game sector, a branch where the city of Utrecht excels in, and formerly seen as a part of the media and entertainment industry, can now qualify as a form of creative business service. Serious games are commissioned by clients to transfer specific insights and lessons more effectively to staff, customers and other stakeholders. Another example is the performing arts branch which includes subsidized theatre as well as musicals in the Circustheater. At first glance positioning in the arts sector seems appropriate, while the category media and entertainment seems more fitting.

The creative industries maintain a specific relationship with the ICT sector. The products developed by the creative industries are principally virtual. It entails information in various forms which can be shared with end users, both private and business. In almost all cases the creative industries make use of new and more traditional information and communication technology. One of the oldest forms of ICT is writing and a little less old is printing. Digital networks and all sorts of software are the new forms of ICT. Innovation in the creative industries is closely linked to developments in ICT. Book and newspaper publishing came about from the development of printing. The development of the internet and various new digital apparatus is currently responsible for a thorough reorganization of new segments, such as the above mentioned game sector, and for a reappraisal of society. The creative industries lead this development, precisely because broadly construed, it is a sector driven by the development and exploitation of information and symbols. Because of this, in certain situations, it is unclear if a company is part of the creative industries or the ICT sector. This is valid in the cases of such global players as Google, Apple and Amazon. In the Netherlands TomTom is an example of this.

Yet, the ICT sector is not a part of the creative industries and vice versa. Actually, in the U.K.,

the software sector is included in the creative industries, which explains why the English creative industries can post such high growth figures. The importance of software grows with the importance of ICT in all areas of society. This development is not directly and definitely not exclusively linked to that of the creative industries. ICT is an 'across the board' sector which functions as a motor for development and innovation in all sorts of domains and sectors, from financial services to life sciences. In chapter 4 of this study it can be seen that the software consultancy branch occupies a central position in the economic space of the 'Noordvleugel'. It is a typical turntable branch which plays a central role in the industrial system and thus, in human terms maintains ties with numerous other sectors. ICT is a general purpose technology and the sector exploiting this technology cannot be regarded as part of another sector. For this study the key question is whether the combined presence of the creative industries and ICT leads to a specific dynamic in development and innovation.

Like in the creative industries the establishment of the significance of the ICT sector through realized value and job creation can be arrived at on the basis of the above mentioned SBI codes. For this the sector is divided into two categories:

- (1) ICT services;
- (2) ICT hardware.³

Development, production and exploitation of all physical elements necessary for the electronic transfer of information from processors to terminals fall under the category ICT hardware. The maintenance sector is also included here. Activities outside the physical elements such as data storage, processing, transport and consumption fall under the heading services. Telecommunication, software development and printing are important elements of ICT services.

³ The operational definition of ICT is recorded in Appendix 2.

2.2 The situation in the Netherlands

Over the past few years the importance and significance of the creative industries has been a subject for research (see: Rutten et al. 2004; Marlet, Poort et al. 2005, Braaksma et al 2005, Van der Groep et al 2010, Koops et al 2010). On numerous occasions it has been shown that the creative industries deliver a significant contribution to the economy. They provide work for people, in companies, as independent entrepreneurs and as freelancers. The sector also adds an important contribution to the gross national product. This contribution when compared to the total number of jobs in the sector is quite low. The creative industries are labour intensive, where as productivity is lower than the Dutch average.

Typical of the creative industries is the fact that there are relatively many small companies active, alongside quite a number of large. Medium-sized companies are fewer in numbers. Furthermore the creative industries seem to be particularly concentrated in urban areas, particularly in the inner cities. This is striking because the main focus of the creative industries is the production of significance or symbolic content which manifests itself as information. This can be produced and distributed easily via electronic networks, whereby geographical clustering of activity appears to be unnecessary. Yet there is a physical concentration of creative industries in cities. Proximity is a relevant factor for the operation of the creative industries. It also applies that proximity is taken for granted by an important part of the creative industries, such as the performing arts and musea. An obvious concentration of activities occurs in urban areas and indeed inner cities if space is available. In the Netherlands creative industries activity is most apparent in Amsterdam. Here the creative industries show an above average presence over the full spectrum of the sector. Hilversum is another important center, where a large part of Dutch broadcasting is based, which incidentally is gradually moving into the cross-media era. In Amsterdam and Hilversum there are sectorial specializations in the creative industries of a significant magnitude (see Economische Verkenningen Metropool Regio Amsterdam

2011). The creative industries form in combination with the concentration of an extensive range of ICT services in the 'Noordvleugel' of the Randstad, a strong cross media cluster, with international strength and potential (Rutte, Van Mil & Visser 2010). Utrecht and Haarlem are also important creative industries centers within the Noordvleugel. However the creative industries are also of importance outside this region. Activity clusters in this sector exist in Rotterdam, Den Haag and Eindhoven. Some of these cities and regions concentrate on one branch, which often in combination with other sectors can be considered a special asset. Eindhoven puts the emphasis on design combined with manufacturing, Arnhem stands out by targeting fashion and Rotterdam is exceptionally strong in architecture. Other cities look for other combinations like Tilburg where the emphasis is on a contribution of creative industries and crafts, while other cities in Brabant offer courses which function as an incubator for the creative industries.

2.3 From creative industries to a creative economy

The last few years have seen a turnaround in research into the creative industries. This applies in particular to studies carried out in the U.K. and Australia (Higgs, Cunningham & Bashki 2008). The most common method of establishing the importance of the creative industries is to measure the development of jobs in the creative industries, as shown in regional and national statistics and the establishment of the added value for which this industry is responsible on the basis of national figures. Increasingly, however, instead of the number of jobs and added value of companies in the creative industries, the creative occupations in the whole economy and the thereby generated value should be used to indicate the importance of the creative industries.⁴

Creative occupations have their origin in the creative industries, but increasingly spread out in the broader economy. A good example of this is the design profession. Designers often work independently or in specialized offices providing

creative business services commissioned by third parties, for example business or government. In this capacity they are part of the creative industries. However, in many instances designers work in companies not included in the creative industries, for example the graphic or furniture industries. For these businesses it is cheaper and more efficient to do this work themselves than commission it out. The designers in these companies are carrying out a creative occupation, but according to the generally used methodology are not part of the creative industries, because their branch is not included in the sector. It is estimated that two thirds of all designers in the Netherlands work in companies outside the creative industries and so do not appear on the radar of studies which only focus on those companies deemed to be within the sector (of: Rutten et al 2005).

At the same time people working in support functions within the sector, are considered part of the creative industries while the nature of their work is not creative. This applies for example to financial managers or canteen staff. Where the support functions are relatively great in number and the creative relatively small unusual situations can arise and perhaps result in biased conclusions. A striking example of this is attraction parks. They are a part of the sector live-entertainment and the *leisure industries* and as such are part of the creative industries. The majority of employees of the Efteling, for example are in support functions, ranging from ice-cream vendors to attraction operatives. According to the system by which jobs are reckoned, all employees of the Efteling are part of the creative industries. This means that the highest national percentage of jobs in the creative industries is in Kaatsheuvel (Efteling). On this basis it can hardly be claimed that a strong creative cluster exists in Kaatsheuvel, but rather there exists a major player in the leisure industry.

The approach based on creative occupations resembles the *creative class* approach of the American regional economist Richard Florida (2002). In the Netherlands, a local variation of this has been developed by Atlas for municipalities, who also worked on this study (Marlet, 2009). Florida's research shows that the portion of the creative class in the labour force of the U.S. is thirty percent, twice what it was twenty years ago. Twelve percent belong to the super creative core (fifteen million people), eighteen percent (25 million) to the creative professionals. The creative core is most active in the production of new ideas, technologies or content in science (and technique), architecture and design, education, art, music and entertainment. The creative professionals solve problems which require independent thinking and a high education level. Both groups share a creative ethos whereby value is attributed to creativity, individuality, distinctiveness and performance. In Europe, the Netherlands has the highest proportion of creative class in the labour force (47 percent). If technicians are excluded Ireland has the greatest proportion.

Marlet and Van Woerkens have adapted Florida's approach for use in the Netherlands by reducing their definition of the *creative class* and the super creative core. Thus eliminating the objection that Florida's categories were too broad, causing his model to lose its explanatory power. Marlet and Van Woerkens have established the percentage of the creative class in the Netherlands to have risen from 17,3% in 1996 to 19% in 2002. Jacobs, Bernelot Moens en Westerman (2008) have in their study into the development of economic importance of creativity abandoned the dichotomy, in which occupations can or cannot be counted as part of the creative class or the super creative core. Instead they have encoded the approximate 1200 occupations identified by the CBS (Central Statistics Bureau) on the basis of creativity. They

4 In order to also assess the significance of the creative industries in this way (see Urlings & Braams 2011) the Dutch CBS has compiled a list of creative occupations based on a publication by Peter Higgs & Stuart Cunningham 2008 selected from over 1200 individual occupations. On the basis of this list almost 172.000 people were involved in creative occupations in the Netherlands in 2006-2008.

have, based on the development of the importance of different occupations in the economy, established to what extent the creative content thereof is increased or decreased. Calculated in this way they have determined that the creativity of the Dutch economy as a whole has shown an increase of 0,9% over an eight year period, from 13,8% in the years 1996 – 1998 to 14,7% in the period 2004-2006.

However, there is, strictly speaking an important difference between the *creative class* approach, developed by Florida and the approach based on creative occupations, engendered by Higgs c.s. (2008). The *creative class* approach is significantly broader than that based on creative occupations. *Creative class* includes occupations where *creativity and autonomous decision making are crucial in carrying out everyday tasks*. In the creative occupations approach emphasis is laid on occupations which directly *contribute to the production of symbols and meaning whose value is based on the fact that they feed experience and increase perception*. Something which is common within the creative industries but assuming greater importance in the broader economy. Yet there is reason to believe that both approaches indicate similar trends, precisely because the majority of creative occupations fall under the *creative class* and the super creative core. The reverse is not true.

The above mentioned examples, designers and attraction parks, illustrate that in order to properly understand the value of the creative industries it is important to strike a balance between, on the one hand, consideration of creative occupations and companies in the creative industries on the other. Some researchers conclude that measuring the merit of creative occupations in studying the creative economy is more relevant than counting jobs in the creative industries. At the same time the total number of jobs in the creative industries, including support jobs is naturally not without significance.

So far the most elaborate study carried out which looked at at the significance of companies in the

creative industries as well as looking at creative jobs in the overall economy is that of Higgs, Cunningham en Bakshi (2008). They estimated that in 2006 besides the jobs in the creative industries totaling 1.1 million, there were a furthering 800.000 creative jobs. The creative workforce in the U.K. comprising creative occupation groups in and outside the creative industries and support staff number 1.9 million. Included in the creative occupation groups the researchers identified 26 categories. These include: town planners and graphic designers; advertising managers and furniture makers; actors and librarians; journalists and software professionals; architects and archivists. Some of these professions have recently evolved or been registered. To determine the number of creative occupation groups in the U.K. census data was combined with the British Labour Force Survey, the Dutch equivalent being Enquete Beroepsbevolking (EBB). A striking conclusion is that only 37% of those employed in publishing were in creative occupations. The same applies to 46% of those in advertising and 44% in Broadcasting and TV activities. Compared with other economic sectors, relatively more creative professionals operate outside their own sector: the creative industries. The researchers actually conclude that the number of creative jobs outside the British creative industries exceeds those within. Some 35% of the total creative workforce (a figure that includes support staff in creative industries) is employed in non-creative sectors. This level is similar to the 39% of total UK financial services workforce in non financial services industries. This gives us an important indicator of the broad embedding of the skills and capabilities particular to creative industries in the broader economy. Such embedded creative employment is greatest in the manufacturing, real estate, business activities, wholesale and retail trade and financial intermediation. Hereby it is seen in the study of the British situation, that policymakers should not limit themselves to industry-based data in relation to the creative economy; creative professions can be seen as a safe and important indicator.

Higgs' c.s. study has also shown that creative employment has grown more strongly in the long

term than average employment; 3,2% per annum from 1981 to 2006, compared with 0.08% for the broader economy. The highest growth rates have been among the specialist creative jobs: 6,2%. However, since 2001 the overall growth slowed to 1,0%, just below the U.K. workforce annual rate for the same period of 1,2%. The largest growth has been in the software, computer games and electronic publishing segment. In 1981 this segment only accounted for 14% of the creative workforce. In 2006 this was 3%. The annual growth of this segment in the period 2001-2006 was 6,5%. In the period 1981-2001 it was even 8% per annum. The next fastest growing segment was advertising and marketing up from 5 to 11% of creative employment in the period 1981-2006 or 6,3% annual growth. Music and the performing arts has maintained a 10% share of creative employment with a 3,5% annual growth. But other sectors, while growing in employment terms by over 1% have become less important in creative employment overall: architecture, visual arts and design, film, television, radio and photography and publishing. Because the study was geared toward individuals and not companies it was possible to look at comparative incomes. In 2006 creative incomes were 37% higher than average. But they have grown at a slower rate of 2,5% per annum since 2001 compared with 3,5% for the total workforce. Creative occupations generated in 2006 more than £40 billion in salaries and wages while support staff in creative industries earned a further £16.8 billion. The creative workforce earned 9,6% of all U.K. earnings. Their earnings were above average, with those in software, computer games and electronic publishing, particularly support workers, earning most.

2.4 Broader added value

Parallel to the debate over whether the significance of the creative industries should be measured by the number and value of jobs in the

creative industries or creative jobs in the economy as a whole, a discussion is taking place concerning the broader significance of the creative industries and creative production for the economy and society. It is assumed that the creative industries and creative production have a broader added value for the economy and society. In strict economic terms added value is defined as the total value generated by companies and institutions in a city, region or country. This is equal to total turnover less the cost of raw materials and semi-finished products. The added value is used for wages and financing (share dividends and interest on loans). The significance of the creative industries is seen in broader terms. The creative industries play a key role in a creative economy (see: Howkins 2001; Rutten et al. 2005). Innovation and competition in the creative economy are to a large degree dependent on the human capacity to create wealth from new concepts and ideas. In the creative economy symbolic value is economically exploited on a large scale, not only through consumption, but also in production of goods and services. The concept of creative economy is related to the concept of experience economy introduced by Pine and Gilmore (1999) but has wider implications. While the experience economy deals with a specific sort of consumption, the creative economy deals also with the role and significance of symbols and imagination as a stimulus for production and the creation of goods and services, in for example manufacturing.

The creative industries, with its network of specific knowledge, capabilities and economic activities play a central role in this economic system as a producer of meaning and symbolism. Clearly, good designers are important in market success of products and services, not just in providing the 'finishing touch', but also for their creative input in the design and development phase.⁵ This applies

⁵ Recent studies by the Erasmus University and the TU Delft have shown that the financial impact of a new product is almost 20% greater if more attention is devoted to design at the development stage (Candi, Gemser and van den Ende, 2010)

also to advertising, marketing and branding experts. These disciplines too have developed to become an integral part of and contribute greatly to the complete process of design, launch and marketing of goods and services. In the media and entertainment industry products, services and capabilities are developed which are useful in the broader economy and add lifestyle value to more mundane products and services (Wolf, 1999). A good example of how the media and entertainment industry can contribute to the functioning and efficiency of another activity is gaming. Having begun as an entertainment product, games are more increasingly used in communication and training programs. Also in the health service where specially adapted games used in for example revalidation have produced striking results. The arts and cultural heritage sector can to a lesser extent than these two sub-domains lay claim to a direct contribution to the broader economy. On the other hand all sorts of conceptual developments which happen in the arts, carry over into the media and entertainment industry and creative business services. Just as the sciences contribute to the development of applied knowledge, the arts nourish the applied creativity which is an essential part of the overall creative industries and also the economy as a whole. There is clear evidence of interaction between these three subsectors identified within the creative industries: arts and cultural heritage, media and entertainment, and creative business services.

The creative industries are involved in the current turbulent dynamic in the information and communication technology sector and are at the same time an important driving force. In both ICT and the creative industries information is crucial. The creative industries create, produce and exploit information and symbolic material; ICT provides technology geared toward production, distribution and consumption of information. ICT developments have therefore particular implications for the creative industries because they are generally first applied there and the rules change again! Developments in both ICT and the creative industries effect the economy as a whole. Innovative products and services which bundle the power of the creative

industries and ICT are currently among the most wealth generating sections of the economy. This is clearly illustrated by a number of recent developments, from the introduction of tablet computers to new services based on *augmented reality*. Many would suggest that companies like Apple and Facebook, and also Layer and TomTom should be included in the creative industries. This would suggest that the fusion of the creative industries and ICT has already occurred, where creative capabilities from the creative industries are extremely useful within enterprises traditionally seen as technology companies. These companies with their range of goods and services influence the general economic performance. The increased cross-linking of creative industries and ICT, as described above, is ample reason to pay attention to this sector in the study.

2.5 Regional innovation climate and competitiveness

There appears to be a particular connection between the creative industries and urban development. Dutch surveys of creative industries location shows a concentration in certain regions and cities. This has already been noted. The fact that many cities profile themselves based on specific strengths within the creative industries shows the importance of the sector for their urban identity.

Little wonder then that development of urban cultural facilities and the creative industries go hand in hand. A concrete example of this is the use of industrial heritage sites for creative activity and the promotion of culture and creative companies in neighbourhood redevelopment (Rutten 2006). Thereby many cities show their desire to emerge as a creative city. This concept points to a form of urban development based on creative production and local identity whereby the material and immaterial culture of a city can be fully appreciated. Social and economic development thus go hand in hand and are partly synonymous. Many European cities use culture and the creative industries as a basis for urban redevelopment. Included in this trend is the promotion of local culture and the creative industries and attention to cultural participation.

Cultural activity enriches people, by equipping them with knowledge and cultural capital which can pay dividends in many aspects of human interaction. The creative industries play an important part in this process.

The way toward such a policy is not – or in any event not only – the *Bildungsideaal*, as was for years thought. The work of the American Richard Florida (2002) and of Gerard Marlet (2009) show that development of a rich local cultural climate has positive economic results. Highly educated human talent, essential for the maintenance of a regional innovative climate through their contribution to the companies in the region, are attracted to large urban environments with high cultural potential. Housing choices of the creative class are primarily influenced by cultural possibilities in a region and a tolerant political climate. In practice, according to Florida, companies currently follow talent and not vice versa. It follows that creative industries operating in the local and regional sphere, like theatres, musea and concert halls, represent a multi-layered value for the regional economy and urban development. Apart from supplying cultural education they satisfy the demand for high culture of the creative class who prefer to settle in cultural cities, and they help sustain an atmosphere in which the necessary highly educated talent is appreciated.

Why different companies and institutions in a certain sector locate close to each other and why this concentration results often in a self-reinforcing effect on the cluster, is adequately documented and described in economic cluster forming literature. An important expert in this field is the American, Harvard professor Michael Porter (1998). He developed the theory about *industrial districts* which his countryman Alfred Marshall introduced at the end of the nineteenth century. Factors which strengthen cluster formation are, proximity of important input elements for a particular branch of activity together with the importance of local customers and sufficient expertise.

Experience shows that the creative industries in general display a strong pattern of clustering. This is clearly shown in a recent U.K. study by

Chapain, Cooke et al (2010). By clustering, enterprises gain access to a qualified workforce and they can share services and facilities. Furthermore they can capitalize on the value of know-how spillovers. Hollywood, of course, is the best example of this (see A.J. Scott 2004). Lesser known clusters are for example the Mediapark in Hilversum and the design cluster in Eindhoven. In the U.K. London is at the heart of the creative industries and is as such dominant in all creative sectors; in a sense Amsterdam fulfills this role in the Netherlands. The British study shows that certain sectors, more than others within the creative industries, tend to locate closely. Advertising and software often cluster. So do music, film and publishing and radio and television.

The British study also shows a statistically sound pattern of co-location of creative companies with other types of activity. Software and advertising companies are often found near high-tech manufacturing and knowledge-intensive business services. Less strong links are seen for creative companies geared toward content and cultural experience, albeit the co-location pattern with knowledge-intensive services is significant. The findings of the British study suggest a compatibility between creative sectors and innovative companies in other areas of the economy. This may involve specific links in the value chain and sharing of certain infrastructures. It may also result from knowledge spillovers which occur when creative companies share new ideas with commercial partners. Or when creative professionals change sectors and bring with them useful ideas, technologies and methods. In the Netherlands, the Amsterdam region has a strong concentration of knowledge-intensive business services (KIBS) partly aimed at the presence there of many international company head offices (Atzema et al., 2011).

The presence of creative companies can in other cases lead to an *urban buzz* which attracts highly educated and qualified personnel and stimulate cooperation. From a number of case studies it can be seen that more than just the presence of a creative agglomeration is needed to benefit from emerging clustering. The key element in

the system is the connectivity between (1) companies within the cluster, with cooperation partners, business partners and (2) innovation sources from outside the cluster but within its sector elsewhere in the country and abroad, and (3) with companies in other sectors, who can function as customer and source of new ideas and knowledge thereby *triggering* innovation. These three layers of connectivity should ideally be supported by a fine web of informal interactions and networks. This interconnection recommended by Chepain, Croke et al (2010), of creative clusters with the rest of the economy in order to underpin its own innovation, also gives form and substance to the positive external effects of the creative sector on the economy and society. This connectivity works in two directions.

Embedding of the creative sector in the broader economy and eventual positive external effects are crucial to the broad added value of the creative industries. To determine in how far the presence of creative clusters positively effects the regional economy the theory around knowledge spillovers is of importance. We have brushed on this earlier. The notion that knowledge circulates in the economy through the mobility of talent between companies and sectors, forms the basis for this theory. In particular the switching of jobs between different but related sectors brings about an influx of new knowledge which can in turn bring about innovation. An economy characterized by related variety, that is a diverse pool of companies interrelated through technology or market place (see Franken et al 2007) can, in particular, benefit from this. Indeed the different sectors in the regional economic mix will rely partly on similar skills and partly have their own specific requirements. In such situations, talent and with it knowledge can move more freely than in situations where skills levels required are totally different. This means that new combinations will more readily occur in a variety related economy, which in turns helps innovation.

In order that the creative industries play a key role in an emerging creative economy this sector must be firmly anchored in the regional

economy. This might imply that the knowledge produced by creative companies positively influences productivity in other sectors. The above mentioned Alfred Marshall saw early on that physical concentration of companies ensured faster transfer of knowledge. In such places 'there was something in the air' whereby knowledge transfer between, and productivity of, companies was enhanced. As the creative industries take on a more central role in the economy it is to be expected that the presence of sectors comprising the creative industries positively effect production in other companies. Thus resulting higher growth than in regions where the sector is less active.

It should now be clear that in various studies into the significance of the creative industries a clear connection can be made between this sector and innovation in the broad economy. Miles and Green (2008) have investigated how innovation occurs in the creative industries, to what extent innovation takes place and how it goes forward. From the British equivalent of the Dutch CIS enquiry into innovation it emerges that creative industries companies show above average innovation. Much innovation is taking place in ICT applications but there are also innovations in less obvious areas, such as new business models. Experience is crucial to the creative industries. An experience is not a ready made industrial product but is in essence co-produced by the client or user. Various levels occur herein, from reading a newspaper, watching television or playing a computer game. In this last instance the direct input of the consumer in producing the experience is much stronger than the first two. Interactive media, a direct result of developments in digital media technology, are an important source of *experiential innovations*.⁶ Refinement of creative products based on experience is often due to the feedback on actual consumption, also using digital media. Innovation is often dependent on this feedback information, in many cases collected directly through use of digital services. Precisely in that knowledge and experience lies a basis for a broader role for the rest of the economy and society where customer feedback is critical to success. Miles and Green also indicate that most

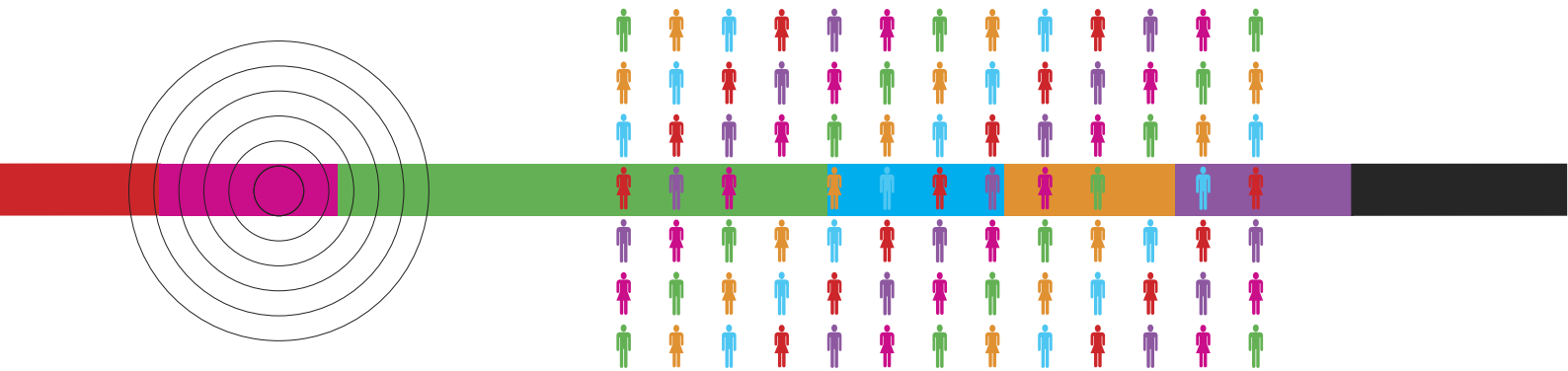
creative industries have difficulty formalizing the innovation process. The systematic management of innovation poses a considerable problem for most companies. It mostly happens on an ad hoc basis. Most creative professionals in a company have no bond with formal innovation.

Connections to universities are seldom. However, production groups, professional societies and more informal groups, are very important sources of new ideas.

2.6 Conclusion

Recent research shows that creative talent plays a key role in building, maintaining and propagating innovation and competitiveness in the urban creative economy. Companies from the creative industries and people in creative occupation groups outside the creative industries together play a part in the provision of suitable cultural facilities in a city or region. Their provision has a positive effect on livability and attractiveness of the city or region. Together they form a highly productive potential labour force and through their labour market mobility give rise to knowledge spillovers. A knowledge climate results which has a positive effect on regional innovation potential and competitiveness in the regional economy. In the following chapter we will look at these issues in more detail. In the next chapter we set out the logical lines along which our research is designed and shaped.

⁶ See also Voss & Zomerdijk(2007)



Chapter 3

Creative industries and the economy

In the previous chapter we have shown the literature research concerning the relationship between creative industries, economic development and innovation. This resulted in important pointers for the specific part the creative industries and its inherent creative occupation groups play in regional economic development.

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The Australian evolutionary economist Jason Potts and colleague Stuart Cunningham have modeled the relationship between the creative industries and the broader economy and developed four concrete research hypotheses (2008; 2011). They formulate the problem as follows:

... 'the economic value of the creative industries may extend beyond just the manifest production of cultural goods or the employment of creative people, but may have a more general role in driving and facilitating the process of change across the entire economy, as evident by its dynamic parameters and degree of embedding in the broader economy. Indeed, it may even be the case that the 'dynamic significance' of the creative industries is greater than their 'static significance' (Potts and Cunningham 2008, p. 1-2).

By using four models they formulate different answers and hypotheses with regard to the following questions: what is the broader economic significance and influence of the creative industries? How does a strong creative industries sector in a specific region, directly or indirectly, support economic growth and development?

Potts and Cunningham study the four possible relationships based on available data specific to Australia and the U.K.. Of interest and importance to this study is the fact that the researchers have based their models on assumptions prevalent in local and regional creative industries policy. Research based on these hypotheses resulted directly in important information for policymakers in cities and regions with strong creative industries seeking ways to exploit regional strengths. It is noteworthy that the notions and policy assumptions on which their hypotheses are based are not specific to the Anglo-Saxon world; they are similar to policy criteria used in the Netherlands. The four models are based on the following concepts:

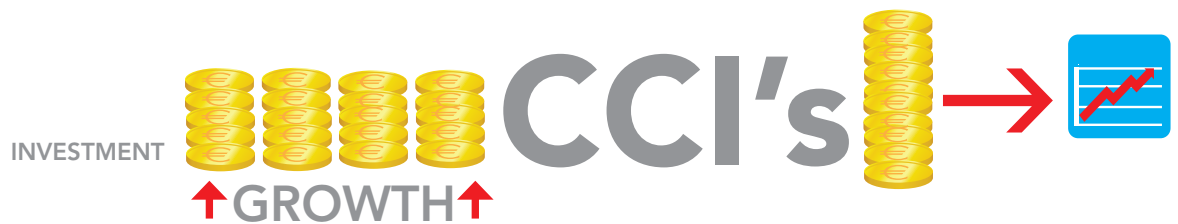
- (1) prosperity and cultural development.
- (2) competition and economic development,
- (3) economic growth and sector stimulation,
- (4) innovation and development.



MODELL 1 CREATIVE AND CULTURAL INDUSTRIES



MODELL 2 CREATIVE AND CULTURAL INDUSTRIES = REGULAR INDUSTRY



MODELL 3 CREATIVE AND CULTURAL INDUSTRIES AS AN ACCERELATOR FOR INNOVATION



MODELL 4 CREATIVE AND CULTURAL INDUSTRIES AS PART OF THE INNOVATION CYCLE

3.1 Prosperity and cultural development: subsidy

Here we refer to the approach to the creative industries and policy implementation, which is based on the way art and culture has received government support these past decades. The market is unable to supply sufficient creative artistic production required by society; a market failure. This reflects negatively on the value of the creative industries; they consume more than they generate. So government must step in to ensure that art and culture is stimulated and reaches a broader public. Because of no or insufficient support from the market artistic production can only be ensured through subsidy. At the same time products and services thereby produced are enriching. Art serves a broad social function; public support is thus legitimized. Likely positive knowledge spillovers from this creative production are here not taken into consideration. Thereby it can for example be seen how art and culture enhances peoples ability to observe, develops their critical powers and contributes to further knowledge and understanding, whereby they ultimately function better both socially and economically. The social function is considered the most important legitimisation of subsidy. However, this is not included in considered benefits and costs. At the same time this approach presupposes a certain level of prosperity required for the funding of art and culture. Culture is hence often seen as the *icing of the cake*, or a 'leftist hobby', depending on ones political tendencies or rhetorical style. Nevertheless these qualifications in essence ignore policy criteria. Because in this model art and culture are seen as a crucial part of the social system and not merely as a luxury in times of plenty.

In this model the creative industries can be regarded as a drain on the economy. A valuable drain nevertheless, because of its overall positive effect on prosperity, albeit that effect is not included in the economic considerations. There is a high cultural value while economic value is not considered. In this model there is creative industries growth at the expense of economic growth, even though this is questionable, considering the knowledge spillovers indicated.

3.2 Competition: standard industry politics

In this model no special status is given to the creative industries as to having a significantly higher cultural value vis-à-vis other industrial sectors. The creative industries is a sector just as the others. Specifics developments in the creative industries have no significant abnormal effect on the total economy compared to other sectors and vice versa. The creative industries do not contribute substantially more to technology developments, innovation or productivity than other sectors. The creative industries is 'business as usual'. So no prosperity gains can be expected from a specific economic and cultural policy geared toward the creative industries. From such paradigms there emerges no specific policy attention for the creative industries. It is not a sector in need of support because of its specific social value based on its artistic qualities, nor is the sector of special economic significance. No prosperity gains can be made based on a specific policy. Potts and Cunningham (2008, p. 7): 'The creative industries, in this view, are just another member of the industrial community, and they should rightfully than demand neither more nor less 'assistance' than that due to others. Recognition of normal existence is sufficient and 'significance' is immaterial'.

3.3 Economic growth: investment policy

Because the creative industries show stronger growth than other sectors of the economy, a positive links between creative industries growth and total economic growth is assumed here. The creative industries drive the economy, comparable to industrial production in the fifties and ICT in the eighties and nineties. It is recognized that the creative industries introduce new ideas, concepts and technologies, which flow to the rest of the economy thus positively effecting growth. This can occur on the supply side and the demand side. The supply side implies the introduction of new ideas and concepts in the economy. On the demand side economic growth accelerates the demand for goods and services supplied by the creative industries. In both cases it seems there is

legitimate need for a special treatment policy for the creative industries. Not only because they are as such of economic importance, but because they bring about economic growth in other sectors. 'The creative industries in this view are clear winners to be backed' (Potts and Cunningham, 2008, p.9). Special or extraordinary growth means not only growth in added value and employment, but also in new types of employment and new goods and services. It involves the adoption, retention and absorption of new ideas and technologies. This model suggests that the creative industries are good for the economy because they develop and introduce new ideas which stimulate economic growth. It is an industry deserving investment for the benefit of generic economic growth. According to this model, a targeted stimulation is justified. In fact what Potts and Cunningham formulate here is at present recognized as a top sector by the Dutch government. An economic sector with above average growth and which therefore drives the economy as a whole. From the current *backing winners* strategy these rapid growth sectors deserve extra attention from policy makers, thus benefitting allround economic development. Some economists note that simply due to the fact that rapid sector growth occurs often temporarily, should not mean extra policy attention on the part of regional or central government. Others however suggest that the reinforcement of strong clusters of activity resulting in improved economic growth of a country or region, is legitimate because such a policy increases prosperity in the broader economy and benefits the citizens and society.

3.4 Innovation and innovation policy

'Rather than thinking of the creative industries as an economic subset 'driving' growth in the whole economy, as in model 3, the creative industries may not be well characterized as an industry per se, but rather as an element in the innovation system of the whole economy' (Potts and Cunningham, 2008, p. 10).

In this model the creative industries are not primarily seen as an industry driving economic growth, albeit this is a possibility, but rather as a crucial element in the innovation system. The creative industries are, compared to other sectors of the economy, a higher order system and their functioning as such influences the whole economic system. In the first model the creative industries are seen as a system with consequences for society, while in models two and three the creative industries function mainly as a specific sector within the economy. In this fourth model the creative industries are attributed a more far-reaching role; they effect the economic system. They are an essential component within the new economic order which is called the creative economy. The effect of the creative industries on the economic system is hereby compared to that of science, education and technology in the so-called national innovation system. The creative industries are the source and coordination point of change in the knowledge economy. Just as technology, science and education form government task areas, so too should the creative industries. This involves the contribution toward coordination of new ideas and to new processes which are crucial within the economic system. Changes in the creative industries should therefore within this paradigm not merely lead to operational changes but to structural shifts within the economy. Culturalisation of the economy can be illustrated by design-led innovation popular in broad layers of the business community, the many industrial applications of games technology and the impact of original creativity and user-based innovation in for example mobile use of media. The creative industries define and create the parameters within which change can occur in the economic order. To validate this model the creative industries are seen as a part of the national innovation system. This model differs from the previous one; we are not only dealing here with growth, but with evolutionary changes in the economy influenced by the creative industries. Potts and Cunningham indicate however that the boundary between this and the previous model is difficult to identify, while the policy implications are far-reaching; from increased prosperity to innovation.

3.5 Research design

Potts and Cunningham's four models form the conceptual basis of this study into the broader role and significance of the creative industries in the CREATIVE AMSTERDAM municipalities in the northern Randstad. In the first model the economy is the driving force behind the creative industries; resources generated in production are transferred to culture. In the second model the creative industries are seen as a sector like other sectors. In model three the creative industries are seen, in many respects, as an engine for growth in the economy. In the last model the economy evolves through knowledge transfer from the creative industries toward the rest of the economy.

The research question as formulated by CREATIVE AMSTERDAM concerns models three and four. Therefore these models will receive special attention while not ignoring the others. Due to the fact that in this study we are using existing data concerning the Dutch economy it is not possible to subject the different models and their related hypotheses to an exact test. Apart from this the differing hypotheses deriving from the last two models present difficulties in their mutually exclusive operationalization. The analyses in this study produce sufficient information for further investigation into the validity of the different models in the Dutch context. And in the concluding chapter of this study, a series of new scientific and policy relevant insights and recommendations can be presented.

In the following three chapters empirical data will be presented wherein the development of the creative industries in relation to general economic development is analyzed. The presence of not only the creative industries, but also of creative talent, is linked to general economic development. The innovation and development model strongly suggests that the creative industries bring about a positive economic dynamic. Although in theory not necessary, model four implies the validity of model three. In other words a creative industries role in the innovation system of an economy, implies remarkable growth in that sector. For the creative industries to add clout in the promotion

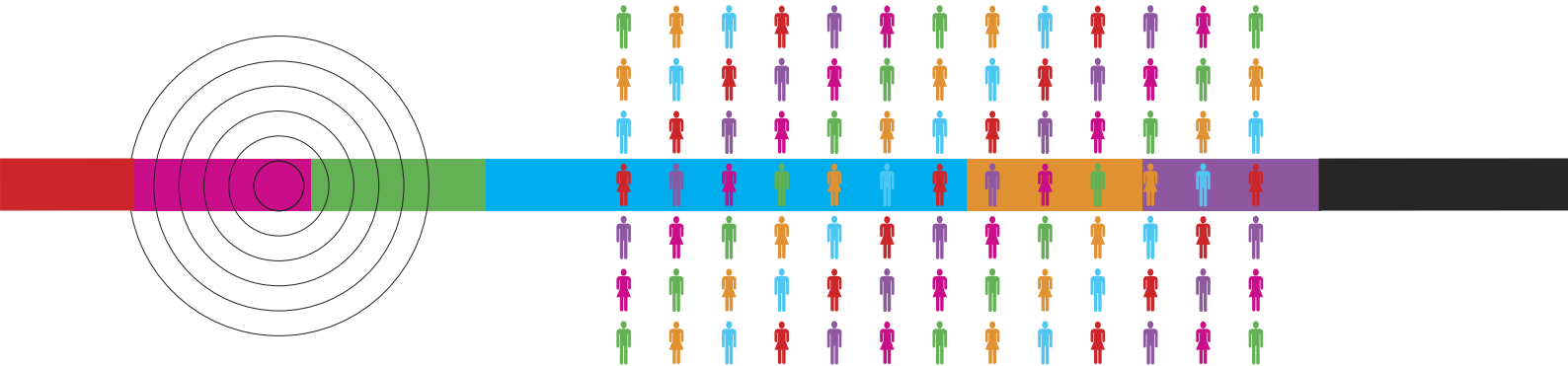
of innovation and economic development, substance is required.

Therefore in chapter four we look at the extent to which creative industries development over the last ten years differs from the general economic dynamic. This forms the basis for model three. Starting point is the development of the creative industries in the CREATIVE AMSTERDAM cities compared to development in this sector in the rest of the fifty largest cities in the Netherlands and the general national economic dynamic. In other words, can the significance of the creative industries be seen as exceptional within the economy of CREATIVE AMSTERDAM cities? Further the city showing the most exceptional development per subsector of the creative industries receives separate focus. As part of this, subsectors within the creative industries, will receive special attention. Because of the special relationship between the entire industries and ICT, as already laid out in chapter two, the same approach is to be applied to ICT.

In chapter four the concept of knowledge spillovers is looked at in detail. This concept plays an important part in innovation theory. New combinations, new processes, products and consumer-producer interactions are crucial to innovation. Innovation results in more competitiveness and is fundamental to growth in clusters, regions and complete economic systems. Chapter five contains an analysis of upward mobility of labour between sectors in the 'Noordvleugel' economy. The postulation is that migration of talent from one branch to another points to the existence of necessary skills and capabilities. The inter-relational intensity of a particular branch indicates the extent to which it is embedded in the economy and the likelihood of knowledge spillovers and hence new combinations and innovation. Particular attention is paid to sectors from the creative industries in order to establish the extent of their embedding in the economic fabric of the 'Noordvleugel' of the Randstad. From this we should see that they are a source of innovation, competitiveness and economic growth. This issue is the essence of the study. Good embedding implies furthermore that these sectors are well positioned to provide a contribution to innovation in the broader economy.

Branch embedding in the economy is a necessary, but not in itself sufficient condition for contributing to innovation. The fact that talent migrates from creative companies to other parts of the economy does not necessarily mean a substantial contribution to innovation and economic growth. In chapter six the relationship between the strength of the creative industries in the 50 largest cities in the Netherlands will be linked to the economic growth in those cities. There is a significant connection between economic growth and growth in the creative industries, over and above the growth of the creative industries themselves? Is there a differentiated effect from various subsectors of the creative industries? What does the presence of creative industries companies mean vis-à-vis creative talent in these cities? Is there a similar connection between economic growth and development in the ICT sector, or elements thereof?

On the basis of results from these analyses, chapter seven will show the provisional conclusions drawn from the various models, as outlined in this chapter. Suggestions for further study also appear there.



Chapter 4

Creative industries and ICT in
CREATIVE AMSTERDAM

In this chapter the development of the creative industries in the cities of the Creative City Amsterdam Area is central. The following questions are addressed here: How has employment in the creative industries developed in the period 2000-2010 in the CREATIVE AMSTERDAM cities? What is the contribution of the creative industries to overall employment in the region? Is the significance of the creative industries for the economy of CREATIVE AMSTERDAM increasing? These same questions are also applicable to the ICT sector.

For both the creative industries and ICT, development of their subsectors will be looked at. These subsectors within the creative industries are the arts and cultural heritage, the media and entertainment industry and creative business services. The creative industries are defined according to Rutten c.s. (2010 and appendix 1). The scope of the creative industries and its subsectors is based on LISA employment data. The scope of the ICT sector is also established, divided into ICT services and ICT hardware. LISA is the most comprehensive source of employment information at national level in the Netherlands. The operational definitions used therein for the creative industries and ICT are based on Koops, Roso, Rutten and Visser (2010).

Besides jobs within the creative industries (creative as well as support) we also devote attention to creative jobs outside the creative industries companies. These jobs fall outside the scope of the creative industries which limits itself to companies within the sector. In chapter two it was noted that there is a need to include in the equation not only those jobs in companies in the creative industries but also those actively creative outside the sector. This embedded creativity can be of great importance for broad economic development and innovation. At the time of carrying out this study there was no database available for estimating the extent of the population of creative occupation groups employed in the CREATIVE AMSTERDAM cities. This information can be assembled at a later date. The investment required for this goes beyond the scope of this research in terms of time and the resources available. This has been

shown by a feasibility study.

However, by choosing an indirect approach we can gain sufficient insight into the questions raised. So creative occupation groups are not estimated where the creative companies are located, but rather we look at the cities where those in creative jobs live. Thereby we rely on a definition of creative occupations not entirely in accordance with the intentions of the approach outlined here. Here we look at creative occupation groups originating from the three domains of the creative industries. The approach which we are obliged to use here assumes a broader definition, that of the so-called *super creative core* based on Richard Florida's creative class approach (2002). We use here the Dutch variant of the *super creative core* from Atlas for municipalities (Marlet and van Woerkens 2004a; 2004b and 2007; Marlet 2009) included in Appendix 3. The *super creative core* includes a great deal of the creative occupation groups referred to here, but also includes other creative occupations with little or no connection to creative industries jobs. On the basis of data from the EBB (Enquete Beroepsbevolking) of the CBS the size of that group is determined as a proportion of the total workforce. Also based on this, the group size within the CREATIVE AMSTERDAM cities is below compared with that in other cities in the Netherlands. It is not yet possible to determine currently the development of the proportion of this *super creative core* per city. Thus, we limit ourselves to the 2010 situation.

It has been decided here to compare the creative industries and *super creative core* of the CREATIVE AMSTERDAM cities with the fifty largest cities in the Netherlands, the so called G50, and not with the national average. It is now well established that creative industries show an urban concentration. Comparing the CREATIVE AMSTERDAM cities with the national average, including rural areas, would lead to a less valid conclusion. The comparison presented here is between cities. The urbanization effect is thus partly neutralized. In the presentation of results the city with exceptional development per analysis unit will receive more detailed attention.

	ICT total	ICT services	ICT hardware	Creative and Cultural Industries total	Creative Business services	Arts and cultural heritage	Media and entertainment	Creative jobs (super creative core)
Creative Amsterdam								
Total	5,2	4,9	0,3	7,7	2,0	2,9	2,9	14,0
Amsterdam	4,1	3,8	0,3	9,5	2,6	3,8	3,1	16,3
Utrecht	8,6	8,4	0,2	4,6	1,5	2,0	1,1	17,0
Zaanstad	2,6	2,4	0,2	3,1	1,1	1,2	0,7	8,0
Haarlem	4,5	4,2	0,3	6,0	1,6	2,4	2,0	9,5
Alkmaar	3,0	2,9	0,1	3,3	1,1	1,0	1,3	8,0
Hilversum	5,7	4,9	0,8	22,5	1,6	3,1	17,9	8,7
Amersfoort	6,7	5,6	1,1	3,8	1,2	1,8	0,8	11,9
G50 - other	3,7	3,0	0,7	3,0	1,0	1,1	0,9	8,5

Table 4.1
Proportion (%) of jobs in the creative industries and ICT out of total jobs and proportion super creative core in total population for CREATIVE AMSTERDAM, CREATIVE AMSTERDAM cities and other G50 (2010).

4.1 Situation in 2010

In table 4.1 the proportion (%) of jobs within the creative industries and information and communication technology of the total number of jobs in the CREATIVE AMSTERDAM network, the individual CREATIVE AMSTERDAM cities, and the other G50 cities is shown. The table also includes, for the same categories, the proportion of total occupations of those comprising the *super creative core*, resident in the cities and regions. In this way the role and significance of every municipality within the CREATIVE AMSTERDAM network can be assessed and the position in relation to the other G50 cities in the Netherlands established.

The proportion of creative industries jobs from total jobs in the CREATIVE AMSTERDAM cities is more than twice as high as in other large cities in the Netherlands. Hilversum and Amsterdam are the most notable peaks. No G50 city scores lower or equal to the average for the other large cities. ICT jobs show a stronger presence in the

CREATIVE AMSTERDAM municipalities albeit to a lesser extent than the creative industries. ICT peaks are seen in Utrecht and Amersfoort. The strength of ICT is purely based on the ICT services sector. Amersfoort is the only CREATIVE AMSTERDAM municipality which scores above the average for the rest of G50 in ICT hardware. ICT hardware exists mostly outside the CREATIVE AMSTERDAM region.

The *super creative core* is particularly well represented in Utrecht with precisely twice the score for other G50 cities. The proportion of creatively active professionals in Alkmaar and Zaanstad is below the average for the other G50 municipalities.

Compared to other municipalities in G50, the CREATIVE AMSTERDAM network is particularly well represented in the creative industries, quite well represented in ICT services and also strong in the creative occupations area.

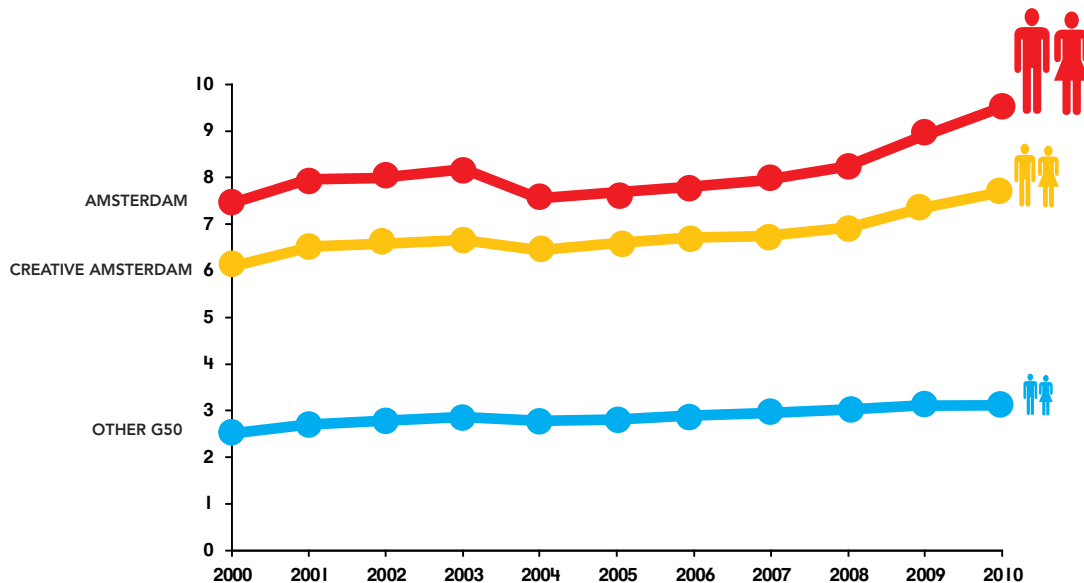


Figure 4.1

Employment in the creative industry is structurally increasing more in the CREATIVE AMSTERDAM cities than in other cities.

4.2 Creative industries 2000-2010

It has been established that in CREATIVE AMSTERDAM cities in 2010, the percentage creative industries jobs in the total workforce was well above the average shown in the other G50 cities. Figure 4.1 shows that this strong presentation applies to the last decade and in recent years has in fact been increasing. The trend is of strength building on strength. Domination and concentration have increased over the years whereby this trend within the CREATIVE AMSTERDAM and in particular in Amsterdam is clear. The fact that the number of jobs in the creative industries is increasing, implies that the creative industries are growing faster than the rest of the economy.

This trend is based in particular on two subsectors: creative business services and the arts and cultural heritage. In the first of these we see a much greater growth trend in employment in the CREATIVE AMSTERDAM cities, than in the other Dutch cities. In particular in Amsterdam. Amsterdam also shows strong employment growth in the subsector the arts and cultural

heritage since 2008. Moreover, it seems that this growth is linked to the compulsory registration of freelancers since 2008 (Koops, 2011). Because of freelance activity in the arts which remained outside the statistics their sudden registration resulted in a jump in statistics. The actual extent of this is not clear. A similar effect is not seen outside the CREATIVE AMSTERDAM cities. This would seem to imply that the CREATIVE AMSTERDAM domination in the years before 2008 was, in fact an underestimation of the actual situation. This became apparent through compulsory registration. The burning question now is what effect will the planned government cuts in arts and culture have on the situation identified here.

In the subsector media and entertainment too, employment levels in the CREATIVE AMSTERDAM cities are higher than the other Dutch cities. Hilversum is the leader in this sector.

However there has been a drop in employment in this sector since 2006. This is in line with earlier Cross Media Monitor 2010 conclusions. Developments in the media and entertainment sector show that larger companies in particular

have shed jobs. Many of the large broadcasting companies and organizations are located in Media city Hilversum. Staff leaving a large company and setting up for themselves will not always automatically locate in the same city as their former employer. Considering the planned cuts in public broadcasting a turnaround of this negative employment trend looks unlikely. As pressure mounts on the media and entertainment industry and the arts and cultural heritage sector as result of cuts, the emphasis of the creative industries in the CREATIVE AMSTERDAM will to a large extent shift to creative business services (especially in Amsterdam) in order to maintain growth. At the same time, innovations emerging from the combination of media and entertainment industry and creative business services on the one hand, and information and communication technology on the other offer a host of new business opportunities (VGI. Rutten et al 2010).

4.3 ICT 2000-2010

The ICT-sector in the CREATIVE AMSTERDAM cities, with the exception of Alkmaar and Zaanstad, is stronger than in the other Dutch cities (see table 4.1). Nevertheless employment in ICT, as in other cities has dropped slightly in the last years. Utrecht is a notable exception, where employment in this sector has shown remarkably strong growth. This means that the actual drop in other CREATIVE AMSTERDAM cities is greater than the average drop shown below.

Growth in Utrecht is mainly due to growth in ICT services. From this can be seen that the development in ICT services is noticeably more positive than the overall development in ICT. The CREATIVE AMSTERDAM and the other G50 average over the last years has been stable while Utrecht shows a marked positive development since 2003.

In view of the above it follows that ICT hardware development should show a negative trend, not only in the CREATIVE AMSTERDAM cities but also in the other G50 municipalities where its presence was stronger but decline is greater. The situation in Amersfoort is noteworthy. Having experienced a sharp decline in 2002 Amersfoort has shown a steady growth in ICT hardware since 2005 thus avoiding the general regional trend.

4.4 Super creative core

Finally the number of people with creative occupations in the CREATIVE AMSTERDAM is compared to those in other cities. In the CREATIVE AMSTERDAM cities 14% of the labour force has a creative occupation, as against around 8% in the other Dutch cities. The highest percentage of those considered part of the *super creative core* are resident in Utrecht (17%) closely followed by Amsterdam (16%). Again with the exception of Alkmaar and Zaanstad more people with a creative occupation live in all the CREATIVE AMSTERDAM cities than in the other Dutch cities (see also table 4.1).

4.5 Conclusion

The collective cities of CREATIVE AMSTERDAM show a concentration of jobs and companies in the creative industries. The share of jobs in the creative industries in the economy of the CREATIVE AMSTERDAM cities has in the last years grown further and outstrips the creative industries growth in the other large cities in the Netherlands. Hereby creative industries concentration increases in the CREATIVE AMSTERDAM cities. Not only in the CREATIVE AMSTERDAM cities but also in the other large Dutch cities we see that creative industries growth exceeds average economic growth. The conclusion is that the creative industries in the Netherlands are gaining in importance but in CREATIVE AMSTERDAM area, where this sector is strongly represented, growth is strongest. There is a growing concentration of creative industries in CREATIVE AMSTERDAM. In the light of the models and hypotheses presented in chapter three the creative industries in the Netherlands and in the CREATIVE AMSTERDAM cities can be seen as a growth sector and a driving force in economic development. The sector is clearly not business as usual; it differs substantially from the rest of the economy. From this the interest of policy makers is logically explained. However the question which still remains is, how do the creative industries interact with other sectors. The question applies also, are the creative industries an integral part of the national innovation system, as suggested in the most far-reaching model presented in chapter three. Similar sounding conclusions can be drawn

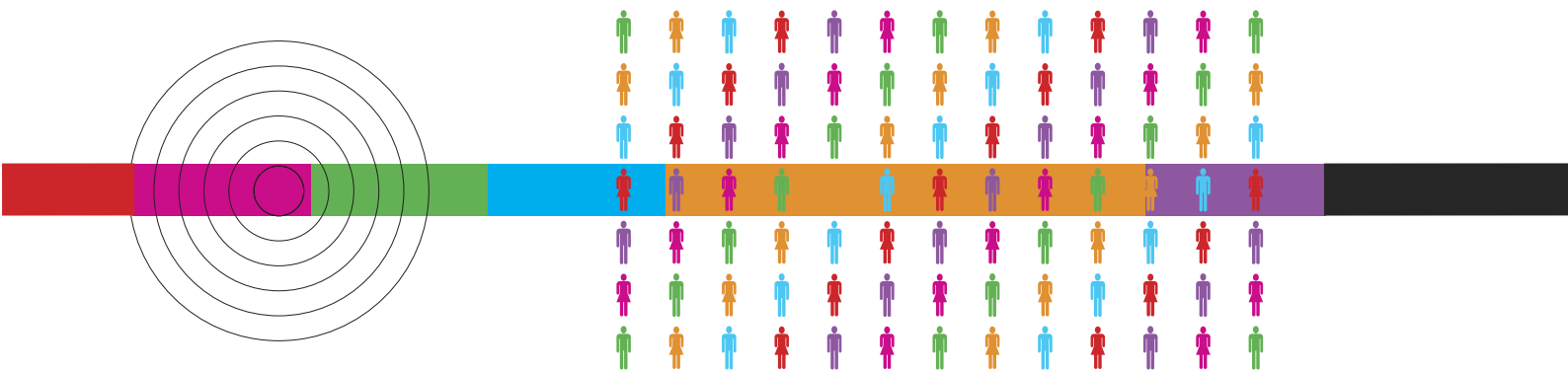
concerning the creative industries and the presence of those involved in super creative occupations. On the whole the CREATIVE AMSTERDAM cities show a higher than average percentage of most creative occupations than the other fifty largest cities in the Netherlands. What stands out is the percentage in the collective CREATIVE AMSTERDAM cities of those involved in a creative core occupation (14%) is almost twice that of those in the creative industries (7,7%). Included in this last group are those in support occupations, like accountants and canteen staff. This points to a strong embedding of creative occupations in the broad economy of the CREATIVE AMSTERDAM cities. The creative potential of the region is hereby considerably greater than the creative industries present indicates.⁷ The creative leverage and associated creative inputs extend far beyond the creative industries.

With the focus on job creation and a view to economic indicators, a danger does exist that the coupling of the creative industries with structural state funding can be lost sight of. In chapter three we have initially introduced a model of the creative industries as a deficit sector, whereby is assumed that this sector could not exist without state financial support. This is not valid as a possible overall concept for the creative industries. However state subsidy has unmistakably a place of importance in the system as a whole.

Which begs the question whether and if so how the subsidized part of the system is interwoven with the more commercially inclined part of the creative industries. Not only as a consumer of commercial services, but also as an integral part of knowledge development, *spillover* and innovation. The growth of the arts sector in the CREATIVE AMSTERDAM cities, particularly in Amsterdam and the strong position of the media and entertainment cluster in Hilversum are clearly connected to state funding. The planned cut-backs in art and culture and public broadcasting

will not be without consequences for the sector when they become reality and spread through the system of the creative industries and creative production. The extent to which these consequences will go beyond lost turnover for suppliers and indeed effect the existing knowledge and innovation system is as yet unclear. This will be determined by the nature and intensity of the interlacing of public and private interests within the creative industries. The development pattern shown by the ICT sector differs to that of the creative industries. ICT hardware is a subsector which in terms of jobs and importance nationally and in the CREATIVE AMSTERDAM cities is generally losing ground. Development of ICT services remains relatively stable and can even be considered business as usual. It should also be noted that the ICT definition used here includes the graphic design sector, a more traditional form of ICT. Its significance is considerably less, while for example as result of competition and international re-structuring in the telecom sector employment growth has dried up however ICT still plays a central role in the economy. Which raises the question how we should describe the role of the ICT sector in the economy in terms of Potts and Cunningham (2008) models, outlined in chapter three. The influence of ICT on other sectors of the economy is enormous. In terms of job creation the sector here is, stagnant. As with the creative industries we can ask the question to what extent ICT is part of the national innovation system. These questions are included in the following chapter where the central theme deals with embedding of sectors in the economy as a whole. We extend the focus from the CREATIVE AMSTERDAM cities to include the complete economic region of the 'Noordvleugel' because the analyses presented here assumes a geographically homogenous area. The central theme is talent migration between sectors.

⁷ Here it should be noted that from the available data, the population comprising the super creative core covers more occupations than the creative occupation groups included in the creative industries.



Chapter 5

Knowledge and skills in the creative economy

In this chapter we examine how a number of specific sectors of the creative industries and ICT are embedded in the economy of the 'Noordvleugel' of the Randstad, that area of the Netherlands within which almost all of the CREATIVE AMSTERDAM municipalities are situated.

5.1 Labour mobility in economic space⁸

From this can be seen whether if and to what extent sectors maintain connections, through relocation of personnel. These connections are an important precondition for cross-fertilization and new combinations. To this end, the upward mobility of talent between sectors in the overall 'Noordvleugel' economy is analyzed and the top five percent of identified labour migrations mapped. This entails all job changes outside the branch boundaries, involving an upward career move. From this assembly of substantial connections existing between different sectors, there emerges a branch network. This is referred to as the industry space.

The 'Noordvleugel' of the Randstad, with the strong urban economies of Amsterdam and Utrecht, has traditionally had great economic potential. Furthermore with its population density, and the presence of clusters of international companies, it is a significant powerhouse in the Dutch economy. Much is produced here. The region is strong in the creative industries and allied sectors like ICT services. This was seen in the previous chapter based on analysis of the situation in the CREATIVE AMSTERDAM cities. It can also be seen from other studies (Van Oort and Lambooy, 2010; Van Oort, van Aalst et al 2010; Koops et al, 2010; Rutten et al 2010). Strongly represented too are broadcasting and television, publishing, gaming, and various forms of creative business services. *Software consultancy* is also of exceptional importance.

The concentration of these sectors in the 'Noordvleugel' is influenced by various location factors but not only that. Van der Groep (2005) suggests a strong determining role for the network connections between creative sectors and professionals. He has, however, only limited data to support this. One way to gain a better insight into the importance of network formation and the connections resulting therefrom, is to study labour mobility between sectors in the creative industries and between this sector and other sectors, as presented here. Relevant information in this area is limited. The question is whether if and how labour mobility between sectors within the creative industries and other sectors in the 'Noordvleugel' forms the basis for interweaving and cluster forming in the regional economy. This is a crucial question because labour flow between sectors results in knowledge circulation, technological cross fertilization and economic resilience in times of recession. The question we want to answer in this chapter is how sectors within the creative industries in the 'Noordvleugel' are interwoven with each other and other sectors via the labour market. Insight into these interconnections between sectors enables a more focused policy with a view to cluster forming in the creative industries and in relation to other sectors. Because the mutual influence of sectors and sectors may be greater and more widespread than supposed, opportunities for reinforcing the impact of the creative industries on the rest of the economy can better be put to use. This analysis, with its attention to creative talent and companies from the creative industries, supports the need already identified for further research into creative occupation groups and the role of creative industries in innovation and economic development.

5.2 Related variety and economic development

The importance of human capital in the current knowledge and services economy is undisputed.

⁸ This chapter is for the most part based on the study 'The evolution of skill-based branches in the 'Noordvleugel' of the Randstad, opportunities and threats' carried out in 2010 by Frank Neffke(EUR), Martijn Burger(EUR), Frank van Oort(UU) and Ron Boschma(UU) for the ministry of Economic Affairs (formerly ELI)

It is then little wonder that relatedness of companies and sectors is generally defined by the common human capital characteristics they utilize. Sectors requiring similar skills and knowledge in their workforce are referred to as skill-related. These form the most important basis for the existence and development of networks in the current economy.

This *skill-relatedness* is, in this chapter measured by the intensity of labour flow between sectors. A relatively large labour flow between two sectors indicates that personnel have the possibility to switch from one branch to another. Both sectors probably require similar knowledge and skills from their employees. Employees can more easily change jobs in regions with many inter-related sectors. Sectors will generally carry out different activities, but can apparently put the knowledge and skills of personnel from neighbouring sectors to productive use. If this were not the case no significant migration of talent would occur. Considering that personnel from other related sectors not only have relevant knowledge but also show fresh insights, there results, from this circulation in the labour market, a cross-fertilization between sectors. This is an important pre-condition for innovation. This explains why new sectors setting up in a region resemble already existing sectors and why sectors which disappear have little in common with businesses which remain and flourish. An important aspect of a local economic structure with much related activity, is that in the event of an economic downturn effecting one branch, the resulting redundant workers can be absorbed by other related sectors, where their skills are valuable. A recent example of the absence of regional related variety is the closure of the R&D department of Organon in Oss. The highly educated workforce made redundant could not be absorbed into the local labour market. From this analysis it emerges that strengths in growth sectors facilitate further extension of regional power and offer opportunities in

potentially related sectors and sectors. The picture of the above average growth in creative industries outlined in the previous chapter, whereby it seemed that applicable knowledge and skills are just as important for other sectors and sectors, provides a good case study for examining this notion.

Variety as an important source of economic growth is not a new concept. Adam Smith, with the term division of labour, pointed to the productivity benefits to be derived from specialization in production processes resulting in a great variety of skills existing in a particular factory. This also applies to the economy as a whole when companies specialize and generate increased productivity. Jane Jacobs (1969) et al developed and applied this further in the sixties, for urban economies. According to Jacobs a more varied urban economy (comprising multiple specializations) would lead to more new ideas and innovation. In short, variety is seen as an important ingredient for knowledge development and as a source of prosperity. The city or region form the context within which this knowledge and prosperity development takes place.

Many studies into this phenomenon have been done since the nineties and reported in *regional science* literature. Many attempts have been made to quantify the so-called Jacobs' externalities – economic benefits deriving from a diversified sector structure – in order to establish the economic benefits for cities with a broad range of sectors. The most important question raised here is whether more diversified cities show higher economic growth than those specializing in one or few sectors. After twenty years of research, the results are disappointing as some meta-studies and a comprehensive review of this literature has shown. Jacobs' externalities seem, in some studies to have a positive effect on regional economic growth, in other studies no effect, and in still other studies a negative effect.⁹

⁹ Page 3.5 these studies have shown that: (1) knowledge spillovers in particular are spatially limited. That is to say geographic distance is a significant barrier to effective knowledge exchange, in particular in knowledge intensive sectors. (2) new branches seem to flourish in more diversified regions, while sectors in a later life-cycle phase do better in specialized regions.

A possible reason for the unconvincing results these studies have yielded, is that sector relatedness has not been taken into account. The evolutionary literature suggests that technologically related sectors exchange more information and learn more from each other than sectors with little in common, technologically and operationally. The underlying idea here is that sectors can only effectively communicate and learn from each other when they are cognitively close. This is the case when their activities are based on comparable knowledge and skills and hence of use in both sectors. In other words, a sector must have absorption capacity and adaptability in order to utilize knowledge from other sectors. This in turn results in regional specializations occurring. Thus it is not so critical that urban regions have per se a diversified economic structure, but that they include many inter-related sectors, for example in the technology field. The greater the number of technology inter-related sectors in an urban economy (hence more variety in related sectors) the more potential knowledge sources there are, more knowledge spillovers between such related sectors can be expected, more innovation can occur and more economic growth in urban regions can be anticipated.

The process of related diversification functions mainly through labour mobility. Much attention is paid in the literature to labour mobility as an important booster of knowledge diffusion between companies. Considering that labour mobility mostly occurs within a labour market area, it is also an important cause of and channel for knowledge spillovers at regional level, and therefore of regional economic growth. Indeed, up till now little attention has been paid to the question what economic consequences a company experiences by hiring new employees from related sectors. Boschma et al (2009) have shown, based on more than a hundred thousand job changes in Sweden, that hiring of new

employees with related work experience leads to higher labour productivity and growth.

Human capital is the most important source of wealth in a region. A large and diversified labour market is very attractive for companies and migrants, even more so now that transport costs as a reason for concentration of economic activity have decreased. Proximity to suppliers and customers is becoming less important in many industrial sectors, because raw materials and semi-finished products come from further afield, and are purchased for lower prices. This diversification potential inherent in regional human capital is by far the most important factor in establishing the opportunities and threats for a local economy.

The specificity of human capital has implications for labour mobility between sectors but also for embedding of individual sectors in the overall regional and urban economy. Since workers will seek to avoid their carefully built up human capital being destroyed, it is expected that they will mainly move between jobs in sectors entailing work requiring similar skills.

5.3 Research¹⁰

The study presented here was set up to establish the opportunities and threats involved for specializations and clustering of sectors in the 'Noordvleugel' of the Randstad. Within this study we look in particular at how some sectors of the creative industries and a branch from ICT are embedded in the regional economic structure of the northern Randstad based on job changes between regional sectors. Thereby we can establish how this clustering of sectors with each other and in the broader economy takes shape, in a pattern of related variety. We assume that the upward migration of talent between sectors, when employees switch to a higher function in another branch, is an indication of a correlation of knowledge and skills between these sectors.

10 See van Neffke, Burger, Van Oort & Boschma's (2010) study for a full methodical justification.

This enables us to establish the relative position of sectors from the creative industries within the economic space of the northern Randstad.

The sectors are quantified on the basis of the extent of the employment and job growth they represent in the period 1996-2008. Detailed insight into required skill-sets of employees and relatedness of sectors is drawn from Swedish data (Nefke & Hemming, 2009). The Swedish structural characteristics are transposed to the Dutch situation.¹¹ Instead of firstly grouping sectors in established clusters, we treat each branch on an individual basis in its related area. Each branch has, on the basis of its specifically required *skill-set* its own position within the regional economic space, in relation to other sectors. This area differs for each branch.

The study provides a so-called *industry space*. That is a visualization of the 205 sectors included in this study and of the five percent strongest and most pronounced interconnections between these sectors, based on related skills. Considering that there are $205 \times 204 = 41.820$ possible two branch combinations, even a description of this five percent an impossible task. For this reason we use a network diagram. The 2008 network is shown in fig 5.1. the nodes in the figure represent sectors on what known as a 3-digit level.¹²

The color and symbol of the nodes indicates to which broad sector a branch belongs. The broad sector classification is defined in the economic statistics (SBI or CBS), leader in Dutch business statistics. A summary of this can be seen in fig. 5.2. Here, the 3-digit branch 'banks' as part of the broad sector 'financial institutions' is shown as a yellow square. Creative industries sectors form part of the broad category 'environmental services, culture, recreation and other services'. Striking is the inclusion of the publishing branch

in the broad category 'industry'. Advertising agencies and software consultancy are part of the broad sector 'Rental and commercial real estate, leasing of movable goods and business services'.

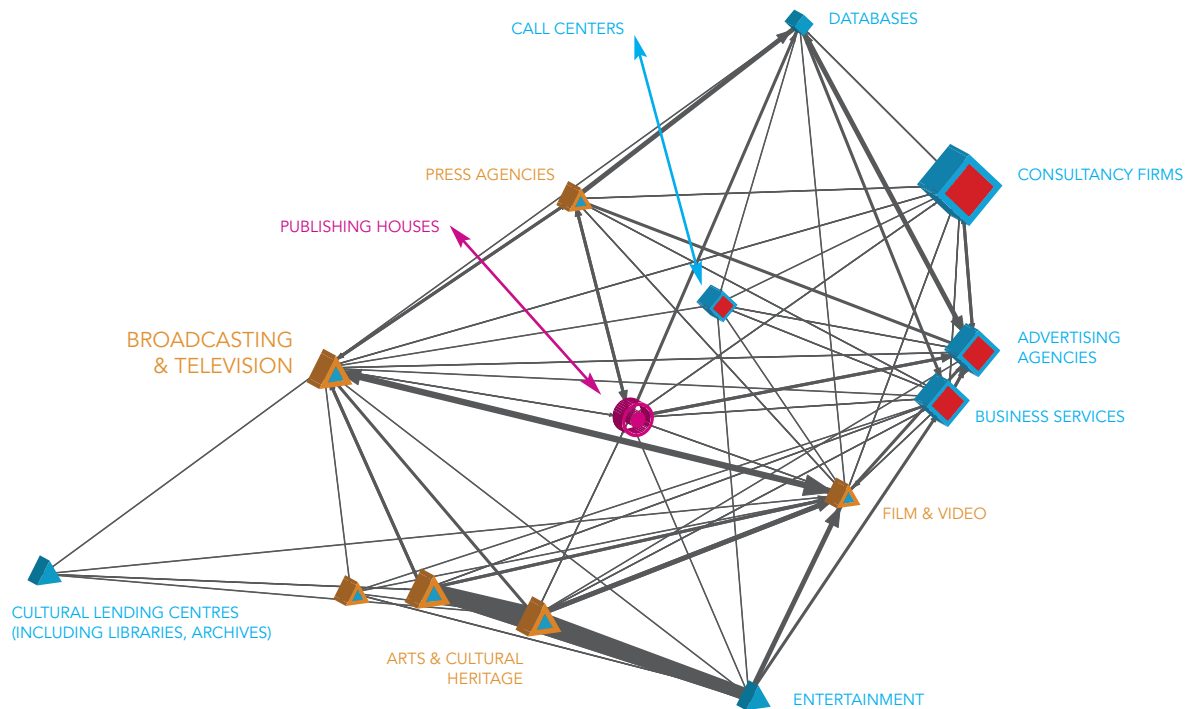
The lines connecting the nodes indicate which sectors are related in terms of their normal skills. The thickness of the lines in fig. 5.1 up to and including fig. 5.3 indicate the strength of the relation. The position of the relevant branch nodes is established by using an algorithm whereby nodes having strong connections, are located closely together in the economic or *industry space*. As result, one can, based on the relative positions of two nodes, determine whether sectors are related to the same group of sectors. Related sectors are generally positioned close to each other in the *industry space* network. Larger sectors (in terms of employment) are shown larger in figures 5.1 up to and including 5.3.

In the analysis that follows we describe a number of creative industries sectors and one from ICT services in addition we map their setting based on their relationships with other sectors in the Noordvleugel. Furthermore we define the extent to which these sectors have an important employment role in the 'Noordvleugel'. We also establish the extent to which the growth potential of related sectors can be identified. We will deal with the branch relationships of radio and television, advertising and software development and consultancy.

11 Because Sweden and the Netherlands are comparable modern European economies, the structure of relatedness of employee skills is comparable.

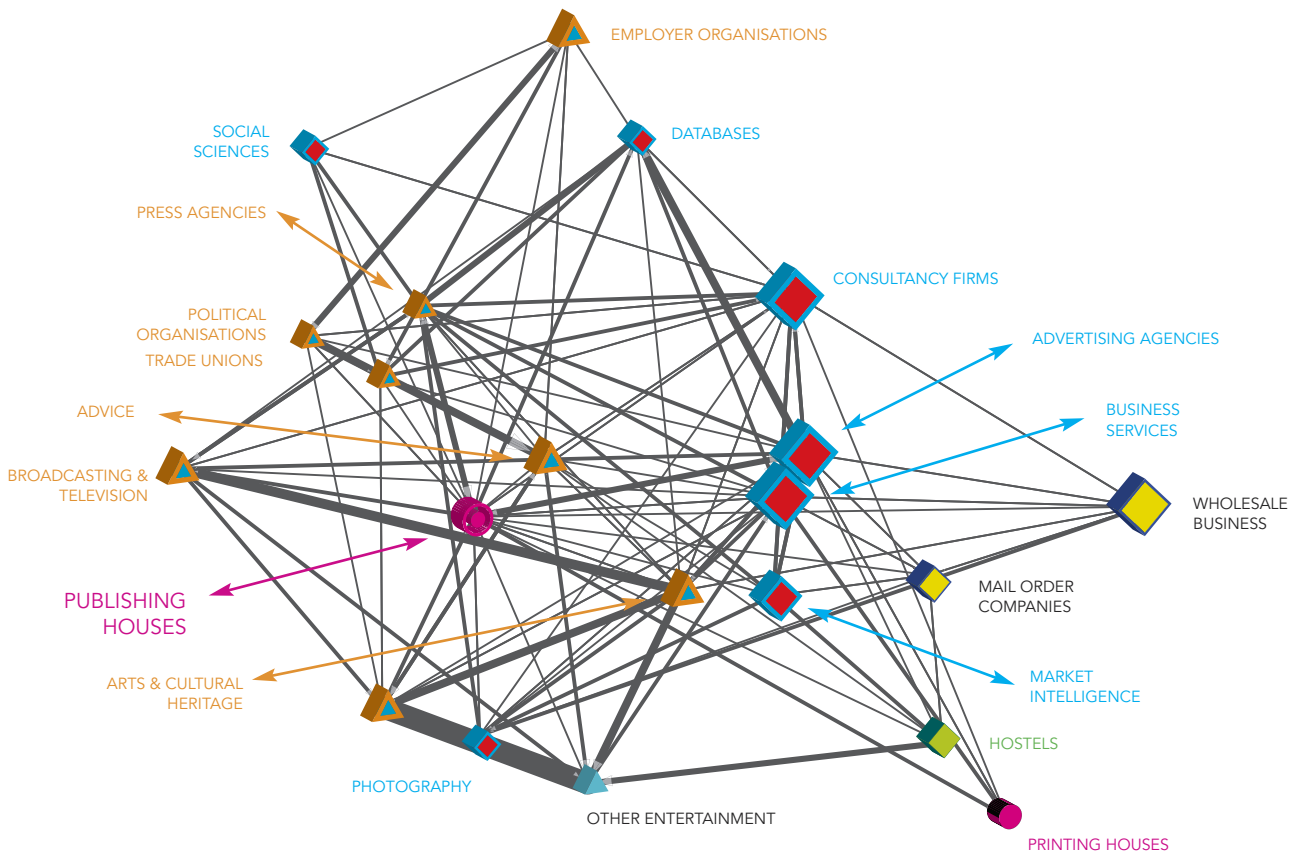
12 3-digit refers to the extent of specificity of a branch designation within a static system, for example the SBI-encoding of CBS. 3-digit is a relatively low level of abstraction.

Broadcasting and Television 12.000 JOBS



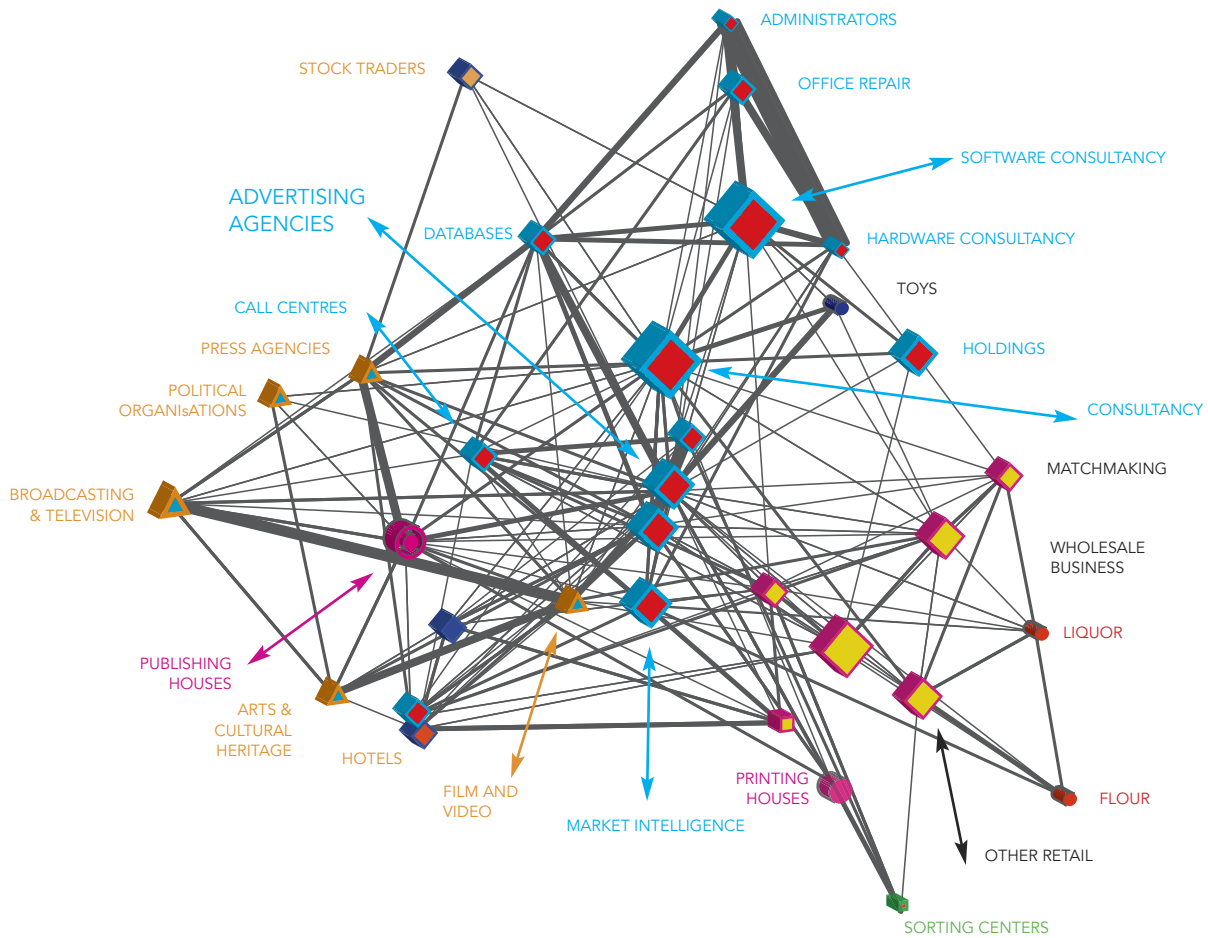
With nearly 12,000 people working in broadcasting and television, the sector is over-represented in the Amsterdam Metropolitan Area. Particularly the cities of Hilversum and Amsterdam show a strong specialisation. The broadcasting and television-sector is primarily linked to other parts of the media- and entertainment industry amongst which film and video, press offices and publishers, but also to theatre and the arts. In addition there are ties with the (creative) business services, mostly advertising offices, consultancy firms, and database activities. The broadcasting and television sector is strongly embedded in the regional economy and is considered a linking pin in the economic space of the MRA. Our results do not show a strong connection between the arts and business services, however indirectly they are linked through broadcasting and television. The sector can be considered as an intermediary in this perspective.

Publishing
15.000 JOBS



In 2008 the publishing houses were responsible for approximately 15,000 jobs in the Amsterdam Metropolitan Area/Noordvleugel. The "Noordvleugel" is specialised in this sector. The position of publishing houses is comparable to the position of broadcasting and television. Publishing houses are, however, more closely interlinked with business services and less with other parts of the creative and cultural industries. The skills required by publishing firms are similar to the skills requested of staff working at press agencies, advertising firms, databases, arts, broadcasting and television and printing houses as is shown by the relationship pattern of the sector. Publishing houses are very well embedded in the regional economy of the "Noordvleugel".

Advertising Agencies +22.000 JOBS



In 2008 a number of 22,000 people are employed by advertising agencies based in the “Noordvleugel.” The sector is overly represented in the region. The expertise of those working in the industry is strongly related to the skills required by other parts of the cultural and creative industries. In addition there are strong linkages to the business services amongst which ICT and Trade, but mostly business consultancy, software consultancy, wholesale companies and matchmaking services that are all strongly based in the region. The advertising agencies are very well embedded in the job market of the “Noordvleugel”.

5.4 Creative industries and ICT in the industry space of the 'Noordvleugel'

Policymakers have for some time been paying special attention to the creative industries and associated clusters in the Randstad 'Noordvleugel'. There are three main reasons for this. Firstly, the development of economic clusters in the most populated part of the Netherlands is of more-than-regional importance because economic growth here results in a greater increase in employment on a national scale. Secondly, because the northern Randstad economy is relatively strongly anchored internationally, these regional clusters can help enhance Dutch international competitiveness. Other regions can also benefit from this. The third reason is that the Randstad "Noordvleugel" is a concentrated creative industries area. This has clearly emerged in the previous chapter.

Figures 5.1 to 5.3 show the relatedness three creative industries sectors and one from the ICT sector have with other sectors. The green edging around the nodes show the extent of branch specialization in the 'Noordvleugel'. A green border signifies that the particular branch contributes considerably more to overall employment in the 'Noordvleugel' than is nationally the case. A red border signifies the opposite. Below we see a concise description of their most striking features per branch.

5.4.1 Radio and television

In 2008, almost 12000 people were working in radio and television in the 'Noordvleugel'. This branch is thus overrepresented in the region. Particularly Hilversum and Amsterdam are specialized in this area. Fig. 5.1 shows that the radio and television branch is in the first instance related to other parts of the media and entertainment industry. Such as film and video, press agencies and publishers but also to another subsector within the creative industries: art and cultural heritage, through ties with theater and art. These last two sectors are to a large extent subsidized as are radio and television. The radio and television branch also has strong ties with creative business services, in

particular advertising, business management consultancy and databank activity. Radio and television is well embedded in the regional economy and also fulfills a unifying role in the industry space of the 'Noordvleugel'. Art and business services are from our results not seen to be strongly connected, although indirectly via radio and television. The branch has here an intermediary role.

5.4.2 Publishing

The publishing branch was good for 15000 jobs in the 'Noordvleugel' in 2008 (fig. 5.2). This branch is also overrepresented in the region. The 'Noordvleugel' is specialized in this branch. The position of publishing in the industry space of the 'Noordvleugel' is comparable to that of Radio and television. However, publishing is more strongly related to business services, and less to other sections of the creative industries. The rift identified between publishing and other parts of the creative industries translates also to a certain distancing of this branch from policy discussions concerning the creative industries, despite the fact that this branch is included therein. In particular it appears from the relationship pattern of the branch that the skills used in publishing are highly related to the skills required by press agencies, advertising agencies, databanks, art, radio and television and also printing. Publishing is strongly embedded in the 'Noordvleugel'.

5.4.3 Advertising agencies

More than 22.000 people worked in advertising in the 'Noordvleugel' in 2008. The sector is greatly overrepresented in the region (see fig. 5.3). As seen from the above the expertise of advertising staff is strongly related to that of other creative industry sectors. But there are also strong links within business services, including ICT and trade. These sectors, but especially management consultancy, software consultancy, wholesale and commercial mediation are all greatly overrepresented in the region. Advertising agencies are extremely well embedded in the regional workforce of the 'Noordvleugel'.

5.4.4 Software consultancy

With 63.000 employees in 2008, this branch is greatly overrepresented in the 'Noordvleugel'. Moreover, this branch is widely spread within the industry space of the 'Noordvleugel'. *Software consultancy* is strongly connected to the financial sector, to business services, including a number of technologically oriented services (R&D, inspection and control, network management, architectural offices) and a number of industrial sectors (transmitters, measurement and control apparatus, audio and video). Connections between the software sector and the creative industries occur mainly in the technologically intensive sectors like gaming, architecture and engineering and also advertising. The *software consultancy* relationship network differs significantly from the other sectors investigated belonging to the creative industries. This underlines that software consultants qua skill-set differ more from the above mentioned creative industries sectors than they do from each other. The connectivity of *software consultancy* within the broad economy indicates far-reaching diversification. This branch can be seen as an important hub branch with a great deal of off-shoots in the service economy. In location terms this branch is particularly well represented in Utrecht. Based on *skill-relatedness* this branch has much development potential. This branch exhibits strong growth in various regions and cities (Koops et al 2010).

5.4.5 Conclusion

An interesting picture unfolds if we consider the 'Noordvleugel' economy as structured around a number of creative key-sectors. This picture begins with the radio and television branch. The local specialization in radio and television is rooted strongly in the large creative sector in the 'Noordvleugel'. Furthermore it seems that the link between the creative industries and business services can prove useful. This mainly takes shape via publishing and advertising, both of which are part of the creative industries but more closely connected to business services than radio and television. This bridge via publishing and advertising affords local business management and software consultancies access to other parts

of the creative sector. At the same time cross-fertilization takes place between the creative industries and business services and the enormous financial services sector, particularly in Amsterdam, on the one hand, and the more high-tech sectors in Utrecht. Resulting from this constellation the potential exists for ideas from the creative industries to circulate in the high-tech sectors and in financial services. In serious gaming we see an interesting combination of creative development, high-tech and business services taking place.

5.5 Conclusions

The research that we have presented in this part of our study shows that the creative industries are strongly embedded in the economy of the region within which the CREATIVE AMSTERDAM cities are located. The branche sectors investigated, are not only significant in magnitude based on the knowledge and skills they require, but also have strong links to other sectors within and without the creative industries. Because the sector is growing and there seems to be a growing significance of creative occupations and capabilities in the broader economy, which is often referred to as the creative economy, we can here suggest that the creative industries are a driving force in the regional economy. Not only because of the growth in its own ranks but also through an exchange and flow of talent to the rest of the economy. The creative industries in the 'Noordvleugel' are in short strongly interconnected but maintain also many skill-based relations with other sectors. The creative industries have therefore a potentially greater embedding and employment function in the economy of the 'Noordvleugel' than that of sectors considered in isolation would suggest.

The branch studied here from the information and communication technology domain has a hub or turntable function in the economy. Information technology is an enabler for countless processes within the current knowledge and services economy. Therefore this sector encompasses a certain degree of knowledge about all the different sectors

wherein IT plays a part. Apart from being merely a service branch software consultancy is also a sector where specific knowledge from different sectors merges and combines and can be seen as a breeding ground for new concepts and ideas, read innovation.

A lesson shown in our study is that regions cannot with impunity invest in new activities and excel, without taking existing strengths into consideration. It is essential to consider the sectorial past as a starting policy position. This past determines the possibilities for economic renewal in the region. The question now is in which areas of the specific production structure of the 'Noordvleugel' should policy intervene, given the existing sector structure and the extent of relatedness the sectors present have with the creative core sectors. Three groups deserve particular attention.¹³

First of all there are the so-called winners: these are large sectors which are well embedded in the regional economy through the presence of the many related sectors in the region. In the 'Noordvleugel' these are the creative industries, publishing, radio and television, advertising and financial services. From a policy point of view, it appears initially that intervention is unnecessary: these sectors have grown to a respectable size and there exists adequate potential for interaction in the region. Further research should show if bottlenecks exist in thru-flows of workers between these sectors. If this is the case, there could be a policy response, in order to fully benefit from the potential skill-relations with other local activities.

Secondly there is an interesting group of potential growth sectors. Although these are relatively small in size and possibly underrepresented but many related regional sectors exist around them. Here too we find new sectors developing on the basis of new combinations, though not necessarily originating

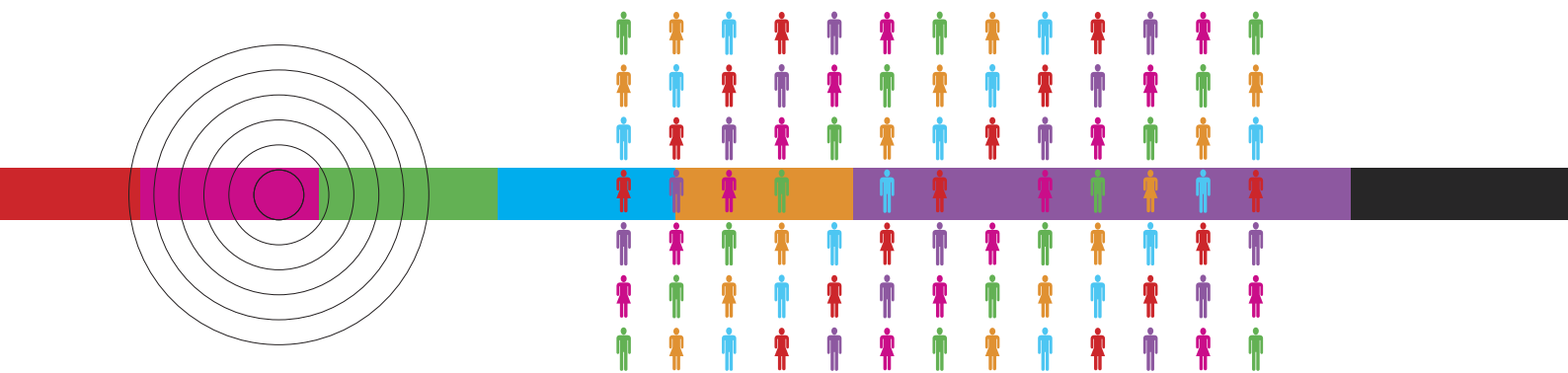
in the Randstad 'Noordvleugel'. However, in this region, they encounter a combination of skills available which makes a breeding ground for development possible. Within the creative industries these are for the most part sectors wherein ICT and existing creative industries combine or out of which new sectors emerge. An example of the latter is games, the former is referred to by the more general term cross media (Rutten, van Mil & Visser, 2011). A particular feature of these sectors is that the relevant playing field is to a large extent global, which is not to say that regional clusters become obligatory, far from it. What is relevant here, regional strengths considered, is that a global labour division already exists whereby regional centers compete with each other for specific existing assets, including requisite talent, but also other factors. Government policy can be one of these factors. A third group of sectors which are relevant here, are those functioning as a hub or turntable in the 'Noordvleugel' economy, such as software consultancy and business management consultancy. These sectors are well positioned to function as a sort of knowledge serving hatch between sectors, having loose, or no direct, ties to each other. It is important however that the region actually realizes these potential links. Detailed study is needed, on the one hand, into possible links identified between sectors but not completed and on the other hand into possible links not yet identified. This may be the result of a lack of information in the sectors. Innovation often occurs at hitherto unused interfaces between differing (unknown to each other) sectors. The important thing is to choose the right broker who understands the process and can play a unifying role at this interface and can for example stimulate research networks transcending branch interests. Although, government agencies may be able to fulfil this role, they must do so in consultation with branch organisations or existing producers who know the market and

¹³ Neffke, Burger, Van Oort & Boschma (2010), in a report for the ministry of Economic Affairs identified another branch type not discussed here. These are relatively overrepresented branches (and large in size), but lacking relatedness with other regional branches.

terrain well, for example by organising expert meetings. Also, the stimulation of entrepreneurship resulting from activities at these interfaces, could be a useful tool. This is mainly the case when existing companies are insufficiently maneuverable to take advantage of these opportunities themselves but can avail of the the spin-offs.

Often, the above mentioned sectors have a supralocal or even an international orientation, from which they greatly benefit. This being the case, policy could assist in enabling interactions with related sectors not in but outside of the local region.¹⁴ That is unmistakably the case for the second category of companies mentioned; *games* and *cross media*. Here, not only the creation of partnerships with important foreign centres is involved, but also a strategic orientation. This is focused on developing appropriate assets in order to play a role in the international industry structure of the formative digital media industry, in such a way that local knowledge and skills be optimally brought into the equation. This applies to among others the intended media-hub or gateway function of the 'Noordvleugel' of the Randstad in the developing digital media economy. Because, for different reasons, this sort of strategy formation and coordination is not automatically grasped by sectors and sectors, specific branch organisations could take on strategy coordination and direction, herein supported by different government agencies.

14 Examples in the 'Noordvleugel' mentioned in the report by Neffke, Burger, Van Oort and Boschma for ministry of Economic Affairs are among other biotechnology (Leiden, Wageningen, international), financial services (London, Frankfurt, Paris) technical instruments (Eindhoven, Stuttgart) and renewable energy (Groningen, Arnhem, Braunschweig).



Chapter 6

Creativity and economic strength

6.1 Creative industries, creative talent and knowledge spillovers

Embedding of sectors in the economy on the basis of mobility of talent beyond branch boundaries is a necessary, but not in itself sufficient condition for contributing to innovation and economic growth. The fact that talent migrates from creative industries companies to other sections of the economy and vice versa provides no conclusive evidence that there is a substantial creative industries contribution to economic growth and innovation. However, from the theoretical insights which now emerge from the many studies carried out into these interactions, such an effect does seem plausible. Based on this plentiful theoretical evidence, we will try, in this chapter to show the possible positive contribution of the creative industries to the 'Noordvleugel' economy. We examine whether the specific strength of the creative industries and the creative talent population size correlates to economic growth in these cities, while controlling for other possible growth factors.¹⁵

The question that we address here are: is there a significant correlation between economic growth and the growth of the creative industries? Is there a differentiated effect of the various sub-sectors of the creative industries? What is the significance of the presence of creative industries companies vis-à-vis creative talent in these cities? Is there a similar correlation between economic growth and development of the ICT sector, or parts thereof?

In the previous chapter it was established that there is substantial labour mobility between the creative industries and other sectors. From this we would argue that the creative industries contribute to a stronger economy. However, it doesn't necessarily mean that the rest of the economy actually benefits from a large creative industries presence in a city or region. It is not self-evident that the existence of *spillovers* from

the creative industries effectively ensures further economic growth. In this chapter we attempt to study the effectiveness of the possible *spillovers*. *Spillovers*, or externalities, are agglomeration benefits associated with density, and which arise from overall activity without an individual company bearing all costs. This can relate to knowledge (which is available to such an extent that it can be accessed more cheaply) but also to the proximity of suppliers and outsources (lower search and transaction costs) or the presence of a concentrated labour market. Does the economy of the CREATIVE AMSTERDAM cities benefit from *spillovers* from the relatively large creative industries in these cities?

We have already mentioned above that at the end of the 19th century Alfred Marshall (1890) observed that transfer of knowledge and new ideas between workers and companies occurred faster in cities with a higher concentration of business activity and population density. Knowledge transfer between and productivity of companies in these cities was higher. According to Nobel prizewinner Robert Lucas (1988), cities including many highly educated, creative people have an economic advantage. Through interaction between themselves these highly educated and creative people increase their knowledge not only within their workplace but also improve the overall knowledge level in the city or region.

Through these knowledge *spillovers* the economies of cities with large 'creative capital' stocks, also partly present in creative industries companies, show strong growth. These cities show higher productivity and in general higher wages (Rauch, 1993). This highly productive labour potential attracts in addition new businesses, whereby employment increases more than in areas with fewer skills (Glaeser & Saiz, 2003). In such cities, the demand for housing and business space is greater, resulting generally in higher property prices (De Groot et al 2010).

The assumption here is that creative people and

¹⁵ We note here that if a correlation is not identified, it does not signify that it does not exist.

companies in a city bring about *spillovers*, which benefit other people and companies. If it is the case that the creative industries in the CREATIVE AMSTERDAM cities result in *spillovers* to other parts of the economy, then productivity and wages should be higher, and as result employment growth stronger. Because of a lack of reliable data for productivity and wages in Dutch cities, the existence of *spillovers* is in this chapter studied by looking at the relationship between the presence of creative industries and employment growth in other sectors. We assume therefore that cities which showed stronger employment growth in the creative industries over a certain period, also showed stronger employment growth in other parts of the economy, resulting inter alia from creative industries *spillovers* (controlled for other factors).

6.2 Research

In order to correct for all of the factors which in theory could influence differences in employment growth between cities, we utilize regression analysis. Here, by using models, we study whether *spillovers* occur between the city based creative industries companies and those in creative occupations living there. This is done by looking at the relationship between creative industries, the information and technology sector, the ICT subsectors and the creative occupations on the one hand and employment development in other sectors on the other, and comparing this to other cities in the Netherlands. The employment data analyzed is from the period 1994-2006. A large and consistent set of data is available over this period on the basis of which valid conclusions can be drawn. The post 2006 data available considers another categorization which makes comparison extremely complex and labour intensive. The analysis is carried out over this period because the CBS consequently switched to another sectorial system of employment registration.

6.3 Results

The results of these model estimates arising from our regression analysis are included in table 6.1. This shows first of all that the differences in employment growth between the fifty largest Dutch municipalities can be explained by means

of the different variables included in the model. That applies to 90% of the difference in employment growth over the period 1994-2006. The chance of there being other reasons for growth is thereby limited. Besides the proportion of creative industries in a city, employment growth can be significantly explained by population growth, extent of agglomeration and sectorial structure.

Population growth is the most important reason for increased employment. In cities with more new housing and stronger population growth, employment also increases. Where new people settle, new bakers, butchers, teachers and other population- related service occupations and businesses are needed. This brings new jobs and employment. Utrecht is an exception to this rule. The population there grew with the building of the district Leidsche Rijn. The expected population- related employment did not occur. This may be as result of the lack of shopping centers and such facilities in the neighborhood for a time, whereby the employment growth lagged behind. Besides, it is also shown that cities in agglomerated regions (read: Randstad cities) have experiences significantly less employment growth over the period 1994-2006. Which is probably due to agglomeration drawbacks such as lack of office space and traffic jams, which were widespread in the Randstad in this period. Finally, regions with a large proportion of traditional industries in their industry space are faring less well economically. That is directly attributable to the decline in job opportunities in traditional industries in the last decades. Cities with a diverse sectorial structure show more population growth and an increase in job opportunities (van Oort 2002). This development underpins the position taken in the previous chapter that sectoral, but especially related, variety is crucial to economic resilience. This variety is often lacking in regions with more traditional industries, or the variety is made up of a combination of related traditional industries. This variety provides no solace in the face of economic adversity.

The analysis of the correlation between the creative industries and economic growth gives us a picture wherein cities with high creative industries employment do better economically

than cities with fewer creative industries jobs (see column 1 on table 6.1). It appears that especially creative business services (column III) and the media and entertainment industry (column V) are responsible for the link between the creative industries and economic growth. This connection is not only due to the Hilversum effect. Without taking the media city into consideration the connection between the scale of media and entertainment and the growth of employment in other sectors remains intact. There does not appear to be any significant connection between the size of the subsectors 'ICT services' and 'art and cultural heritage' and growth of employment opportunities in other sectors. For this reason this result is not shown in table 6.1. The relationship between different explanatory variables and economic growth are expressed as a coefficient. The coefficient for the connection between the scale of the creative industries and employment growth is here 0.65. this means that cities with an on average 1% larger creative sector of the period 1994-2006 experienced

0.65% extra employment growth. In other words: one extra job in the creative sector has, over a twelve year period, led to an average of 0.65 extra jobs elsewhere in the city. This 'effect' is much greater for creative business services: one extra jobs in the creative business services over a twelve year period corresponds to four extra jobs elsewhere in the local economy. In media and entertainment the ratio is 1:1,13. In regression analysis methodology new variables can be introduced on the explanatory side, to investigate whether relationships previously observed in the analysis remain valid with the addition of new information in the explanatory model. We have also done that here by considering in the model not only the creative industries and its subsector but in addition the numbers of creative talent living in the cities. Ideally we want to establish if the correlation between the number of jobs in the creative industries and economic growth is for the most part dependent on the total number of jobs within the companies (creatively active and

Table 6.1 Creative industries, creative occupation and employment growth

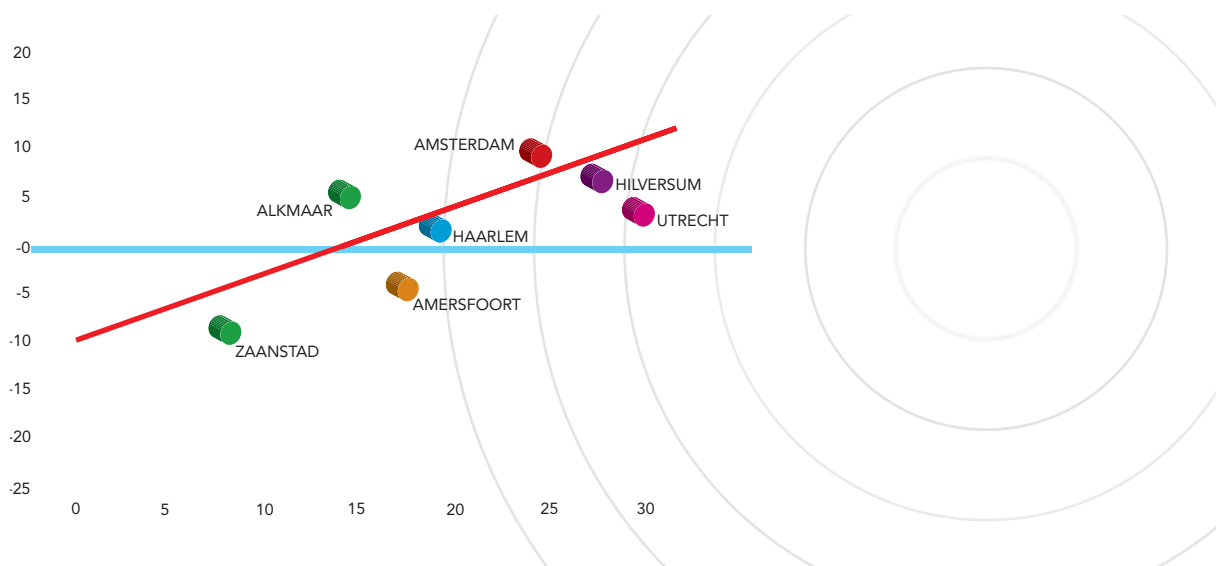
Employment growth-2006 (source: CBS)	I	II	III	IV	V	VI
Proportion creative jobs (source: Lisa)	0.65**	0.19				
Proportion creative business services (source: Lisa)			4.25**	1.3		
Proportion media and entertainment (source: Lisa)					1.31*	0.46*
Proportion creative occupations (source: Atlas/CBS)	0.19***			0.18***		0.18***
Regression of dependent upon independent variable	89,2%	88,9%	87.5%	88.2%	87.8%	87.4%
Sample	50	50	50	50	50	50
Method	WLS	WLS	WLS	WLS	WLS	WLS
***	Significance > 99,9% probability					
**	Significance > 99% probability					
*	Significance > 90% probability					
Significant control variables are: population growth, degree of agglomeration, share of industry and a dummy variable for the city of Utrecht						

support functions) or that it in fact revolves around the number of creative jobs in the total economy. These are jobs whose origins are in the creative industries but have fanned out to all sorts of sectors in the region, as we have already outlined in chapter five. Ideally we should have data relating to this creativity embedded across the economy and on the basis thereof establish whether this, or the total number of jobs in the creative industries or its subsectors, better explains economic growth. Because we do not have this data we here use a variable that is an approximation of embedded creativity: the number of creative people with a creative occupation resident in a city and included in the *super creative core*.¹⁶ If we add the percentage of residents of a city with a creative occupation (included in the *super creative core*) to the model the explanatory power value of the creative industries declines significantly. The coefficients representing the explanatory power of the creative industries in the models diminish

greatly (see columns II, IV and VI). Moreover, with the exception of the media and entertainment sector the significance of relationships disappears. The indicator coefficient for creative occupations is 0.19 (See column II in table 6.1). In other words one extra creative occupation resident in the city corresponds on average to 0.19 extra jobs over 12 years. Summarizing, this means that the most significant factor in economic growth of cities is based on the presence of creatively active professionals there. This effect is stronger than the presence of companies in the creative industries and information and communication technology.¹⁷

In figure 6.1 our analysis results are stylized. The diagonal line through the point cloud shows the correlation between the presence of creatively active professionals in a city and economic growth between 1994-2006. The red dots signify the fifty largest Dutch cities. The CREATIVE AMSTERDAM are named.

Fig. 6.1 proportion creative occupations is associated with higher employment growth.



¹⁶ See for more paragraph 2.3

¹⁷ It is important to note here that based on current data sources we have been unable to test the explanatory power of creative jobs in the regional economy (both in and outside the creative industries), jobs originally in the creative industries. Theoretically, there is quite some support for that proposition, as shown in chapters two and three of this study. While it is also interesting to examine to what extent there are differences between professions in creative business services, the arts, and the media and entertainment industries.

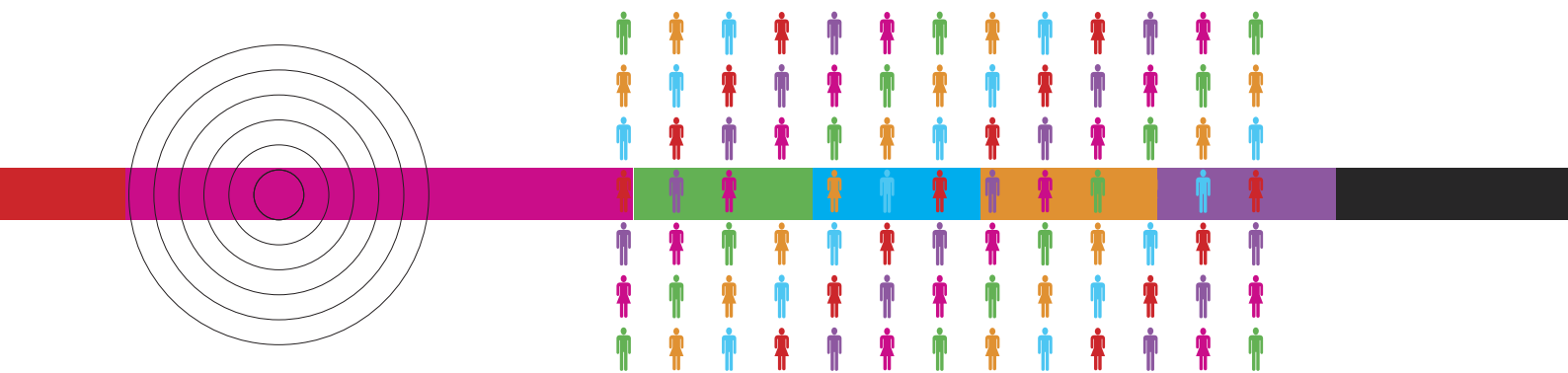
6.4 Conclusion

The results reported here suggest that, when it comes to the determination of the relevant reference points for economic stimulation policy, not only the location of the creative companies, but also the domicile of the creative people plays a part. That would not only advocate sector policy, but also a policy geared to accommodating creative people through offering them an attractive living environment. The corresponding service employment and companies will follow. This conclusion is in line with previous empirical study which shows that in the modern Dutch service-economy, companies follow the people to the most attractive cities and not vice-versa, albeit the extent to which the latter occurs should not be disregarded. In other words: work follows living more than vice versa (see among others: Marlet 2009). Moreover this is not applicable to all sectors and all municipalities.

It is also conceivable that the method of operationalization (see chapter 4) used has specifically influenced the outcome of the study. This we have already discussed above. In the case of the creative industries the branch in its entirety is considered. This means that the coffee lady working for the broadcasting company is automatically included in the creative industries. This problem does not arise in the operationalization of creative occupations. Domicile alone is considered, not work location. A crucial next step is the inclusion into the creative industries of creative occupations in the various sectors. This should consider work-place location and complement that with the same creative industry occupations that are embedded in companies outside the creative industries. From research (Rutten et al 2005) it is known that the majority of designers in the Netherlands work outside the creative industries. This step is required to show that the above conclusions hold. Perhaps the effect of domicile measured creative occupations can be 'taken over' by more accurate operationalization of the creative industries, measured at workplace location, but considering only real creative occupations within these companies and the broad creative economy.

If the conclusion remains true that investment in living environment contributes as much, if not more, to growth as sector policy, it can be said that in many ways an interesting 'creative mechanism' exists in the city. From model estimates presented in this chapter it is revealed that the scale of the art and cultural heritage sector has no directly measurable positive effect on employment. This subsector however, to a large extent subsidy dependent, reappears on the stage via a different route. The subsector art and cultural heritage produces culture in and for the city. These cultural offerings (in this case, measured by the annual number of performances per thousand residents) do in their turn attract creative people.

The cultural production of the creative industries, including art and cultural heritage creates an attractive living environment for those with creative occupations. These in their turn attract creative companies, whereby employment increases and the economy grows, thus making the city more attractive for highly educated and creative people. This means that creativity in the city directly or indirectly (via cultural production) stimulates employment. A recent study by De Graaf et al (2011) suggest that the direct effect observed here is caused by spillovers from creative industries company location ('jobs follow jobs'), as well as the effect of domicile of creative occupations ('jobs follow living').



Chapter 7

Conclusions

The theme of this study was the possible contribution of the creative industries to the economy and society in the Creative Cities Amsterdam Area. The focus was mainly on whether the possible contribution went beyond job creation and added value but also assisted innovation processes in the economy and society. Another key question in this study was whether it was possible to develop an instrument whereby this broader added value of the creative industries could be periodically measured.

With regards this last question, such an instrument has not resulted from this study. The assessment of the problem has shown that the level of expertise around this theme is not sufficiently developed to present such an instrument at this time. It emerges from this study furthermore that no such instrument is available for other sectors. This suggests that the question is a challenging one, not often asked regarding a sector. This would indicate that something special is happening in the creative industries. Why else would the question arise? A comprehensive study of recent literature, carried out in the context of this study, concerning the broad significance of the creative industries, shows that creative talent plays a key role in the creation, maintenance and extension of innovation and competitiveness within the current creative economy. An important consideration here is that this not only involves those employed in companies in the creative industries, but also those active in creative occupation groups from the creative industries who have fanned out into the broader economy. To comprehend the broad significance of the creative industries for innovation, competitiveness and growth, it is essential to broaden ones outlook. Those involved in creative occupation groups outside the creative industries sector, form, together with their colleagues within the sector, a highly productive potential labour pool for companies. Furthermore,

because of their mobility in the labour market, they bring about a knowledge climate of great importance to innovativeness and competitiveness in the regional economy. Resulting from this the relatively static image of the creative industries emerging from numerous *mapping studies*¹⁸ becomes a more dynamic picture of a sector, which in interaction with other sectors substantiates the dynamic of innovation within the modern creative economy. To visualize and refine these notions in the context of CREATIVE AMSTERDAM we have used four models of the relationship between the creative industries and the broader economy, developed by Potts and Cunningham. Not necessarily in order to test them exactly, because this would require a much more in depth and careful study. This is not achievable in the present context because we must consider the current capabilities of the economic data available. However, the models can serve as background on which to base ensuing empirical work. In Potts and Cunningham's first model the economy is driving the creative industries. Funds generated by economic production are used to facilitate cultural production. This, in essence, is the model on which government subsidy of art and cultural heritage is based. The starting premise is that culture is incapable of supporting itself in the market and is therefore dependent on public funding. In the second model the creative industries sector is seen as just like other sectors. It has no specific differentiating features and as such is not deserving of any special government attention. In model three the creative industries are seen in many respects as a growth engine for the economy; the sector grows faster than average and at the same time functions within the economic system as a driver of innovation and competitiveness in other sectors. The last model goes a step further by asserting that the creative industries do not primarily bring about development in the economy, but are in fact responsible for another

18 Studies where the scale of a sector is generally estimated in terms of employment and added value.

sort of economy. This evolves under the influence of the creative industries; there is a culturalisation of the economy. The creative industries do not work in the economy, but alter it. The creative industries are as such part of the innovation system.

The research questions here investigated are for the most part based on the last two models, although model one cannot be completely ignored. A great deal of the production in the creative industries is indeed based on public funding. This applies to the subsector art and cultural heritage and a part of the media and entertainment industry, where public broadcasting is concerned and a substantial part of the national film industry. A specific mixed economy character is the result of the special significance of available services in this sector: symbolism and meaning. Nevertheless government authorities chose to produce, for their inherent cultural significance, certain manifestations which may not be or not fully supported by the market.

Nevertheless models three and four are the direct inspiration source for the empirical research carried out in the central context of this study. Here the central focus is on the development of the creative industries in relation to the general economy whereby the presence of and the relationship between creative industries companies and creative talent is problematized. The suggestion that emphatically emerges from models three and four is that the creative industries are responsible for a positive economic dynamic.

Our initial analysis shows that the combined cities of CREATIVE AMSTERDAM form a concentrated area of employment and businesses in the creative industries. The proportion of creative industry jobs in the economy of the CREATIVE AMSTERDAM cities has further grown in recent years and exceeds creative industries growth in the other large Dutch cities. The creative industries concentration in the CREATIVE AMSTERDAM region is, as result, further on the increase. Furthermore, creative industries growth in the CREATIVE AMSTERDAM cities and the other large Dutch cities exceeds average overall

economic growth. The creative industries in the CREATIVE AMSTERDAM cities are a growth sector and a driving force in economic development. The sector is clearly not *business as usual*; it differs substantially from the rest of the economy. This logically explains the interest of policymakers. It is noteworthy that the growth of two out of three subsectors of the creative industries takes place partly as result of government support. The art sector in the CREATIVE AMSTERDAM cities, in Amsterdam in particular and the strong position of the media and entertainment cluster in Hilversum have clear links to public funding. The planned cut-backs in art and culture and public broadcasting will not be without consequences for the sector when they become a reality and spread through the system of the creative industries and creative production. The extent to which these consequences will go beyond lost turnover for suppliers and indeed effect the existing knowledge and innovation system is as yet unclear. This will be determined by the nature and intensity of the interlacing of public and private interests within the creative industries. In the context of the questions posed here it is also important to ascertain to what extent a strong concentration of creative occupation groups exists in the CREATIVE AMSTERDAM cities. These originate in the creative industries and gradually fan out to other sectors of the economy. No specific data relating to this is available at the moment. Instead, the members of the *super creative core* are considered in this study, which although a broader category, constitute a good approximation to the intended grouping. It seems that just as with jobs in the creative industries, there is an overrepresentation of creative occupation groups in the CREATIVE AMSTERDAM cities, when compared to the other fifty largest Dutch cities. It is striking that in the whole of the CREATIVE AMSTERDAM cities the percentage of those involved in core creative occupation is 14%, almost twice the 7.7% of those in the creative industries. Included in the last group are those support functions, ranging from accountant to canteen staff. This points to a strong embedding of creative occupations in the broader economy of the CREATIVE

AMSTERDAM cities. The creative potential of the region is hereby considerably greater than the creative industries alone.¹⁹

It was considered important to not only look at creative industries companies but to also look at the flow of creative talent between companies in the creative industries, and between other sectors. For this reason a sub-study has looked at mobility of talent between a few sectors of the creative industries, one from ICT services and other sectors. It is known from innovation literature that knowledge spillovers between companies actually occur because of migration of personnel between companies and sectors. Knowledge spillovers are a necessary precondition for innovation. Studied here is, if and how a number of sectors from the creative industries are, on the basis of personnel migration, embedded in the broader economy. This can only happen when sectors have related knowledge and skills, which facilitates switching from one branch to another. The intensity of branch relations thus refers to the extent of embedding in the economic space (*industry space*), and the probability of knowledge spillovers, the possible new combinations and resulting innovation. It emerges from our analysis that radio and television, publishing and advertising are strongly embedded in the *industry space* of the northern Randstad. They are positioned closely in the industry space but each has their own unique position in the network. In addition there are important relations with sectors outside the creative industries offering personnel migrating opportunities. We can here postulate that the creative industries are a driving force in the regional economy, because of creative industries growth and an increasing significance of creative occupation groups and capabilities in the broad economy; often referred to as the creative economy. Not only through growth within its own ranks but also through the exchange and flow of talent to the rest of the economy. It is obvious that in this context,

interaction occurs which leads to new combinations and possible innovation. These findings are an empirical illustration of how creative skills from the creative industries sectors can actually play a part in other sectors in the 'Noordvleugel' of the Randstad. The creative industries in the 'Noordvleugel' are strongly interconnected, but have also many *skill-based* connections with other sectors and therefore have a potentially greater embedding in the 'Noordvleugel' economy than the sectors considered in isolation suggest. The sector sectors studied, apart from being significant in scale, are strongly connected with other sectors both in and outside of the creative industries. Moreover, such *cross-overs* do not only apply exclusively to or mainly in the creative industries. The software consultancy branch, included in the ICT services sector, shows an even more articulated network. This is due to the fact that this branch facilitates the use of information technology as a *general purpose* technology, thereby connecting the most diverging sectors with each other. Therewith, software consultancy, just as business administration consultancy is seen as a hub branch.

This study shows us that the strongest sectors in a region, apart from being large in scale, are well embedded in the regional economy through the presence of a large number of knowledge related sectors, and exhibit above average growth. The creative industries in the 'Noordvleugel' fall *grosso modo* into this category. These branch types have generally acquired a respectable size over the years and mostly have adequate potential for further development, and are therefore not in need of government intervention. In terms of innovation dynamic within the creative industries this is not quite so; here it seems government has a clear role to play.

New sectors are evolving in the combination, creative industries and information and communication technology. For example gaming

19 It should of course be noted, considering current data, that the population comprising the super creative core, includes considerably more occupation groups than the creative occupation groups we encounter in the creative industries. Therefore by determining the size of the super creative core we could only to a limited extent establish possible knowledge spillovers from the creative industries. This is as result of super creative jobs not matching on a one-to-one basis with those in the creative industries.

and cross media which can in principle draw upon existing knowledge and skills in the 'Noordvleugel' of the Randstad but are not in a position to autonomously establish new connections. A notable complicating factor is that here the relevant playing field is to a large extent global, which is not to say that regional clusters thereby become obligatory. However, regional strengths must be built upon in a global setting, wherein task allotment occurs on the basis of a dynamic which, certainly in the case of the Netherlands, can only be influenced to a limited degree from within the region. Government policy can hereby assist regional strengths on the basis of optimal positioning of relevant related variety and skills. This involves the development of a strategic orientation focused on developing relevant assets in order to play a role in the international industry structure of the formative digital media industry in such a way as to optimally use local knowledge and skills. This applies *inter alia* to the intended *media-hub or gateway* function of the 'Noordvleugel' of the Randstad in the developing digital media economy. Because, for various reasons this sort of strategy formation and coordination is not automatically grasped by the sectors and sectors, specific branch organization perhaps supported by various authorities could assist in coordination and direction. Network forming between branch organizations, companies and knowledge institutions is hereby indispensable. Embedding of sectors in the economy is an important but in itself not sufficient precondition for contributing to innovation. The fact that talent migrates from creative companies to other sectors of the economy and vice versa does not necessarily signify a substantial contribution to innovation and economic growth. To this end, in chapter six of this study we have investigated the relationship between the significance of creative industries and the presence of the super creative core on the one hand and economic growth on the other. Here we considered the fifty largest Dutch cities, including those of CREATIVE AMSTERDAM. From this, economic growth was better explained by the percentage of those comprising the *super creative core* than numbers

of jobs in the creative industries. This could mean that not creative company location but the domicile of the creative people is the key factor in the creation of competitive edge and innovation in the creative economy. This would not advocate sector policy but rather a policy geared toward accommodating creative people by offering them an attractive living environment. However there is the possibility that the methodology used may have influenced the research results. A crucial next step then is to take into account only those creative occupations in the different sectors of the creative industries but considering the workplace location. This is then supplemented by the same creative industries occupations embedded in companies outside the creative industries. It is known, for example, from research (Rutten et al 2005) that the majority of designers in the Netherlands are employed outside the creative industries. Such analysis is possible but extremely time consuming and labour intensive. However it is a necessary step in order to validate the above conclusions. Or it may be, that the effect of domicile measured creative occupation is 'taken over' by the more precise operationalization of the creative industries, measured at the company location but with reference only to real creative occupations within those companies and the broad creative economy. The findings of this part of the study suggest that all economic sector focused policy should not be immediately ditched in favour of a policy geared to facilitating the creative class. As yet alternative explanatory approaches have been insufficiently investigated. Furthermore, the conclusion that investment in living environment is effective in the promotion of competitiveness of the regional economy point to the existence in the city of an interesting 'creative mechanism'. As shown by the model estimates presented in this chapter the scale of the art and cultural heritage sector has no direct measurable positive effect on employment. However, this subsector, to a large extent dependent on public funding, reappears on the stage via an alternate route. The subsector art and cultural heritage produces culture in and for the city. This cultural offering (in this case

estimated by the number of annual performances in the performing arts per thousand inhabitants) in its turn attracts many creative people. Ironically enough, this means that the perception of the art and cultural heritage sector must change. The sector is not a drain on the economy, but an asset which indirectly contributes to the economic growth of the regional economy. In the words of Potts & Cunningham:

'The creative industries, in this view, have dynamic and not just static economic value - they contribute to the process of economic growth and development over and above their contribution to culture and society. This distinction is important, as cultural policy, which is traditionally based on model one, may require some critical retooling to adapt to what appears to be a model four world.'

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Appendix 1

Creative industries in the SBI 2008 industrial classification

Art and cultural heritage

- 7990 Tourist information
- 90011 Theatre
- 90012 Theatre production
- 9002 Performing arts services
- 9003 Writing and other creative arts
- 90041 Theatres
- 91011 Public libraries
- 91012 Art lending
- 91019 Other cultural lending and public archives
- 91021 Museums
- 91022 Art galleries and exhibition spaces
- 9103 Monuments
- 94993 Support funds (not welfare)
- 94994 Fanclubs

Media and entertainment industry

- 5811 Book publishing
- 5813 Newspaper publishing
- 5814 Magazine publishing
- 5819 Other publishing (not software)
- 5821 Computer game publishing
- 5829 Other software publishing
- 59111 Film production (not television films)
- 59112 Television production
- 5912 Facility activities for film & television production
- 5913 Distribution of films and television production
- 5914 Cinemas
- 5920 Sound recording and propagation
- 6010 Radio broadcasting
- 6020 Television broadcasting
- 6321 Press agencies
- 6329 Other service activities in information field
- 74201 Photography
- 90013 Circus and variety
- 93211 Attraction & theme parks
- 93212 Fun fairs

Creative business services

- 7021 Public relations
- 7111 Architects
- 7311 Advertising
- 7312 Trade in advertising space and time
- 7410 Industrial design
- 8230 Congresses and trade fairs

Appendix 2

ICT in the SBI 2008 industrial classification

ICT services

- 1811 Newspaper printing
- 18121 Book printing
- 18122 Magazine printing
- 18123 Advertising printing
- 18124 Packaging printing
- 18125 Printing of forms
- 18129 Other printing (not already mentioned)
- 1813 Prepress & premedia activities
- 1814 Print finishing & related activities
- 1820 Reproduction of recorded media
- 6110 Wire telecom
- 6120 Wireless telecom
- 6130 Satellite telecom
- 6190 Other telecom
- 6201 Development, production & publishing of software
- 6202 ICT consultancy
- 6203 Computer facility management
- 6209 Other information related activities
- 6311 Data processing, webhosting & related activities
- 6312 Webportals

ICT hardware

- 2611 Manufacture of electronic components
- 2612 Manufacture of electronic circuit boards (PCBs)
- 2620 Manufacture of computers & peripherals
- 2630 Manufacture of communication equipment
- 2640 Manufacture of consumer electronics
- 2651 Manufacture of measurement, control-, navigation equipment
- 2670 Manufacture of optical instruments and equipment
- 2680 Manufacture of information carriers
- 2731 Manufacture of fiber optic cables
- 2732 Manufacture of other electric, electronic cables
- 2790 Manufacture of other electrical equipment
- 3314 Repair of other electrical equipment
- 3312 Repair of electronic and optical equipment
- 3323 Installation of electronic and optical equipment
- 3324 Installation of electrical equipment
- 7733 Hire and leasing of computers and office equipment
- 9511 Repair of computers and peripherals
- 9512 Repair of communication equipment

Appendix 3

Computer and Mathematical Occupations
Computer and Information Scientists, Research
Computer Programmers
Computer Software Engineers, Applications
Computer Software Engineers, Systems Software
Computer Support Specialists
Computer Systems Analysts
Database Administrators
Network and Computer Systems Administrators
Network Systems and Data Communications Analysts
Actuaries
Mathematicians
Operations Research Analysts
Statisticians
Mathematical Technicians
Computer and Mathematical Occupations - Other
Architecture and Engineering Occupations
Architects, Except Landscape and Naval
Landscape Architects
Cartographers
Surveyors
Aerospace Engineers
Agricultural Engineers
Biomedical Engineers
Chemical Engineers
Civil Engineers
Computer Hardware Engineers
Electrical Engineers
Electronics Engineers, Except Computer
Environmental Engineers
Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
Industrial Engineers
Marine Engineers and Naval Architects
Materials Engineers
Mechanical Engineers
Mining and Geological Engineers, Including Mining Safety Engineers
Nuclear Engineers
Petroleum Engineers
Architectural and Civil Drafters
Electrical and Electronics Drafters
Mechanical Drafters
Aerospace Engineering and Operations Technicians
Civil Engineering Technicians
Electrical and Electronic Engineering Technicians
Electro-Mechanical Technicians
Environmental Engineering Technicians

Industrial Engineering Technicians
Mechanical Engineering Technicians
Surveying and Mapping Technicians
Architecture and Engineering Occupations - Other
Life, Physical, and Social Science Occupations
Agricultural and Food Scientists
Biochemists and Biophysicists
Microbiologists
Zoologists and Wildlife Biologists
Conservation Scientists
Foresters
Epidemiologists
Medical Scientists, Except Epidemiologists
Astronomers
Physicists
Atmospheric and Space Scientists
Chemists
Materials Scientists
Environmental Scientists and Specialists, Including Health
Geoscientists, Except Hydrologists and Geographers
Hydrologists
Economists
Market Research Analysts
Survey Researchers
Clinical, Counseling, and School Psychologists
Industrial-Organizational Psychologists
Sociologists
Urban and Regional Planners
Anthropologists and Archeologists
Geographers
Historians
Political Scientists
Agricultural and Food Science Technicians
Biological Technicians
Geological and Petroleum Technicians
Nuclear Technicians
Environmental Science and Protection Technicians, Including Health
Forensic Science Technicians
Forest and Conservation Technicians
Life, Physical, and Social Science Occupations - Other
Education, Training, and Library Occupations
Business Teachers, Postsecondary
Computer Science Teachers, Postsecondary
Mathematical Science Teachers, Postsecondary
Architecture Teachers, Postsecondary
Engineering Teachers, Postsecondary
Agricultural Sciences Teachers, Postsecondary
Biological Science Teachers, Postsecondary
Forestry and Conservation Science Teachers, Postsecondary

Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary
Chemistry Teachers, Postsecondary
Environmental Science Teachers, Postsecondary
Physics Teachers, Postsecondary
Anthropology and Archeology Teachers, Postsecondary
Area, Ethnic, and Cultural Studies Teachers, Postsecondary
Economics Teachers, Postsecondary
Geography Teachers, Postsecondary
Political Science Teachers, Postsecondary
Psychology Teachers, Postsecondary
Sociology Teachers, Postsecondary
Health Specialties Teachers, Postsecondary
Nursing Instructors and Teachers, Postsecondary
Education Teachers, Postsecondary
Library Science Teachers, Postsecondary
Criminal Justice and Law Enforcement Teachers, Postsecondary
Law Teachers, Postsecondary
Social Work Teachers, Postsecondary
Art, Drama, and Music Teachers, Postsecondary
Communications Teachers, Postsecondary
English Language and Literature Teachers, Postsecondary
Foreign Language and Literature Teachers, Postsecondary
History Teachers, Postsecondary
Philosophy and Religion Teachers, Postsecondary
Graduate Teaching Assistants
Home Economics Teachers, Postsecondary
Recreation and Fitness Studies Teachers, Postsecondary
Vocational Education Teachers, Postsecondary
Preschool Teachers, Except Special Education
Kindergarten Teachers, Except Special Education
Elementary School Teachers, Except Special Education
Middle School Teachers, Except Special and Vocational Education
Vocational Education Teachers, Middle School
Secondary School Teachers, Except Special and Vocational Education
Vocational Education Teachers, Secondary School
Special Education Teachers, Preschool, Kindergarten, and Elementary School
Special Education Teachers, Middle School
Special Education Teachers, Secondary School
Adult Literacy, Remedial Education, and Ged Teachers and Instructors
Self-Enrichment Education Teachers
Archivists, Curators, and Museum Technicians
Librarians
Library Technicians
Audio-Visual Collections Specialists
Farm and Home Management Advisors
Instructional Coordinators
Teacher Assistants
Education, Training, and Library Occupations - Other
Arts, Design, Entertainment, Sports, and Media Occupations
Art Directors
Fine Artists, Including Painters, Sculptors, and Illustrators
Multi-Media Artists and Animators
Commercial and Industrial Designers
Fashion Designers

Floral Designers
Graphic Designers
Interior Designers
Merchandise Displayers and Window Trimmers
Set and Exhibit Designers
Actors
Producers and Directors
Athletes and Sports Competitors
Coaches and Scouts
Umpires, Referees, and Other Sports Officials
Dancers
Choreographers
Music Directors and Composers
Musicians and Singers
Announcers
News Analysts, Reporters and Correspondents
Public Relations Specialists
Editors
Technical Writers
Writers and Authors
Interpreters and Translators
Audio and Video Equipment Technicians
Broadcast Technicians
Radio Operators
Sound Engineering Technicians
Photographers
Camera Operators, Television, Video, and Motion Picture
Film and Video Editors
Design, Entertainment, Sports, and Media Occupations - Other

