

Creativity, Culture and Innovation in the Knowledge-based Economy

Opportunities and Challenges for Ontario

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Prepared for the Ontario Ministry of Research and Innovation
October 1, 2006

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Executive Summary

There is an emerging consensus that innovation is not confined to the realm of scientific discovery, but occurs across all sectors of the economy. Innovation is not simply the result of research and development activities or the sole purview of high technology and science-based industries. Rather, innovation takes place throughout the economy and rests upon a variety of inputs, including a set of often overlooked creative, cultural and design-related activities. Scholars of innovation and policymakers are beginning to recognize the critical role that creative and cultural activity plays in fostering innovation in emerging and traditional sectors of the economy. It is the ability of firms and regions to harness this creativity to create economic value that leads to higher levels of economic performance, competitiveness, and innovation.

We argue that understanding the role of creative and cultural activities as both sites of employment and value creation, and as underlying inputs that fuel the innovative dynamism of other industries, is critical to understanding how Ontario can remain competitive and prosperous in the contemporary knowledge-based economy. It is also clear that cities play a central role in these processes, by providing a home for both creative activities and creative people.

This discussion paper explores the role of creative, cultural and design-related activity as sources of innovation. It does so by asking the following questions:

- 1) What role do creative, cultural and design-related activities play in supporting innovation?
- 2) What role do urban centres play in fostering innovation in the creative economy?
- 3) What are some examples of effective policies to promote cultural and creative activities that foster and support innovation?

We review three emerging and complementary perspectives in the literature that highlight the various roles of creative, cultural and design-related activities in the contemporary economy:

- *Creative and cultural industries* such as film, television, advertising, design, and fashion are important engines of growth. A large international literature demonstrates that these industries are growing quickly and contribute to the economy by generating employment, investment opportunities, and exports.
- *Creative and design inputs* are important sources of value-added in both traditional and emerging sectors and can reduce production costs, simplify and enhance the sustainability of the production process, and can be effectively used to differentiate and brand products in the market. The effective use of design is particularly critical in establishing and securing a firm's or region's position in both local and global markets. There is mounting evidence that the use of design improves economic performance at the micro (firm) and macro (regional or national) level.
- Highly skilled workers in *creative and cultural occupations* play a critical role in elevating the innovative capacity of firms and regions. These talented workers contribute to innovation by applying their specialized knowledge, creativity and

entrepreneurial abilities, circulating knowledge through their mobility between local firms, and by building local and global networks.

Common to all three of these perspectives is an important role for *cities* as sites of innovation. The literature suggests that there are a number of ways in which cities play a critical role as seedbeds of innovation and creativity.

- Cities provide an *ideal setting for the formation of localized clusters* of creative and cultural industries and the emergence of industrial districts that specialize in the production of particular cultural products.
- Cities have unique social characteristics that act to *attract and retain highly skilled, talented workers*. This quality of place includes cultural dynamism, social diversity, openness and tolerance, social inclusion and cohesion. This includes supporting a vibrant arts and cultural scene. However, essential components of quality of place also include strong, safe neighbourhoods that have relative freedom from poverty and social deprivation, a high quality and comprehensive public education system, and access to employment and social services.
- Places with strong, well-developed institutions and knowledge infrastructure, particularly *institutions of higher learning such as universities and colleges that act as ‘anchors of creativity’*, are more likely to be successful in the learning economy. These institutions work to attract and retain talented workers from elsewhere, while also producing a local, highly skilled workforce. These institutions also secure the presence of creative and cultural industries.

The implications of these arguments for *why* creative, cultural and design-related activities are important to innovation and *how* cities are critical in fostering these activities present a number of challenges and opportunities for public policy in Ontario.

Research on creative, cultural and design activity in Ontario reveals that Ontario and its cities have well-established strengths in these areas. Ontario and its cities consistently rank well against other jurisdictions in Canada and the United States. And, there have been a number of recent initiatives to invest in and upgrade Ontario’s cultural infrastructure. Yet, Ontario faces a number of challenges. Until recently, and with few exceptions, the creative and cultural industries have not been part of Ontario’s economic development agenda and have not figured prominently on the innovation agenda. Furthermore, Ontario’s – and Canada’s – cities have experienced growing income polarization and there are chronic spaces of exclusion within large metropolitan areas that have the potential to undermine the very social characteristics on which economic prosperity has been based. Additionally, while policymakers recognize the important contribution of foreign talent, barriers exist in terms of support for foreign students, as well as entry and integration into the labour market.

Policymakers need to recognize that there are close linkages between policies that bolster creative and cultural activity, develop socially inclusive cities, and support innovation. This means that there needs to be sustained investment in a number of related policy areas that directly and indirectly foster innovation and creativity. For example, in the realm of education policy, an obvious priority is to support higher education for both domestic and

foreign students. It also makes sense to shore up and enrich funding for arts and cultural programs in the primary and secondary school systems, to attract and retain talented workers, but also to develop the next generation of highly skilled workers. Furthermore, since talent attraction and retention are important foundations of innovation, it is vitally important to ensure effective and streamlined approaches to the recognition of foreign educational qualifications and work experience. Such steps to enhance labour market integration will allow Ontario to take better advantage of the skills brought to its cities and towns through immigration, to build social cohesiveness, as well as to signal that the Province remains open and tolerant to difference.

Overall, investments in cities and the cultural economy are beneficial both for their social and cultural outcomes, as much as for their contribution to economic prosperity. Therefore, a goal for public policy in Ontario should be – and can be – to enhance the formation of *socially inclusive creative places* to further the economic performance and innovative capacity of the province and its communities.

The notion of creativity must be broadly used, not just to refer to the production of a new artistic object or form, but to problem solving in every imaginable field. Far from being germane to the arts alone, creativity is vital to industry and business, to education and to social and community development.

– World Commission on Culture and Development, UNESCO

We traditionally think of creativity as an attribute of an artist or the arts. Yet creativity is a broad, fundamental notion ... [that] encompasses innovation, entrepreneurship and expression. It connotes both the art of giving birth to new ideas and the discipline of sharing and applying those ideas to the stage of realized value.

- Collaborative Economics¹

1. Introduction

In recent years it has become clear that creative and cultural activities are increasingly important determinants of economic prosperity in the global economy. It is the ability of firms and regions to harness this creativity to create economic value that leads to higher levels of economic performance, competitiveness, and innovation. Innovation is not simply the result of research and development activities or the sole purview of emerging, high technology and science-based industries. Rather, innovation takes place throughout the economy and rests upon a variety of inputs, including a set of often overlooked creative, cultural and design-related activities. Understanding the role of creative and cultural activities as both sites of employment and value creation, and as underlying inputs that fuel the innovative dynamism of other industries, is critical to understanding how Ontario can remain competitive and prosperous in the contemporary knowledge-based economy. It is also clear that cities play a central role in these processes, by providing a home for both creative activities and creative people.

This discussion paper explores the role of creative, cultural and design-related activity as sources of innovation. It does so by asking the following questions:

- 1) What role do creative, cultural and design-related activities play in supporting innovation?
- 2) What role do urban centres play in fostering innovation in the creative economy?
- 3) What are some examples of effective policies to promote creative and cultural activities that foster and support innovation?

¹ Collaborative Economics. 2001. *Creative communities: Leveraging creativity and cultural participation in Silicon Valley*. Report prepared for Cultural Initiatives Silicon Valley.

To answer these questions, the paper is divided into three substantive sections. In the first section, we begin with the widely acknowledged shift to a knowledge-based or learning economy. Within the academic and policy-oriented literature, a number of emerging perspectives argue that creative, cultural and design inputs are increasingly critical determinants of the innovative capabilities and success of firms, regions, and nations in a knowledge-based economy. First, *creative and cultural industries* act as important engines of growth in the economy by generating employment, investment opportunities, growth, and exports. Second, a growing literature highlights the importance of *creative and design inputs* into the production process both in cultural and creative industries, as well as in an array of other emerging and traditional industries. These inputs are crucial to the innovation process itself. Third, highly skilled workers in *creative and cultural occupations* play a critical role in elevating the innovative capacity of firms and regions.

The next section explores the particularly important role for urban centres in providing the ideal environment for creative, cultural and design-related activities. Cities play a unique role in fostering creativity and innovation. Therefore, we investigate the thesis that cities are the key locus in supporting the creative activities of firms. We highlight the critical role that local knowledge infrastructure and institutions play in supporting creative and cultural activities, as well as their role in attracting, retaining and generating the creative and highly-skilled workforce necessary for these types of innovative activities within firms and regions.

Throughout the first two sections of the paper we provide examples and evidence from North America and Europe to highlight the role that government and other actors play in fostering creative activities, and attracting, retaining and producing talent, paying particular attention to the role of public policy. Where possible, we discuss recent research that highlights Ontario's experience in these areas.

In the final section of the paper, we discuss the specific challenges and obstacles facing Ontario in developing and supporting creative and cultural activity in all of its various guises. Furthermore, we draw out some of the public policy implications of these opportunities and challenges for Ontario. We conclude by providing a summary of the arguments presented in this paper, as well as identifying future areas of empirical investigation.

2. Creativity, culture, design and innovation

There is an emerging consensus that innovation does not simply occur in the realm of scientific discovery, but across all sectors of the economy. Innovation is not confined solely to the high technology sector. Scholars of innovation and policymakers are beginning to recognize the critical role that creative and cultural activity play in fostering innovation.

When considering the role of creative and cultural activity and its contribution to the innovative capacity of firms and regions, three distinct but related areas of inquiry have emerged within the academic and policy-oriented literature. First, there is a well-established view that a set of manufacturing and service industries that produce images, symbols, and messages are responsible for generating a rising share of the growth, vitality and

competitiveness of particular places and regions. These *creative and cultural industries* include those industries that produce cultural products such as music, film, advertising, television, magazines, books, video games, theatrical entertainment, and other cultural forms (Caves 2000; Scott and Power 2004). Second, and related to this first perspective, is the recognition that *creative and design-related inputs* are an important source of value-added in both traditional and emerging sectors. The effective use of design is particularly critical in establishing and securing a firm's or region's position in both local and global markets (Lash and Urry 1994). Finally, a more recent current in the literature emphasizes the important role that creative agents – or *talent* – play in shaping the economic competitiveness of nations, regions and cities by applying their knowledge, creativity and entrepreneurial abilities, by circulating knowledge through their mobility between local firms and by interacting with a variety of economic actors (Saxenian 1994, 1999; Florida 2002b; Markusen 2004). The following discussion considers each of these three areas of research in greater detail.

2.1 The economic contribution of the creative and cultural industries

It has only been recently that academics and policymakers have paid attention to the growing importance of the creative and cultural industries to the economic health and innovative capacity of regions and nations. The previous lack of attention may have been due to the focus on more traditional manufacturing industries and emerging, science-based industries (Power 2002). Scott (2004: 462) defines the creative and cultural industries as

an ensemble of sectors offering 1) service outputs that focus on entertainment, edification and information (e.g., motion pictures, recorded music, print media, museums) and 2) manufactured products through which consumers construct distinctive forms of individuality, self-affirmation, and social display (e.g., fashion clothing or jewelry).

These industries are growing faster than other segments of the economy and – in some places – account for a higher proportion of employment than other sectors that have historically been the target of economic development and innovation-related policies. There is now mounting evidence of the economic importance of creative and cultural activities in terms of their employment levels, investment patterns, contribution to exports and trade, and diverse range of outputs that demands further analysis and scrutiny.

These creative and cultural industries have a number of characteristics in common. First, they are all in some way related to the creation of aesthetic, artistic and semiotic content. Second, the cultural products produced by these industries are often consumed and valued on the basis of this aesthetic content, as well as their utilitarian value. Third, these industries tend to be comprised of many small firms, with a few larger establishments. Finally, these industries often tend to agglomerate or cluster in particular places and rely on specialized, highly skilled labour. We discuss these characteristics, the predominant modes of industrial organization and the implications for learning and innovation in greater detail following a review of the evidence that supports the claim that these creative and cultural activities are of increasing overall importance in the contemporary economy.

In 1998, a landmark study by the UK Department of Culture, Media and Sport documented the size and character of the creative and cultural industries in the United Kingdom.² The most important findings were that the cultural industries employed close to 1.4 million persons (5% of the total UK workforce); generated revenues in excess of £60 billion; contributed £7.5 billion to export earnings (excluding intellectual property); and produced value added amounting to almost 4% of UK GDP, meaning that the sector contributed more than any traditional manufacturing sector (Pratt 2004).

A more recent study of the creative sector's contribution to the European economy defines the creative sector to be comprised of the arts, media and heritage, along with related professional activities in public or private organizations, including fields such as design and architecture.³ Within the 31 European countries included in the study, an estimated 5 million people were employed within the creative sector. Furthermore, this sector had a gross market value of €380 billion (approximately \$530 billion).

Research in this area has not been limited to the national level and most analysts point to the uniquely *urban* character of this sector. For example, the UK's creative industries are highly concentrated in London, which represents 30% of UK employment within the sector.⁴ This concentration of creative activity and the recognition of this sector's importance to the overall economic vitality of the region led to the establishment of the Mayor's Commission on the Creative Industries, which documented the full extent and economic impact of London's creative sector. Overall, the sector contributed £21 billion to the region's GDP, employed over 500,000 people, and accounted for 1 in every 5 new jobs created in the region. A number of other studies also emphasize that the creative and cultural industries contribute significantly to the urban economy (Pratt 1997; Scott 2001; Coish 2004; see also Scott and Power 2004). For example, in his analysis of Sweden's cultural industries, Power (2002) demonstrates that the primary concentration of employment and activity is in Stockholm, with some secondary employment centres in smaller urban places.

Recently, Statistics Canada (2004) released a *Canadian Framework for Cultural Statistics* in recognition of the growing contribution of the creative and cultural industries to economic competitiveness and innovation. Using this framework, Coish (2006) noted that in 2001, Ontario's cultural sector accounted for 4.2% of GDP and 4.1% of employment in the province. Between 1996 and 2001, Ontario accounted for almost half of Canada's cultural GDP and cultural GDP grew faster in Ontario than in any other province (Singh 2004a, 2004b) Furthermore, employment in Ontario's cultural sector grew by 18% in this same time period (compared to 15% growth for overall employment in the province over the same period). These positive trends in GDP and employment contributions demonstrate the important role that the creative and culture sector plays in Ontario's economic growth.

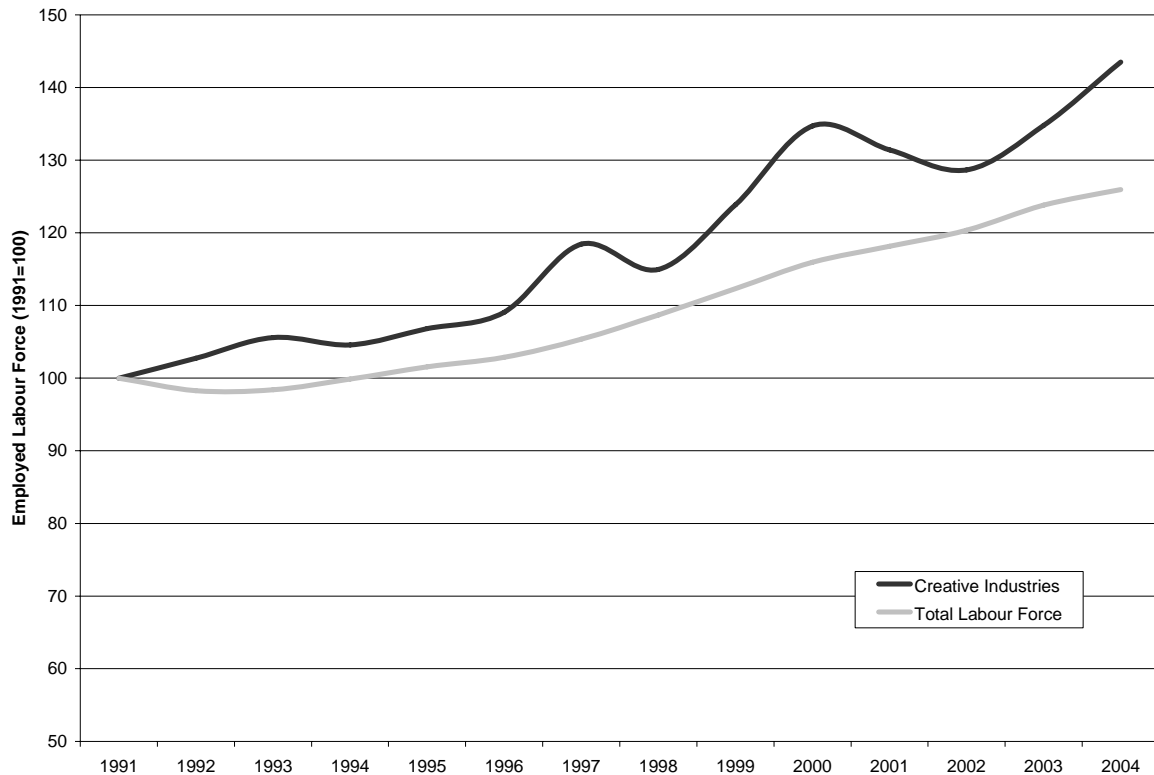
² DCMS. 2001. *The creative industries mapping document*. London: Department of Culture, Media and Sport.

³ Wiesand, A. and Söndermann, M. 2005. *The 'creative sector' – an engine for diversity, growth and jobs in Europe: An overview of research findings and debates*. A report prepared for the European Cultural Foundation.

⁴ London Development Agency. *Creative London: Vision and Plan*.

A recent initiative examining Toronto’s creative sector found that Toronto – one of Ontario and Canada’s leading centres for creative and cultural activity – performs well compared to other jurisdictions in Canada and the United States (see also Coish 2004).⁵ Figure 1 uses this study’s definition to show that between 1991 and 2004 employment growth in Ontario’s creative and cultural industries outpaced that of the overall labour force, with compound annual growth rates of 2.8% and 1.8% respectively.⁶

Figure 1: Employment growth in Ontario’s creative and cultural industries, 1991-2004



Source: Statistics Canada. *Labour Force Survey*, various years [custom tabulations]; Authors’ calculations.

While these empirical studies suggest that this sector constitutes only a modest portion of national and regional economies, it is growing considerably faster than the economy as a whole, suggesting that its relative importance as a generator of employment and economic value is increasing over time. Collectively, the findings of these studies underscore the importance of the creative and cultural industries to urban, regional and national economies.

⁵ Gertler, M.S., et al. 2006. *Imagine a Toronto: Strategies for a creative city*. Munk Centre for International Studies, University of Toronto. [forthcoming].

⁶ The study defined the cultural and creative industries to include: independent artists, writers and performers; performing arts companies; agents and promoters of performing arts and entertainers; motion picture and video; sound recording; radio and TV broadcasting, pay/specialty TV and program distribution; architecture and related services; specialized design services; advertising and related services; newspaper, periodical, book and database publishers; and software and new media publishers.

In addition to documenting the overall size and importance of the creative and cultural sector to regional and national economies, there is a rich body of empirical work examining the specific social and institutional dynamics of particular industries within the cultural and creative sector. Studies of the cultural products industries have included: music (Scott 1999; Leyshon 2001; Power and Hallencreutz 2002; Gibson 2003); animation, film and television (Scott 1984; Christopherson and Storper 1986; Storper 1989; DeFillippi and Arthur 1998; Coe 2000a, 2000b); publishing (Driver and Gillespie 1993; Ekinsmyth 2002; Norcliffe and Rendace 2003); and advertising (Leslie 1997; Grabher 2001, 2002). These industries tend to cluster or agglomerate in particular urban locations. This spatial proximity provides a number of benefits in terms of collaboration, knowledge spillovers, access to human and financial capital and participation in local networks – all of which are critical to the ability of firms in knowledge- and creativity-intensive industries such as these to learn and innovate.

This industrial or sectoral perspective has been extended to consider emerging fields of convergence such as new media, video games, and multimedia, which rely on the intersections between software, animation and graphics (Scott 1998; Brail and Gertler 1999; Aoyama and Izushi 2003; Britton 2004; Christopherson and van Jaarsveld 2005). Similar analysis has also been applied to more traditional areas of manufacturing such as furniture (Lorenzen 1998; Leslie and Reimer 2003) and fashion apparel (Rantisi 2002), where creative and design inputs have been critical in reinventing these industries to maintain their competitiveness under pressure from globalization and trade liberalization. In fact, some of the most successful emerging industries are situated at the convergence between art, culture, and technology. For example, the video game industry incorporates elements of leading-edge technologies in computers, multimedia, and the Internet, and represents a contemporary synergy of digital technologies, artistic creativity, and multimedia entertainment (Aoyama and Izushi 2003). Similarly, new medical imaging technologies draw upon resources and skills from the animation, software, and new media industries, while taking advantage of knowledge in the fields of medical and life sciences, electrical engineering, optics, and computer science.

To stimulate the types of learning and innovation that emerge from such convergence and synergy, policymakers have begun to foster interaction between those working in the art, science and technology fields. For example, the MaRS centre located in Toronto's Discovery District is designed to be a convergence innovation centre allowing for the co-location of professional service firms, technology transfer offices, research and community networking organizations and small, mid-size and large companies. The project, supported by the Ontario Ministry of Research and Innovation (MRI), includes programs that bridge the gap between the arts and science. MaRS hosts music and film festivals, art exhibits and book readings, in addition to collaborating with the Design Exchange (DX) and the Ontario College of Art and Design (OCAD) on unique design and visualization initiatives (Gertler et al. 2006).

2.2 Creativity and design as inputs into the innovation process

As noted above, it is now widely accepted that creative, symbolic, and aesthetic inputs are critical in the production of goods and services in the contemporary economy (Lash and Urry

1994; Scott 2001). Design is one area of creative activity that has recently received a flurry of attention. Lash and Urry (1994: 15) claim that “the design component comprises an increasing component of the value of goods” resulting in the centrality of the design process and the increasing ‘design intensity’ of products and services across the economy. Power (2004) makes the case that design must increasingly be understood as a strategic resource used to enhance firms’ competitiveness. He notes that design is central to innovation and must be understood broadly to encompass

not just the aesthetic aspects of a product but also their overall technological performance and character. The act of design involves not just shaping a product’s appearance but also involves a range of inputs into the creation of the form and function of a product and its production, marketing and appeal to the consumer.⁷

For example, design can be incorporated throughout the research and product development phase, applied to manufacturing processes to reduce costs, as well as used in the creation of retail environments and in the branding and marketing of products and services enabling firms to differentiate their products and services in local and global markets. Firms can take advantage of design capabilities through a variety of means, including 1) having their own in-house design department or employing designers as part of multidisciplinary teams in various facets of their business (e.g. product development, marketing); 2) hiring freelance designers on a contract basis to work on specific projects; 3) purchasing the services of an outside design consultancy; or 4) using some combination of the above three options.

National and sub-national governments around the world have paid increasing attention to the role that design plays in enhancing the innovative capabilities of firms and regions. The reasons are quite clear. The accumulated evidence suggests that design is a critically important source of value-added and can reduce production costs, simplify and enhance the sustainability of the production process, and can be effectively used to differentiate and brand products in the market. The widely acclaimed market success of products such as Apple’s iPod and other electronics made by companies such as Sony, LG and Samsung is attributed to their ability to use design effectively (Nussbaum 2005).⁸

A recent study conducted by the Danish Design Centre notes that

there is marked correlation between the use of design and the economic performance of companies and subsequent macroeconomic growth. Furthermore, it is apparent that companies where design is a

⁷ Power, D. 2004. *The future in design: The competitiveness and industrial dynamics of the Nordic design industry*. Uppsala, Sweden: Centre for Research on Innovation and Industrial Dynamics.

⁸ A recent article by Roger Martin further emphasizes this point. Design-led innovations and strategies are being pursued by companies around the globe, not only in North America and Europe, but also in emerging economies such as India and China. See Martin, R. 2006. What innovation advantage? *Business Week*, January 16, 2006.

core issue and which purchase design services both internally and externally perform better.⁹

Similarly, a study commissioned by the British Design Council (2004) documented the positive effects that design has on firms' economic performance.¹⁰ The study tracked the share prices of a group of 63 UK companies that were identified as effective users of design based on their consistent record of design-related awards. These firms represented a cross-section of industries, including both traditional and emerging manufacturing and service activities. The study found that between 1994 and 2003 these companies outperformed the FTSE 100 (Figure 2). An additional 103 UK companies whose success in winning design awards approached that of these design-led companies enjoyed a similar level of performance on the stock market. These findings suggest that effective users of design outperform their peers on the stock market and provide compelling evidence of the economic value of design and its contribution to innovation.¹¹

Figure 2: The impact of design on stock market performance in the United Kingdom, 1994-2003



Source: Design Council, 2004.

⁹ Danish Design Centre. 2003. *The economic effects of design*. Copenhagen: National Agency for Enterprise and Housing.

¹⁰ Design Council. 2004. *Design in Britain, 2004-2005*. [Available at <http://www.design-council.org.uk>]

¹¹ Business schools are also increasingly recognizing the importance of creativity and design to innovation. For this reason, there is a growing trend amongst business schools to incorporate design thinking and strategy into their curriculum, as well as collaborating with design schools to allow for cross-disciplinary collaboration and learning. See Merritt, J. and Lavelle, L. 2005. Tomorrow's B-School? It Might Be A D-School. *Business Week* August 1, 2005.

Power's (2004) comparative study of the industrial dynamics of the design sector across the five Nordic countries (Sweden, Denmark, Finland, Norway, Iceland) reveals that despite the small size of the design industry, design represents a strategic area of business crucial to the competitiveness of firms in other industries. The use of design by Nordic companies greatly assisted their profitability and level of innovation. Furthermore, the Nordic design industry has experienced high levels of growth in recent years and tends to concentrate in the largest cities.

Korea, home of many successful design-led companies such as Samsung, LG, and Hyundai, has invested heavily in design since the 1990s with the formation of the Korean Institute for Design Promotion. The Korean government's intent was to rejuvenate the manufacturing sector and develop home-grown original brand manufacturers by investing in design education, hosting a design week, and providing a number of design-related incentives. Recent evidence suggests that a number of other countries, including New Zealand and China, are also investing heavily in developing their design capacity (Design Taskforce 2003; Nussbaum 2004; City of Toronto 2006).

Within the Canadian context, design has not been particularly prominent within cultural or economic policy. It is worth noting that, in contrast to most Canadian jurisdictions, Montreal and the Province of Quebec have successfully incorporated design into their economic development strategies (Leslie and Rantisi 2006). A number of innovative institutions and programs have been critical to this success, including the Institute of Design Montreal (IDM), which promotes the economic value of design, and a provincial-level design tax credit program. The design tax credit, introduced in 1994, encourages firms to develop distinctive, higher value-added products. The program provides an incentive for firms to develop unique, original and innovative products, rather than imitation and copy-cat products. Within the city, Commerce Design Montreal encourages local businesses to invest in design and the local built environment through an awards program that recognizes local businesses for the innovative use of design in their office and retail space. It is also intended to promote design awareness amongst citizens through a 'People's Choice Award'.

In Ontario, design has only recently been acknowledged as an important source of innovation and value-added. The 1995 report, *Design for a Strong Ontario* called upon the provincial government to pay attention to the important economic contribution that designers and design firms can make.¹² The study outlined a strategy for Ontario's design sector that included stimulating demand for design amongst local firms, the government, and the public; increasing international demand for Ontario designers and design firms; creating permanent institutional support for Ontario's design sector; and educating other professional disciplines about the use and value of design. However, with changing government priorities, few of these recommendations have been pursued (DIAC 2004; City of Toronto 2006).

More recently, the Ontario Ministry of Economic Development and Trade (MEDT) has worked closely with the Design Industry Advisory Committee (DIAC), a group comprised of representatives from the design-related professional associations and institutions. The DIAC

¹² Design Exchange. 1995. *Design for a Strong Ontario: A strategy for Ontario's design sector*. Toronto: Design Exchange.

has a mandate to understand better the links between design, innovation and economic competitiveness and leverage Ontario's design capacity towards the goals of increasing levels of innovation and competitiveness. Researchers working in collaboration with the DIAC recently documented the extent of design work within Ontario's economy, as well as the contributions that design skills and creativity make within a wide range of established and emerging sectors.¹³ Among the study's most significant findings:

- Growth of Ontario's design workforce (defined occupationally to include industrial, interior, graphic, fashion, theatre and other designers, as well as architects and landscape architects) outpaced that of the overall labour force between 1987 and 2004. Ontario's design workforce grew at a rate of 4.6% per year, more than four times the rate of the overall workforce.
- Fewer than half of all designers work within specialized design firms. Designers work in many other sectors of Ontario's economy including various types of manufacturing, retail, business and financial services, and other professional and scientific services.

Further research has demonstrated how Ontario firms in a range of industries have used design to produce new, environmentally sustainable products and secure themselves a position within niche markets.¹⁴

2.3 Highly skilled, creative workers and innovation

While the creative, cultural and design industries are themselves sources of innovative products and can shape the innovative capacity of other industries, an alternative perspective calls attention to the role that highly skilled, creative workers play in the innovation process. This analytical shift suggests that creativity can be applied in a number of different business and industrial contexts. For example, in the case of design work, Vinodrai (2006), Gertler and Vinodrai (2004), and Power (2004) find that designers are not limited to work within creative and cultural industries. In other words, creative workers – whether in design or other creative fields – contribute to the competitiveness and economic performance of firms and regions by applying their talents in a wide range of sectors. This resonates with the current thinking of a number of prominent scholars who focus on the role of highly skilled, creative workers – or talent – in contributing to innovation (Saxenian 1994, 1999; Florida 2002b; Markusen and King 2003).

Studies of creative workers range from a narrow view that examines only workers in artistic occupations to a broader view that recognizes the talents of workers in a range of highly skilled occupations, including scientists and engineers. Taking a narrow view of creative work, Markusen and King (2003) suggest that there is an *artistic dividend* associated with the creative activity of artists. They define artists to include those people working as painters, sculptors, photographers, musicians, writers, dancers, performance artists, actors and

¹³ Gertler, M.S. and Vinodrai, T. 2004. *Designing the economy: A profile of Ontario's design workforce*. Toronto: A report to the Design Industry Advisory Committee.

¹⁴ Gould, A. ed. 2003. *Design for Sustainability. Exchange: Canadian Design Journal*. Design Exchange, Toronto.

directors.¹⁵ This group is not dissimilar to the group of creative workers that Florida (2002a) refers to as ‘bohemians’. Markusen and King find that artists raise overall productivity and earnings in the regional economy in at least five ways:

- By exporting their work (i.e. by selling their products and services to markets outside of the regional economy, thereby drawing income into the region);
- By using their creativity to enhance the success of other products and services in many other sectors of the local economy;
- By purchasing specialized inputs and services from local suppliers, often inducing significant upstream innovation in the process;
- By helping employers across the regional economy to recruit talent by contributing to the region’s abundance of artistic and creative activity; and
- By enhancing the entrepreneurial culture of the region’s economy, since many artists are self-employed.

This final point deserves further elaboration. By definition, successful artists are risk takers both by questioning social norms through artistic and cultural expression and also because of the often-precarious financial risk confronted by artists in doing this work. Artists typically have entrepreneurial careers and rather than playing to the stereotype of living in poverty, working menial jobs or waiting for the next grant or role, they actively seek diverse markets and venues for their work (Markusen and King 2003).

Richard Florida’s recent book *The Rise of the Creative Class* has drawn significant attention to the role of creative workers. Similar to prominent theorists such as Peter Drucker and Robert Reich, who emphasize the important role of ‘knowledge workers’ and ‘symbolic analysts’, Florida argues that there is an increasingly important role for workers in creative occupations in the contemporary economy (Healy 2002). Florida’s ‘creative class’ includes

scientists and engineers, university professors, poets and novelists, artists, entertainers, actors, designers and architects, as well as the thought leadership of modern society: nonfiction writers, editors, cultural figures, think-tank researchers, analysts and other opinion-makers. ... [as well as] creative professionals who work in a wide range of knowledge-intensive industries such as high-tech sectors, financial services, the legal and health care professions, and business management.¹⁶

He argues that through creating new products and processes and engaging in creative problem solving, these workers become critical to the economic performance of firms and regions. Furthermore, Florida suggests that these highly skilled, creative workers are drawn to places that are open to and tolerant of difference, have low barriers to entry into social networks and labour markets, and provide ‘thick’ labour markets offering a myriad of

¹⁵ Markusen, A. and King, D. 2003. *The artistic dividend: The arts’ hidden contribution to regional development*. Project on Regional and Industrial Economics. Minneapolis, MN: Humphrey Institute of Public Affairs, University of Minnesota.

¹⁶ Florida, R. 2002. *The rise of the creative class*. New York: Basic Books. p. 69.

opportunities for creative workers to apply their skills. Moreover, creative people are drawn to communities of other creative people – both those who are occupationally similar to themselves, as well as those with different occupational identities.

While Florida's thesis is controversial and not without its critics¹⁷, his work has done much to highlight the important links between creativity, innovation, competitiveness, and the role that cities play in fostering the environment for these activities (Bradford 2004). The ability to attract creative people in arts and culture fields and to be open to diverse groups of people of different ethnic, racial and lifestyle groups provides distinct advantages to regions in generating innovations, growing and attracting knowledge-intensive industries, and spurring economic growth. Places that are best able to attract and retain this creative talent will be those places that have 'thick' labour markets with a rich portfolio of work opportunities and that offer a desirable quality of place.

This resonates with a number of themes in the literature on innovation, learning and the role of highly skilled workers. This literature contends that highly skilled workers act as mobile agents of knowledge circulation and innovation, bringing knowledge, ideas, and practices into the firm through a number of mechanisms. First, they interact and participate in extra-firm networks and 'communities of practice' (Amin and Cohendet 2004; Bathelt et al. 2004; Storper and Venables 2004). These workers are attracted to places that offer a particular career 'buzz' where they can engage in communities of practice formed by groups of people who share similar occupational identities. These communities of practice provide opportunities for talented workers to learn from their peers who are engaged in exciting work at the leading edge of their discipline. Extra-firm networks may involve interactions with local or non-local actors engaged in similar activities, but may also involve social interactions with highly skilled workers in different occupations, thereby providing opportunities for cross-disciplinary learning. Through these activities, highly skilled workers help to generate 'local buzz' and contribute to building 'global pipelines' that bring new knowledge, ideas and practices into the firm and region (Bathelt et al. 2004).

Second, highly skilled workers circulate between firms and projects within the region or on a transnational scale, thereby acting as 'embodied' flows of knowledge, bringing their own repertoire of knowledge and practice into the firm or project to enhance knowledge exchange and learning. Grabher (2002) suggests that creative work is increasingly organized on a project-by-project basis often with the dual goals of production flexibility and maintaining 'newness' in the products under development. An outcome of this model of organization is that creative workers must often locate in places with a multitude of job opportunities ('thick' labour markets) and belong to dense social networks. Therefore, urban environments are ideal setting for this type of work. Because these creative workers are apt to experience increased levels of labour market mobility in their work, there exist many more opportunities for learning and knowledge exchange between firms in similar and different industries located in the same city-region (Christopherson and van Jaarsveld 2005; Vinodrai 2006). This application of new knowledge from one setting to another can lead to both incremental and radical innovations.

¹⁷ See Malanga, S. 2004. The curse of the creative class. *City Journal*, Winter: 36-45 and Peck, J. 2005. Struggling with the creative class. *International Journal of Urban and Regional Research* 29: 740-770.

Overall, the preceding discussion highlights the important ways in which creative and cultural activity – as a sector unto itself, as an input into the production process, and as a type of work – contributes to the innovative capacity of firms and regions. Common to these viewpoints is an underlying spatial logic of how these activities are organized whereby *cities* are critical site at which economic dynamism is determined. This suggests that the social dynamics of city-regions are crucial in shaping economic outcomes; we discuss the role of cities as hubs of creative and innovative activity in detail in the next section.

3. Creativity, culture, design and the role of cities

The literature suggests that there are a number of ways in which cities play a critical role as seedbeds of innovation and creativity. First, cities act as the ideal environment in which creative and cultural industries thrive. Second, cities have unique social characteristics that act to attract and retain creative workers. Central to these ideas is the hypothesis that the economic performance of city-regions depends on a set of characteristics that define quality of place, including cultural dynamism, social diversity, openness and tolerance, social inclusion and cohesion. Third, places with strong institutions – particularly institutions of higher learning such as universities and colleges – that can act as ‘anchors of creativity’ are more likely to be successful in attracting, generating and retaining these same talented workers and securing the presence of creative and cultural industries. Each of these three dimensions of the ‘creative city’ is discussed in detail below.

3.1 The cultural economy of cities

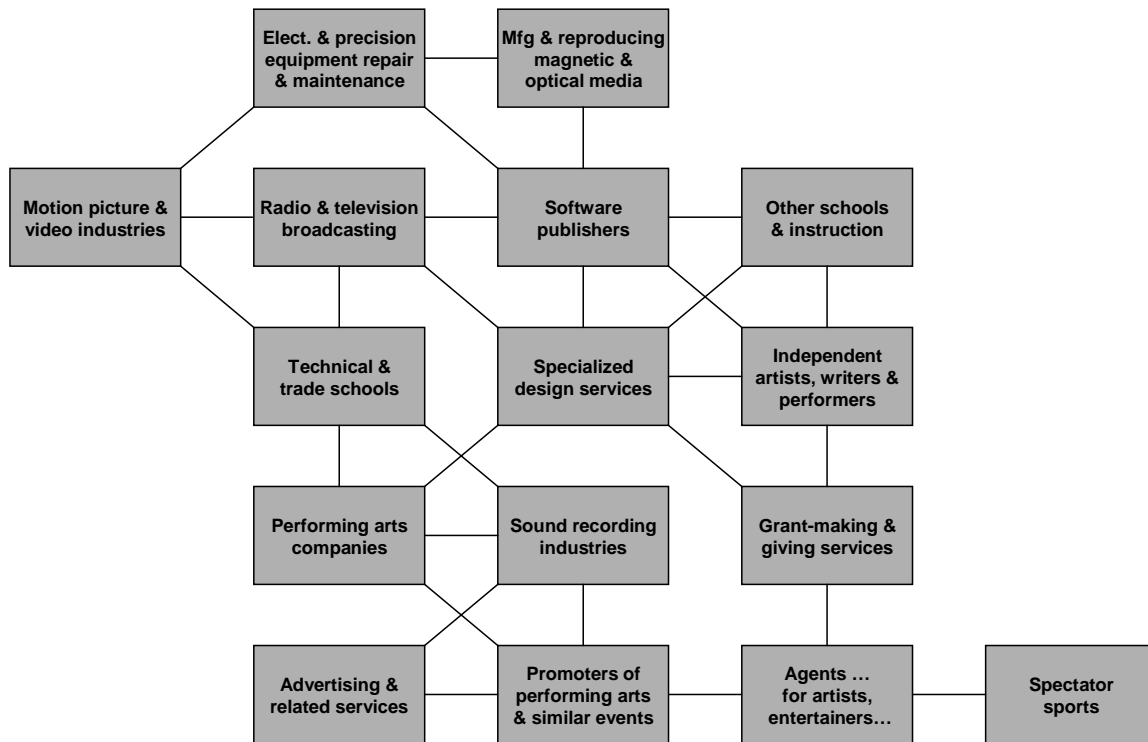
Scott (2001) argues that the urban environment provides an ideal setting for the formation of localized clusters of creative and cultural industries and the emergence of industrial districts that specialize in the production of particular cultural products. For example, the Lower East Side in Manhattan is the home of many innovative new fashion design studios (Rantisi 2002) and there is a distinctive gem and jewelry district in Bangkok (Scott 2001). Similarly, Leipzig, Germany is home to a localized district where many publishing and new media firms are clustered (Bathelt 2002). In Canada’s three largest cities, new media firms can be found clustered primarily in the downtown, often occupying older warehouse spaces (Digital Media Champion Group 1998; Brail and Gertler 1999; Britton 2006).

This clustering of firms is a signature trait of many well-documented innovative sectors, including the biotechnology and information and communication technology sectors (Maskell and Malmberg 1999). Such agglomeration facilitates collaboration, knowledge spillovers, and learning – all of which are critical to the innovation process. This spatial proximity also allows firms to develop relationships with local customers and suppliers and draw upon shared resources such as pools of highly skilled labour and local institutional supports (Porter 2000). These classic characteristics of innovation systems and cluster dynamics can be observed in the creative and cultural industries as well (Brail and Gertler 1999; Scott 2001; Rantisi 2002; Britton 2004). Furthermore, these industries rely on the

unique identity and characteristics of places to bolster their competitiveness (Scott 2001; Rantisi 2004).

Recent research on the clustering of economic activity in Canada systematically examined the locational patterns of industry across the urban hierarchy.¹⁸ Using a rigorous, quantitative methodology, Spencer and Vinodrai (2005) showed that creative and cultural industries exhibit strong co-locational and clustering patterns and that these activities were most heavily concentrated in Canada’s largest cities (Toronto, Montreal and Vancouver). Figure 3 shows the industries that comprise the creative and cultural industries cluster.

Figure 3: Creative and cultural industries cluster



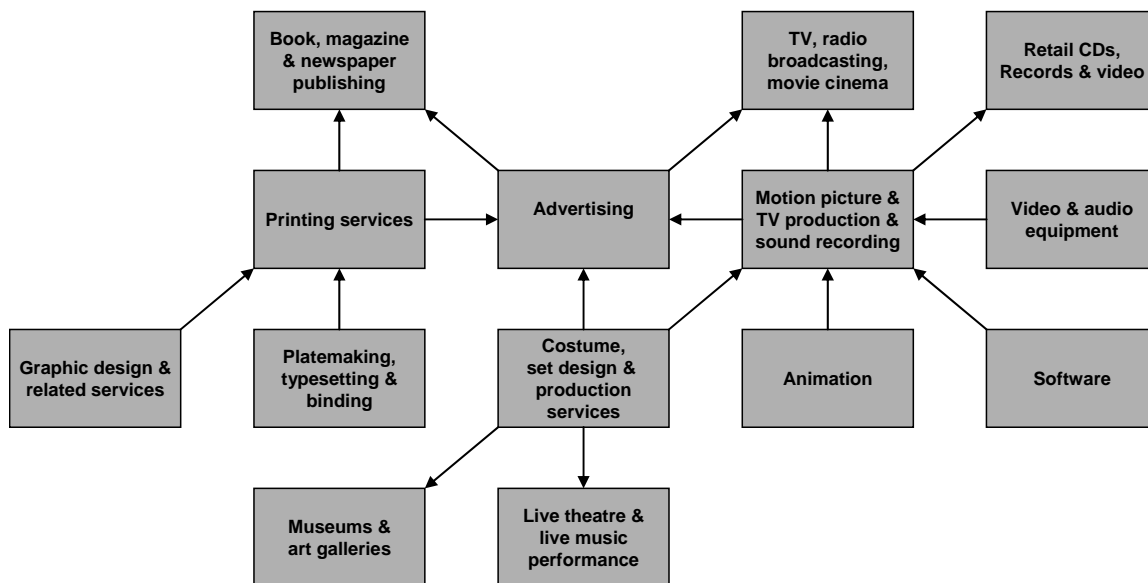
Source: Spencer and Vinodrai 2005.

Early work by the Ontario government identified a similar set of creative and cultural activities related to entertainment, media and publishing (ACCISS 1994; Brail and Gertler 1999). Figure 4 shows the set of industries that constitute Ontario’s entertainment, media and publishing cluster and the relationships that exist between these various activities. More recent research on the entertainment, media and publishing industries has identified that Toronto and Ontario have significant capabilities in this area (Brail and Gertler 1999; Britton

¹⁸ Spencer, G. and Vinodrai, T. 2005. *Clustering matters: Evidence from the ISRN’s cluster indicators project*. Presented at the Ontario Network on the Regional Innovation System (ONRIS) – Ministry of Research and Innovation (MRI) / Ministry of Economic Development and Trade (MEDT) Joint Fall Workshop, Toronto, Ontario, November 4, 2005. See also Spencer, G. et al. 2006. *Clusters and economic performance: Evidence from Canada*. Program on Globalization and Regional Innovation Systems Munk Centre for International Studies, University of Toronto.

2004). These industries have since provided the foundation for the emergence of Ontario and Canada’s new media industry and are part of a broader cluster of creative and cultural industries. Recent research demonstrates quite clearly that the success of this industry has rested on a number of pre-existing conditions, including support and investment from various levels of government (Britton 2004). What is important to note is that these industries share a common pool of highly creative workers, as well as having linkages to local customers and suppliers. These creative workers are educated at local institutions and often gain experience working in related cultural industries such as film and television.

Figure 4: Ontario’s entertainment, media and publishing cluster



Source: Adapted from Brail and Gertler 1999.

As noted above, these creative and cultural industries often rely on access to similar pools of creative talent. Therefore, attracting and retaining these creative and talented workers needs to be a priority and the process through which this occurs needs to be better understood.

3.2 Attracting and retaining talent

An alternative view suggests that firms are drawn to places that have a critical mass of creative workers. For example, Sony recently opened its new design centre in Los Angeles with great fanfare to position themselves as a design-led company and to “take advantage of the diverse creative community in the Los Angeles area”¹⁹. Recent analysis suggests that the most successful urban regions are those that develop tolerant and welcoming attitudes towards social diversity and offer a critical mass of cultural activity; it is these places that are most likely to attract and retain highly skilled, creative workers or ‘talent’ (Saxenian 1999; Florida 2002b; Gertler et al. 2002).

¹⁹ Sony Corporation. 2005. *Sony Opens New U.S. Design Centre in Los Angeles*. February 7, 2005. [<http://news.sel.sony.com/pressrelease/5581>]

However, the ability of cities to generate and retain creative talent also depends on their quality of place and community characteristics that promote strong social cohesion (Markusen and King 2003; Bradford 2004). Beyond simply having a vibrant arts and cultural scene, essential components of quality of place also include strong, safe neighbourhoods that have relative freedom from social deprivation and have access to employment and social services, such as shelter, education, nutrition and health care (Gertler 2001; Donald and Morrow 2003).

As discussed above, the work of Florida (2002) and others suggests that the most successful city-regions have a social environment that is open to creativity and diversity of all sorts. Florida's (2002b) original research on the relationships between creativity, diversity, tolerance, and economic performance has been replicated in a number of other national contexts (Gertler et al. 2002; Marlet and van Woerkens 2004; Gertler and Vinodrai 2006).

Recent research on Ontario and Canada's cities shows that these same relationships between creativity, diversity, openness and economic performance hold true in the Canadian case (Gertler et al. 2002; see also Polèse and Tremblay 2005). Gertler et al. (2002) conducted an analysis of 309 cities in the United States and Canada and evaluated them using a series of measures of talent, diversity, creativity, and technology.²⁰ They showed that there was a strong correlation between the level of creativity (the 'bohemian index' as measured by the proportion of the labour force in artistic occupations) and talent (the proportion of the population with a university-level degree). However, cities in Ontario (and Canada) appeared to lag behind US cities, having relatively low levels of university-level education, a finding consistent with other studies (see Bowlby 2002). A strong relationship also existed between levels of creativity and technology-based employment; the geographical distribution of creative types seems to strongly mirror the geography of knowledge-intensive employment. These relationships between talent, creativity, and technology-based employment were as strong as or stronger than those for US cities.

Research extending Florida's original thesis has demonstrated that city-regions with high levels of creativity (measured in occupational terms) also exhibit higher levels of entrepreneurial activity (measured in terms of new firm formation). A recent study of 31 Dutch cities showed that the share of 'creative class' workers was highly correlated with employment growth and that these same regions also experienced higher levels of new firm formation.²¹ Lee et al.'s (2004) study of 394 labour market areas and 236 metropolitan areas in the United States shows that cities with high levels of creativity also exhibit higher levels of new firm formation and that these findings hold after controlling for key variables such as city size, population growth and the stock of highly-skilled human capital.

²⁰ Gertler, M.S., Florida, R., Gates, G., and Vinodrai, T. 2002. *Competing on Creativity: Ontario Cities in North American Context*. A report to the Institute for Competitiveness and Prosperity, and Ontario Ministry of Enterprise, Opportunity and Innovation, Toronto, Ontario. [Available at www.competeprosper.ca]

²¹ Marlet, G. and van Woerkens, C. 2004. *Skills and creativity in a cross-section of Dutch cities*. Discussion Paper Series 04-29. Tjalling C. Koopmans Research Institute, University of Utrecht.

Despite widespread interest in this work by scholars and policymakers alike, it has also been subject to pointed criticism. For example, Donald and Morrow (2003) argue that key aspects of quality of *life* have been excluded from this analysis, and they raise important questions about the potentially exclusionary nature of talent-based strategies for developing city-regions. Others argue that some of the US cities that score most highly on Florida's indicators of quality of place also exhibit signs of economic decay, instability and social polarization (Kotkin 2005).

In London, where policymakers are actively pursuing a 'creative cities' strategy and where creative activity is an important driver of innovation and economic growth, a recent report argues that policies must simultaneously address issues of social inclusion and the development of creative and cultural activity:

London is already the UK's most polarised region and needs to drastically reduce inequalities if it is to maintain social cohesion. ... [We] must ensure that growing employment and enterprise in the creative industries are reflected in jobs and opportunities for all Londoners. This means developing and linking initiatives that support large creative employers, as well as agencies actively involved in local and disadvantaged communities.²²

In Canadian cities, Gertler (2001) and others document alarming trends – especially growing income polarization and its increasing entrenchment in chronic spaces of exclusion within large metropolitan areas – that have the potential to undermine the very social characteristics on which a region's economic prosperity had been based.²³

However, local strategies that simultaneously develop creative talent and work towards social inclusion are possible. In Toronto's Regent Park neighbourhood, Canada's largest and oldest public housing development, Regent Park Focus (a grassroots, non-profit organization), along with other projects such as the Regent Park Film Festival, identifies and develops creative talent in one of Toronto's many diverse neighbourhoods. Regent Park Focus runs a series of programs to engage youth and encourage creative expression. Regent Park Focus has a radio station, newspaper, photography program, music studio, and film and video program which teach creative skills to youth, including broadcasting, DJing, writing, editing, audio production, filmmaking, photography and desktop publishing. Through these media, youth have an opportunity to find their voice on community issues and gain valuable experience for future work in the media industry (Gertler et al. 2006).

3.2.1 Diversity, openness and tolerance

Beyond the work of Florida and his colleagues, a number of other scholars have documented how diverse and open places provide the social foundations for higher levels of innovation and economic success. Saxenian (2000: 267) suggests that the competitiveness of regional and national economies is "derived from [their] openness and diversity – and this will be

²² London Development Agency. *Creative London: Vision and Plan*. p. 15

²³ United Way of Greater Toronto. 2004. *Poverty by Postal Code*. Toronto: A report jointly prepared with the Canadian Council on Social Development.

increasingly true as the economy becomes more global. ... [therefore], we need to encourage the continued immigration of skilled workers, while simultaneously devoting resources to improving education and training for native workers.”

Saxenian (1999, 2000) provides a compelling account of how openness and diversity provide places with access to ‘global pipelines’ and global knowledge flows, leading to higher levels of innovation and economic dynamism.²⁴ In Silicon Valley, a large number of top researchers and students come from other countries, seeking an open and supportive university environment in which to work or study. Foreign students who seek out higher education in the Valley’s pre-eminent research institutions remain in the region and work for local firms, gaining experience and accessing the many social and professional networks in the Valley. Subsequently, many of these ‘immigrant entrepreneurs’ start up their own companies either in the Valley or in their home country. Even those who leave the Valley to return to their home country tend to maintain connections to the Valley through well-developed transnational social and business networks. These networks result in technology and knowledge transfer between the Valley and emerging centres of the global economy such as Bangalore, India and Hsinchu, Taiwan, as well as providing business opportunities for firms in the Valley alongside local job creation in both locales. Rather than processes of brain drain or brain gain, there is an ongoing process of ‘brain circulation’ characterized by continuous flows of ideas, knowledge, and people between institutions and firms that enrich both the Valley *and* the regions of origin.

In addition to providing a global ‘embodied’ flow of knowledge, immigrant entrepreneurs draw upon their ethnic and cultural identities in ways that can enhance and transform traditional sectors of the economy. For example, in their study of Toronto’s urban creative food economy (food products based on high-quality, distinctive local, ethnic and organic foods), Donald and Blay-Palmer (2006) remind us that creative inputs do not have to be the sole domain of creative professionals such as the designers, architects, and artists identified by Florida and others. In Toronto’s food sector, immigrant business owners and other workers in the food industry drive innovation and creativity by drawing upon their ethnic backgrounds and cultural identities to develop new products and access new markets.

3.2.2 Creative activity, quality of place and urban space

The research discussed in the previous sections provides an argument that social aspects of quality of place determine the ability of city-regions to attract and retain highly educated (or talented) labour. However, equally important as social characteristics such as openness, diversity and tolerance, are the institutional milieu and physical environment that attract and retain highly skilled, creative workers. For example, Markusen and King’s (2003) research based on focus group analysis and extended interviews with 22 artists from the Minneapolis-St. Paul region concludes that three local qualities are most important in attracting artists and retaining them in the community:

- The presence of vibrant artistic networks, nurtured by active occupationally-based member organizations, successful live/work facilities, and other institutions and

²⁴ Bathelt, H.; Malmberg, A.; and Maskell, A. 2004. Clusters and knowledge: Local buzz, global pipelines and the process of knowledge creation. *Progress in Human Geography* 28: 31-56.

events that produce and maintain strong ‘connective tissue’ within the local arts community

- A climate of strong support for the arts, evident through financial support (from public sector and philanthropic sources), a range and diversity of high-quality arts venues, as well as strong moral support (a climate of free expression and tolerance)
- A good and affordable quality of life.

These findings emphasize that while funding for programs related to arts, design and cultural activity are important, it is also important to have access to affordable spaces in which to do creative work. Artists and other creative people are routinely priced out of areas that become popular due to the very creative activity that they help to generate. As they are displaced by rising rents and property costs, their ability to create and to benefit from close interaction with their peers is threatened. In Toronto, Artscape, a non-profit enterprise that builds creative communities addresses issues related to affordability of space by providing a variety of different spaces for artists and other creative workers, including artist work studios, live/work studios, rehearsal space, office space for non-profit creative organizations (theatre and dance companies, art service organizations, galleries), a recording studio and galleries (Gertler et al. 2006). While artists require affordable spaces, it is important to recognize that other creative activities may inhabit such spaces alongside them. For example, the emergence of new media and design industries in Montréal, Toronto, and Vancouver during the 1990s was strongly concentrated in older, previously industrial-warehouse, inner-city neighbourhoods (Brail and Gertler 1999; Britton 2004). Toronto’s Fashion Incubator provides fashion designers affordable workspace and business development support programs required to help emerging designers evolve into successful fashion entrepreneurs.

In addition to ensuring the availability of affordable work spaces, investments by local and provincial governments in cultural institutions are critical to attracting and retaining creative workers. Again, in Toronto, many of its major cultural institutions are currently undergoing renovation or reconstruction with support from public and private (philanthropic) funds. More than a billion dollars have been invested in improving these critical local and national cultural institutions, including spaces for the Canadian Opera Company, the National Ballet School, the Toronto International Film Festival and the Soulpepper Theatre. Additionally, the Royal Ontario Museum (ROM), the Art Gallery of Ontario (AGO), the Royal Conservatory of Music and the Gardiner Museum of Ceramics are experiencing significant renovations. The existence of such cultural amenities means that it is easier for firms, universities and research institutes, such as MaRS, to attract and retain creative workers since the presence of such institutions signals a high quality of life.²⁵

Finally, the quality of local schools and other neighbourhood characteristics that promote social cohesion and inclusiveness are equally important to attracting and retaining creative

²⁵ For example, the Ontario Cancer Institute at Princess Margaret Hospital recently recruited Dr. Ben Neel, a star scientist from Boston. His decision to relocate was based on the type of research taking place at the institution in areas such as stem cell research, as well as the willingness of funding agencies to support independent research in contrast to the ‘picking winners’ strategy being pursued in the United States. Finally, he noted that Toronto itself was a selling point, stating that “everywhere you turn there’s new buildings, there’s a lot of excitement here.” See Reinhart, A. 2006. Cancer institute gains top scientist. *Globe and Mail*, June 14, 2006.

and talented workers. Recent events in Silicon Valley, one of the most celebrated success stories in the contemporary knowledge-based economy, underscore the importance of this last point.²⁶ In California, funding and support for the arts curriculum in public schools has steadily declined over the past few decades. Research revealed that the highly skilled, creative workers in Silicon Valley – critical actors in the success of the region – were very concerned about the state of arts-based education. Almost three-quarters of the region's population participated in creative activity outside their high-tech day jobs and they wanted their children to learn creatively as well. As a result Cultural Initiatives Silicon Valley (a local non-profit organization), with the assistance of funding from foundations, launched the Creative Education Program to provide cash grants, technical assistance, and professional development to public elementary schools in Santa Clara County. The program's goal is to have all K-6 students participate in weekly, sequential, standards-based, in-school arts instruction in one or more disciplines (dance, music, theatre and visual arts). Each grant site makes a five-year commitment to create, improve or expand arts education programs for its students (Gertler et al. 2006). These types of initiatives greatly improve the education of the next generation of creative workers while simultaneously making these places attractive to creative workers to live and work.

3.2.3 Prospects for small and mid-sized cities

The above discussion implies that it is only large urban centres that can benefit from the concentration of creative, cultural and design-related activity. What prospects exist for smaller or mid-sized cities? Recent research suggests that while creative and cultural activities are very prominent in large urban centres, it is not to the exclusion of smaller urban centres (Scott 2004). For example, Norcliffe and Rendace (2003) use the case of comic book artists to demonstrate that, due to changes in the organization of production, it is possible for creative workers to locate outside of major metropolitan centres and continue to work in creative fields. Gibson (2003) also points to the emergence of communities of musicians and other artists in rural and small towns in Australia. Markusen and King's (2004) work on the role of artists in the regional economy also demonstrates this point quite succinctly. Their study clearly shows that geographical distribution of artistic activity within the US economy is decentralizing towards second-tier cities. Specifically, the traditional dominance of artistic and creative centres such as New York and Los Angeles is declining, as artists appear to be spreading out towards cities such as Minneapolis-St. Paul, San Francisco, Albuquerque and Seattle. If such a trend continues this may bode well for mid-sized cities, as well as smaller centres within proximity to large urban regions. Many such places pride themselves on their 'good quality of life at affordable prices', while also supporting a vibrant cultural scene. Such characteristics may provide a solid foundation on which to build and maintain successful urban economies.

In the Canadian case, Gertler and Vinodrai (2004) find that designers are highly concentrated in Canada's urban centres, with Toronto being the largest centre in both absolute and relative terms. However, when they examine the distribution of designers working in specific fields they show that smaller centres are also home to a significant amount of design activity. For example, Windsor and Kitchener – both centres of traditional manufacturing activity – also

²⁶ Gertler, M.S., et al. 2006. *Imagine a Toronto: Strategies for a creative city*. Munk Centre for International Studies, University of Toronto. [forthcoming].

have high concentrations of industrial designers working with local manufacturers to enhance the creative content (and economic value) of their products.

3.3 Anchors of creativity: The role of institutions

Given the view that places with rich cultural amenities and high levels of openness and tolerance are the places that will attract and retain creative and talented workers, it is worth considering what institutions are important in creating these communities. What institutions help to anchor creative, cultural and design-related activities in certain places?

Within the literature on innovation systems, there is a well-established view that suggests that regions (and nations) support the growth of innovative and dynamic industries and clusters through the provision of general and specialized infrastructure. An instrumental component of this knowledge infrastructure includes a well-developed education and research system comprised of universities, colleges, and research institutes. In general, this literature promotes a somewhat narrow view of the role of universities and colleges. The university in particular is typically seen as a 'knowledge factory', producing knowledge and technologies that are then transferred from the university to the private sector through technology-transfer centres, incubators, R&D partnerships, university-industry alliances, commercialization programs and spin-off firms. Such local interactions between firms and other institutions are crucial to economic competitiveness through transforming cutting-edge research into commercially-viable products or processes and generating knowledge spillovers to other parts of the regional economy.

However, as a key institution in the knowledge-based economy, the university plays a number of inter-related roles reaching well beyond this narrow view of the university as 'knowledge factory'. Universities generate, attract and retain highly-skilled talent. At the same time, they contribute to the creation of open and tolerant places, which in turn helps to create the necessary conditions for attracting and retaining talent, thereby making the entire process mutually reinforcing. In other words the university has a much *wider role* to play in the community that reaches well beyond industry collaboration, technology transfer, and commercialization. An equally, if not more important, role for universities and colleges is to facilitate the indirect transfer of technology and flow of knowledge by producing well-educated talent for the local (and provincial) labour market. An abundance of local highly skilled workers is often cited as one of the most important factors for the success and dynamism of locally-based clusters and regional innovation systems.

In fact, Florida (2004: 126) refers to graduate students as the 'canaries of the talent mine', considering them to be "a leading indicator of global talent flows. The countries and regions that attract them will have a leg up on retaining them and also on attracting other pools of foreign talent". In a recent paper addressing the role of universities in the creative economy, Gertler and Vinodrai (2005) find that Ontario's ability to attract foreign students at the university-level has declined relative to other regions of Canada. Ontario's share of foreign students decreased dramatically from over 50% in the early 1980s to less than 30% in the mid-1990s and most of this decline in Ontario's foreign student enrolment was borne out in graduate programs. Geddie (2006) explores these trends in foreign student attraction and

retention as they pertain to higher education policies in Ontario. She finds that there is a significant gap between the rhetoric that values the contribution of foreign students and the actual government policies and practices that provide little support for foreign graduate students attending universities in Ontario and Canada. The provincial government provides universities a certain amount of funding based on headcount (basic income units or BIUs) at both the graduate and undergraduate level. However, beginning in the 1990s, policy changes implemented by the Ontario government meant that Ontario's universities no longer received BIU funding for foreign students. The result of this policy change is that universities have had to seek out other sources of funding to attract and retain foreign students. In doing so, their ability to admit foreign students – a critically important 'portal' through which global creative talent comes to Ontario – has been undermined significantly.

4. Opportunities and challenges for Ontario

In the realm of policy, national, regional and city governments around the world have begun to implement strategies to bolster their creative and design capacity. In the past, the Ontario Government has noted the economic importance of the cultural and creative industries. In 1994, the Advisory Committee for a Cultural Industries Sectoral Strategy (ACCISS) developed a strategy organized according to three main goals, each of which was articulated by a series of objectives and followed-up with a number of recommendations.²⁷ These recommendations attempted to address some of the significant challenges facing Ontario's cultural industries, many of which persist today. These include: a small national market, lack of economies of scale, competition from the United States and other foreign competition, financing difficulties, training issues, access to global markets, adoption of emerging technologies, and a lack of coordination and contact between the diverse activities that comprise the cultural industries. Changes in government and differing priorities have meant that – until recently and with few exceptions – the creative and cultural industries have not been part of Ontario's economic development agenda and have not figured prominently on the innovation agenda.

However, the *2006 Ontario Budget* announced on March 23, 2006 takes steps towards developing these industries. The budget recognizes the 'entertainment and creative cluster' as a key sector of Ontario's economy and provisions within the budget that support these creative and cultural activities include:

- a proposed extension of the enhanced 18% rate for the Ontario Production Services Tax Credit until March 31, 2007;
- proposed enhancements to the Ontario Interactive Digital Media Tax Credit;
- \$7.5 million over the next 3 years to establish the Entertainment and Creative Cluster Partnerships Fund; and

²⁷ Advisory Committee for a Cultural Industries Sectoral Strategy. 1994. *The business of culture: A strategy for Ontario's cultural industries*. Toronto: Ontario Ministry of Culture, Tourism and Recreation.

- \$49 million to support capital projects at Ontario's major cultural agencies and attractions.²⁸

These investments will help to support some of the most creative and innovative sectors of the Ontario economy.

While the above initiatives fall primarily within the portfolio of Ontario's Ministry of Culture, there are a number of other initiatives related to the development and support of creative and cultural activity in Ontario. The Ontario Ministry of Economic Development and Trade (MEDT) has supported research examining the economic value and importance of creative inputs such as design (DIAC 2004; Gertler and Vinodrai 2004). The challenge for public policy is to find effective ways to highlight the valuable contributions that designers make to the competitiveness and innovativeness of firms. Ontario has a large and vibrant design workforce and is home to one of the largest design clusters in North America. The significance of these results should not be overlooked and present an opportunity to develop Toronto and Ontario as centres for design and creativity. However, this remains a relatively unexplored and underappreciated asset. Ontario's design sector represents a significant opportunity to unleash the creativity and competitiveness of this region. The Ontario Ministry of Research and Innovation has been a critical actor in supporting convergence centres such as MaRS that not only focus human and financial resources on biomedical innovation, but also bring together diverse fields of knowledge in art, science and technology. However, many of these initiatives are still in their infancy and it is too early to assess their full impact and success.

The evidence reviewed herein suggests that while Ontario faces a number of challenges, the province and its cities seem well poised within North America to take advantage of their existing strengths, including their high levels of cultural diversity. However, there remains a lack of a recent systematic exploration of the relative size and character of the creative and cultural capacity of Ontario and its cities. Such empirical research could provide baseline evidence of the importance of Ontario's cultural, creative and design-related activity. Recent efforts have begun this exercise by examining Toronto's creative capacity, as well as Ontario's strengths in design (Gertler and Vinodrai 2004; Gertler et al. 2006).

Policymakers need to recognize that there are close linkages between policies that bolster cultural and creative activity, develop socially inclusive cities, and support innovation. This means that there needs to be sustained investment simultaneously in a number of related policy areas that directly and indirectly foster innovation and creativity. For example, in the realm of education policy, an obvious priority is to support higher education for both domestic and foreign students. In the global battle for creative talent, one of the most effective ways to attract and retain highly educated people is through the post-secondary education system. It also makes sense to shore up and enrich funding for arts and cultural programs in the primary and secondary school systems, to attract and retain talented workers, but also to develop the next generation of highly skilled, creative workers. Furthermore, since talent attraction and retention are important foundations of innovation, it is vitally

²⁸ Government of Ontario. 2006. *Strengthening Ontario's Economic Advantage: Building Opportunity Through Key Investments*. Ontario 2006 Budget Backgrounder. [<http://www.ontariobudget.ca/english/bk4.html>]

important to ensure effective and streamlined approaches to the recognition of foreign educational qualifications and work experience. Such steps to enhance labour market integration will allow Ontario to take better advantage of the skills brought to its cities and towns through immigration, to build social cohesiveness, as well as to signal that the Province remains open and tolerant to difference.

5. Conclusions

This paper began with the premise that innovation does not simply occur in the realm of scientific discovery and is not the sole purview of research and development activities in high technology and science-based industries. Rather, innovation takes place throughout the economy and rests upon a variety of inputs, including a set of often overlooked creative, cultural and design-related activities.

We have highlighted how creative, cultural and design activity – broadly defined – plays a role in fostering innovation. First, as a unique sector, the creative and cultural industries are themselves highly innovative and growing quickly. Second, the use of creative inputs, such as design, can greatly assist firms and regions to establish themselves as market leaders in the global economy. Third, the use of the skills and talents of a creative and cultural workforce can contribute to firm learning and innovation throughout the economy. Workers in creative and cultural occupations act as agents of innovation by applying their skills within the firm or project, by building knowledge networks, and through circulating between firms in the regional economy. The value of investing in a highly skilled, creative labour force should not be underestimated.

Furthermore, we have shown that there is an intimate connection between creative, cultural and design-related activity and cities. Cities are critical sites of innovation and support the development of creative and cultural activity. Cities with particular quality of place attributes such as openness to and tolerance of diversity, high levels of social cohesion and social inclusion and relative freedom from social deprivation and have access to employment and social services, such as shelter, education, nutrition and health care, provide an ideal environment for creative and cultural industries, as well as workers in creative and cultural occupations. We highlighted the critical role that local knowledge infrastructure and institutions play in supporting creative and cultural activities, as well as their role in attracting, retaining and generating the creative and highly-skilled workforce necessary for these types of innovative activities within firms and regions.

Overall, investments in cities and the cultural economy are beneficial both for their social and cultural outcomes, as much as for their contribution to economic prosperity. By investing in creative, cultural and design-related activities and the cities that support these activities, Ontario can remain competitive and prosperous in the contemporary knowledge-based economy. Therefore, a goal for public policy in Ontario should be – and can be – to enhance the formation of *socially inclusive creative places* to further the economic performance and innovative capacity of the province and its communities.

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