

# **Social Dynamics of Innovation and Civic Engagement in City Regions**

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## **Introduction**

Innovation and creative capacity are essential determinants of economic prosperity in a globalizing, knowledge-based economy. Although the process of globalization has led to numerous predictions of the 'death of distance', growing evidence suggests that the contemporary global economy make cities more - not less - important as sites of production, distribution and innovation (Morgan 2004). Over the past decade, recognition has grown that even the most global of economic activities remain fundamentally rooted in city-regions as critical sites for organizing economic activity (Gertler 2001). More significantly, the social dynamics of city-regions are crucial in shaping economic outcomes. The interactive and social nature of the innovation process makes city-regions the appropriate scale at which social learning processes unfold. Knowledge transfer

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between highly skilled people happens more easily in cities. In a country with diverse and strongly differentiated regional economies, relationships between economic actors, organizations, and institutions at the local and regional scale are crucial factors affecting national prosperity. And leading urban regions are no longer prepared to be passive objects at the hands of globalizing forces associated with the spread of ICTs, but are taking control of their own economic future through efforts aimed at the ‘strategic management’ of their own economies (Audretsch 2002). From this perspective, many of the key foundations of economic success in a globalizing, knowledge-based economy are the social qualities and properties of urban places.

### **The Spatial Dimension of the Innovation Process**

A defining feature of the innovation process is its social and interactive nature which accentuates the significance of the urban region because spatial proximity between economic actors, and the common socio-institutional context they share, enables the easy circulation of knowledge that underpins innovation (Maskell and Malmberg 1999). Given the interactive and social nature of innovation, city-regions provide a critical space in which social learning processes can unfold. The development of local ‘untraded interdependencies’ that shape the innovative capabilities of firms are strengthened by the presence of key infrastructures for knowledge generation and circulation that underpin innovation and creativity in city-regions, such as: specialized educational institutions and research facilities, unique support services for industry, and institutions that build and strengthen network relationships amongst firms and other key actors to facilitate the circulation of knowledge (Scott 2004).

The density and concentration of economic players in large cities affords multiple opportunities for contact, interaction and knowledge circulation (Orlando and Verba 2005). As Storper and Manville assert, “. . . it is in cities that information is not just created but sorted – where the ‘important’ information moves to the top of the enormous heap of banality and gets diffused” (2006: 1250). The diffusion of this economically valuable information is supported by the concentration of specialized suppliers operating within a rich and deep social division of labour in the city. Accompanying this degree of specialization is the diverse mix of economic activities; the urban economics literature suggests that the diversity of activity within cities enhances their economic growth (Glaeser 2000) and innovative capacity (Feldman and Audretsch 1998). The potential for inter-sectoral knowledge exchange and spillovers arising from the presence of economic variety enhances the learning potential for local economic actors. These processes help explain why, despite the advent of globally organized industries and the growing adoption of information and communications technology, innovation and knowledge-intensive production remain *more*, not *less*, concentrated in urban city-regions.

The capacity of urban centres to act as centres of innovation and creativity depends to a great extent on the sophistication of their institutional structures.

Those that develop innovation capacities in knowledge-intensive goods and services industries are more likely to do well; those that do not are likely to struggle. Relevant knowledge flows include the technical knowledge that underlies the capacity to transform leading edge research results into new products and services, as well the knowledge of changing markets and consumer tastes essential for the successful commercialization of those products, the specialized financial knowledge that generates the investment needed for the creation of these products and services and the management skills and knowledge required to organize production and distribution on an increasingly global scale. Variation in cities' economic fortunes indicates that the ability to harness these respective kinds of knowledge flows that drive innovation is by no means assured for all places, and globally competitive innovation is concentrated in a relative minority of urban regions (Simmie 2003: 610). Older centers that remain invested in existing technologies in which they are already efficient, can be subject to the vagaries of economic fortune driven by successive technological revolutions or shifts in consumer preference. Those older industrial cities in North America, such as Boston, New York or Montreal, that have experienced recent economic growth and resurgence have been able to shift to the more knowledge and design-intensive activities described above. Other leading industrial centres, which dominated their regional economies throughout the 20<sup>th</sup> century, such as Akron, Detroit, Rochester or Hamilton, have proved less effective at making the transition. Cities and peripheral regions that remain locked into specializations in mature manufacturing are often handicapped (Storper and Manville 2006).

Variations in the ability of cities to create and diffuse new knowledge depend on the interaction effects between a range of factors, especially size and industrial activity. The fact that the most successful cities are typically the most diversified, and the most diversified cities are typically larger, suggests the emergence of an international hierarchy of city-regions, where the largest 'super cities' are becoming "knowledge hubs of the international economy", while smaller, but still large, regional capital cities with specializations in knowledge-intensive activities act as hubs in their national and regional economies (Simmie 2002: 213-214). Canada's showing in the international hierarchy of globally competitive cities is less than stellar, with only one city -- Toronto -- in the 10-member 'beta' group of world cities, and the 12 member "well-rounded global cities" category (Brender et al 2007).

The privileged position of the largest cities in the international hierarchy implies that small and medium-sized city face specific challenges. Many smaller and medium-sized Canadian cities may be hampered by an older industrial base, or the absence of a knowledge base and quality of place needed to compete with larger, more diverse cities. They are faced with the daunting task of rejuvenating their local economies without the institutional resources and knowledge-based factors needed in the emerging economy. It is also important to remember that city size is a relational variable, not a dichotomous one; some small or medium-sized cities caught in the penumbra of larger ones, such as Kingston, may find their challenges compounded by the economic attraction exerted by their larger neighbours, while others, such as Waterloo, have proved more successful at

translating their institutional resources and knowledge assets into the basis for economic success (Bramwell and Wolfe 2008).

### **Social Foundations of Talent and Creativity**

An underlying factor that contributes to the dynamics of innovation and creativity in city regions is the presence of a highly skilled and creative workforce. The locational factors of the industrial era, which relied on access to transportation networks and key material inputs for the production process, have been replaced by highly educated and creative workers -- or "regional talent pools of global significance" (Cooke 2007) -- which have the potential to attract globally mobile investment, as well as generate local innovative growth. Those attributes of particular places that make them attractive to talented workers are critical in determining local economic growth (Florida 2002; Gertler et al 2002). Places that offer a richness of employment opportunity, a high quality of life, a critical mass of cultural activity, and social diversity -- low barriers to entry for newcomers -- are said to exert the strongest pull.

Urban and regional growth depends on a high degree of human capital as reflected in the levels of educational attainment and the skill mix of its work force. Recent theories linking the skills of workers to the economic prosperity of cities document the measurement of knowledge-intensive or 'creative' industries by individual occupation, rather than the activities of firms (Florida et al 2008). It is not just the presence of scientists and engineers, but also of other idea-generating, knowledge-based occupations that drive innovation in the creative economy. However, certain occupations drive innovation and regional development more than others; elementary and secondary education, as well as health care, which tend to be evenly distributed across urban regions, have a smaller impact than occupations such as computer science, engineering, management, and business and financial operations, which have a measurably larger association. While many industrial activities occur in particular industry sectors staffed by identifiable, industry-specific occupations, many emerging activities in design-intensive manufacturing activities and knowledge-intensive business services are less easily categorized. Changing patterns of urban development are occurring in a context where leading edge economic growth and innovation is driven by the presence of the broad sets of skills that feed these activities. Recent research from Statistics Canada suggests that scientists and engineers have the greatest impact on growth when their presence is combined with a large and diverse pool of skilled workers. The growth effects of these factors are also reinforced by the presence of a broad-based measure of urban amenities (Beckstead et al 2008).

One feature of urban environments that accounts for the uneven distribution in their human capital endowments is the quality of their local research institutional infrastructures and the role of universities in human capital formation, which act as key creators and attractors of talent. A variant on this perspective maintains that thick labour markets are sustained by a discernible quality of place, defined not only by lifestyle amenities, but also by tolerance and openness to

diversity. Universities, which often act as key promoters of these values in their local communities also serve as the providers of ‘humane capital’ (Gertler and Vinodrai 2005). However, while many universities are capable of producing talent, not all urban centres succeed in retaining it and attracting it from elsewhere. Regional ‘absorptive capacity’ in terms of the ability to retain and employ highly skilled labour is a critical factor in determining whether the supply of talent is retained in the local urban economy. A key challenge for urban regions hoping to capture the full benefits of their local research and education infrastructure is to create the local conditions needed to retain their highly qualified workers in the local economy.

Another key source of talent and creativity for Canadian urban regions in recent decades has been the substantial flows of skilled labour, both interregional and international, that have reshaped both their character and geography. However, the impact of these flows of migration has been highly differentiated according to city size and relative location. For the largest metropolitan areas, especially Toronto, Vancouver, Montréal, Calgary and Ottawa, international immigration has brought incredible dynamism and vitality by providing a key source of new human capital or talent (Gertler 2001). There is further evidence that immigration flows to Canada’s largest cities enrich their local economies by endowing them with distinctive forms of cultural capital in key sectors such as literature, publishing, music, film-making, gastronomy, and specialty food. Immigration enhances the diversity and distinctiveness of these places, further strengthening their long-run economic prospects.

For Canada’s mid-size and smaller communities, particularly those that are more remote from larger urban regions, the prospects for sharing in the benefits from interregional and international migration are more limited. Many such urban regions are struggling to contend with the loss of home-grown talent to other regions of Canada, as well as the inability to attract and retain well-educated migrants from other countries (Polèse and Shearmur 2002; Slack et al 2003). For such communities, the obstacles to pursuing a talent-based strategy to enhance local innovation and creativity are more substantial. The implications of this argument do not inevitably consign smaller urban centres to also-ran status, but do suggest the need for national and regional governments to work with municipalities in designing policies to distribute the flow of immigrants more evenly throughout different size cities and regions across the country.

## **Urban Governance and Civic Engagement**

The emergence of a globalizing, knowledge-based economy discussed above highlights the importance of the social dynamics of innovation and creativity for sustaining growth in urban city regions. The focus on the social dimension of the innovation process is associated with a related shift in the political sphere from a focus on government to governance. The key distinction between government and governance turns on the recognition that policy outcomes are not merely the by product of government actions, but depend on the interaction effects among a wide

range of social and economic actors, including, but not limited to, subnational and local governments, the private sectors, voluntary, business and not-for-profit organizations. Whereas government is associated with the hierarchical authority structures of traditional forms of bureaucracy, governance implies a more flexible and multilevel process of negotiated power in which different levels of political organization work in partnership with each other, and private sector actors and agencies, to deliver policies. One of the key challenges for political institutions is to create the conditions in which firms, associations, and public agencies engage in a collective process of interactive learning that is essential to innovation in the knowledge-based economy.

Communities and regions need to adapt new strategies for economic development to remain competitive in the knowledge-based economy. City regions attempting to formulate such strategies require the presence of an 'economic community' – strong, inclusive relationships between private firms, community – based organizations and public agencies that create a sustained region-wide advantage. These relationships are mediated by key people and organizations that bring the respective economic, social and civic interests in the community together to collaborate on strategies for the community. Effective economic development policy builds on successful experiments with associative governance and draws on the presence of local pools of civic capital. This approach involves developing a rolling set of innovation strategies at the local and regional levels to ensure that the existing R&D infrastructure, including research-intensive universities and economic development programs, is used to maximum advantage -- to assess existing needs and identify gaps in the program array (Koschatzky 2005).

Variation in cities' innovative capacities are linked as much to "collaboration between agents and their ability to mobilize assets" and "the successful institutional arrangements [that] often grow out of local agencies and endowments", as to the ability to create and diffuse new knowledge (Simmie and Wood 2002: 149). Rather than concentrating on the zero-sum competition for inward investment or 'talent', the most successful places will focus on searching for and generating new economic knowledge that drives innovation and export success. Not all places can become high tech powerhouses -- much economic success still depends on size, diversity, and access to global knowledge flows found in the largest cities – but not all economic growth is in high tech, and the development of viable alternative niches is also possible (OECD 2006). Economic development policies targeted at knowledge-intensive activity may not apply particularly well to all firms and all regions. Instead, "policy prescriptions need to be tailored to the circumstances and strengths of individual urban regions" (Simmie 2002: 214). Much depends on the ability of cities to develop the "organizational and institutional infrastructure within which collective action [can] be taken" (Safford 2004: 4).

While local factor endowments strongly shape the trajectory of economic change within regions, arguments about political agency assume that cities have a measure of control over the direction of economic and social change. The response taken to the growing trend towards knowledge-intensive production on

a global scale has been an increased emphasis on ‘strategic management policy’ at the regional and urban level. At the heart of this approach is “the development and enhancement of factors of production that cannot be transferred across geographic space at low cost” (Audretsch 2002: 174). While the introduction of this policy approach initially focused on the regional level, an increasing number of urban centres are adopting it as well. The successful adoption of a strategic management policy at the urban level requires not just a new category of policy, but a new style of policy development, deploying what Gertler and Wolfe label ‘local social knowledge management’ exercises (2004).

A key question for policymakers at the regional and local level is how to provide the right conditions for generating the growth of appropriate forms of economic activity within the context of an overall approach to promoting a dynamic learning region. The critical issue concerns the most effective means to alter the conditions that influence the trajectory of growth for a regional or local economy. Policy makers need to address the issue of how to develop, support and sustain regional and local systems of innovation that will be more effective in global competition. Successful regions engage in local social knowledge management exercises that identify and cultivate their assets, undertake collaborative processes to plan and implement new development strategies, and encourage a regional mindset that fosters growth. Local social knowledge management exercises also assume that “different imaginaries are possible . . . and can be harnessed in the service of political action directed to social change” (Scott 2007: 1466).

Neil Bradford identifies three learning dynamics that occur when these approaches are successfully applied. The first is a *civic learning* process that results in recognition among the local organizations, be they private or public sector, of the importance of equity, diversity and interdependence and the need to accommodate these realities in their collaborations. And, rather than merely accepting the need for a fair distribution of resources (equity), diversity in social relationships or a dependence on others to coordinate one’s objectives, communities with successful civic learning recognize these local realities as an asset. Equally important, though is the second dynamic of *administrative learning* whereby administrators learn new skills for building relationships, seeking consensus, assessing risk and measuring performance. Such skills help foster a government that is effectively engaged in its essential roles of ensuring balanced representation of social interests, addressing systemic differences in the capacity to participate, convening and organizing meetings, establishing protocols for monitoring progress and maintaining the focus and commitment of social partners. Finally, the culmination of successful civic and administrative learning leads to the third dynamic, that of *policy learning*. Here, feedback from the various actors within the multilevel governance process refocuses the policy agenda with street level insights and experiences as well as new goals (Bradford 2003).

The demands of undertaking these local strategy development exercises place new pressures on processes of economic planning, but not every community succeeds in rising to the challenge. Often communities suffer from a deficit of civic capital, an inability to generate sufficient trust or cooperation among key

players to generate the supportive institutional arrangements required to promote growth at the local and community level. This may result in a 'governance' failure, as opposed to a state or market failure, which arises from the inability to bring key players together to develop new institutions and the required supports. It may also result from a lack of policy coordination, especially from the three levels of government, who frequently are not aware of the actions and initiatives being pursued by the others at the local and community level (Gertler and Wolfe 2004).

Much of the literature on alternative approaches to local economic development strategies highlights the contribution made to these processes by the presence of a high degree of trust and social capital, but an important distinction needs to be made between the business dimension and the civic dimension of social relations. Business relations include technological learning within the firm and inter-firm trade and knowledge exchanges. Civic relations include those that exist between people in a community who interact with each other through their involvement with schools, various cultural and leisure activities and other civic associations. Lorenzen argues that the civic dimension of social capital is particularly sensitive to geographic distance because many of the activities that enhance the strength of civic relations are based on the specific catchment area of a civic association or membership in a cultural organization. These relations frequently entail face to face meetings that are limited by distance as well (Lorenzen 2007).

This distinction points towards a way of redefining the concept of social capital as a tool for understanding the dynamics of regional governance and innovation -- the need to distinguish between its sociological and its more political, or civic, dimensions. To address these concerns we have elaborated the concept of civic capital, which builds on the distinction between business and civic relations, to deal with the contribution that associative behaviour and civic actors make to the process of local and regional economic development. Civic capital consists of interpersonal networks and solidarity within a community based on a shared identity, expectations or goals and tied to a specific region or locality. It is comprised of formal or informal networks among individual community members, between communities, or between community and the local or regional government (Wolfe and Nelles 2008).

The concept of civic capital recognizes the critical role of local leaders, or civic entrepreneurs, in intensifying and formalizing collaborative networks within and between communities. Civic entrepreneurs help build bridges between different members of a community to coalesce and formalize coalitions based on shared identities and interests. However, their most important role is in bridging the gap between communities and between local governments and community actors. Civic entrepreneurs understand the importance of collaboration; in their bridging role they bring business, the community and government together to set and achieve long-term development goals. They can emerge from any sector of society -- business, government, education and community organizations -- but all share similar characteristics of visionary leadership, charismatic personalities, interest in building the economic region, and commitment to collaborative solutions. Civic entrepreneurs help to build and intensify civic capital by "creating

opportunities for people to work together on specific projects to advance their economic community” (Henton et al 1997).

This conception of civic capital underlines the role played by individual agency through the engagement of key actors, as well as accounting for a societal dimension. Defining civic capital as a sense of solidarity or interpersonal ties enables civic capital to exist prior to agency, but also accounts for how it can be harnessed and intensified to promote effective regional governance by civic entrepreneurs. The term governance implies a more flexible, multilateral process of negotiated economic development whereby political authorities at the regional and local level partner with a range of civic associations to formulate local economic development strategies. This approach recognizes that civic capital can be created as an outcome of concerted community-based actions. The basis for doing so is the establishment of collaborative networks between various elements of the business and civic communities.

One virtue of this approach to the process of economic development is the emphasis placed on involving key actors at the local level in thinking about how to design effective innovation strategies. The essential criterion for success is finding the appropriate mechanisms to engage key members of the community and create a broadly-based buy-in to support a sustained effort to advance its opportunities. The recruitment of a committed, creative and collaborative leadership is an essential element for the success of a strategic planning process in regional foresight and regional economic development. Based on their experience with launching community-based economic development initiatives Montana et al. argue that civic capital is a critical ingredient in the success of the most dynamic urban and regional economies. Civic capital *can* be created and the basis for doing so is the establishment of collaborative institutions and organizations linking various elements of the business and civic communities. *“These alliances, networks and other relationship-building mechanisms create connections and linkages vital to economic development in a technology-driven world. . . . many regions fortunate enough to have university research assets underuse these knowledge economy resources, precisely because relationships have not been established to connect the university and local industry ... Relationships matter”* (Montana et al 2001: 10).

Thus, successful regional economies benefit from these dense networks of local organizations and civic associations to facilitate coordination. They also benefit from the presence of collaborative institutions, which help communicate the respective needs of different community actors to each other, establish local and regional priorities for economic development, and build effective bridges across different segments of the economic community that might not otherwise be linked. Above all, they contribute to the articulation of a shared vision or ‘different imaginary’ for the economic community and the local economy and build a consensus among key civic actors and associations around that vision. In doing so, they build civic capital by creating relationships and developing collective institutions that benefit the community, identifying common strengths or mutual needs and contributing to the development of a common economic agenda.

Since the late 1990s, there have been a number of notable experiments with

new approaches to economic development policy in several of Ontario's urban regions aimed to support new social and economic development trajectories for their local communities. The initial success of some of these recent initiatives provides an important illustration of how other jurisdictions can adopt and use these processes. Often these strategies have been formulated with some degree of financial and policy support from the provincial government. While this approach remains far from the mainstream of provincial or local economic development policy, it illustrates the emerging potential for moving to an alternative framework based on the implementation of 'strategic management' policies. Where this alternative approach has proven most effective, it has involved strong participation by local civic associations and the key leadership of local civic entrepreneurs.

In the late 1990s, the provincial Ministry of Economic Development and Trade supported major cluster studies in Ottawa and Toronto in partnership with local economic development agencies and community-based groups. The objective was to chart the competitiveness of the leading clusters in the local economy and their prospects for growth. In both cases, the study was conducted by a US consulting firm – in Toronto it was undertaken in partnership with local consultants and under the direction of the Economic Development and Planning Offices of the City of Toronto, while in Ottawa it was led by The Ottawa Partnership. The OECD review of Territorial Policy and urban initiatives in Canada painted a broadly positive picture of the Toronto process, suggesting that it "benefited from the active involvement of business, labour, academic and community leaders" (OECD 2002: 156). The Toronto study fed directly into the formation of the Toronto Economic Development Strategy, which included the launching of a number of specific sectoral initiatives in sectors as diverse as fashion, aerospace, film and ICTs. The sectoral initiatives sponsored by the City of Toronto, although hampered by a limited municipal budget devoted to them, continue to be a centre piece in the City's economic development strategy as recently reformulated in the Mayor's *Agenda for Prosperity*.

The formal initiatives undertaken by the city have been paralleled by a number of complementary ones launched by the Toronto City Summit Alliance, a coalition of 'civic entrepreneurs' drawn almost entirely from the private and voluntary sector. Of the several initiatives launched by the City Summit Alliance, perhaps the most significant has been the creation of the Toronto Region Research Alliance. TRRA is a coalition of the leading research institutions in the area that serves the communities in the broader Toronto region, including Waterloo, Hamilton and Guelph. The TRRA mission is to build the Toronto area into a world leading area for research and research-intensive industry by expanding public and private research capacity, enhancing the commercialization of research and attracting new research-intensive companies to the region (Wolfe 2006).

A comparable initiative undertaken recently in Waterloo region is the formation of the Prosperity Council, a new venture in regional associative governance. The Prosperity Council is: "a federation formed to collectively create an environment that supports opportunities for prosperity in Waterloo region" (Prosperity Council 2004). It provides a bridge between the older elements of the local business community and the more recent technology organizations and is

comprised of the Greater Kitchener Waterloo Chamber, Cambridge Chamber, Canada's Technology Triangle Inc. and the Communitech Technology Association. Together these organizations represent more than 3000 businesses in Waterloo region. Its goals are to build a collaborative regional vision; brand and market the region as one successful area for business, arts and lifestyle; enhance regional health institutions; strengthen local post-secondary institutions; and create and fund a regional arts and culture development and promotion body. It has launched six task forces staffed voluntarily by community members – to pursue strategies in the area of its overall goals. Since the inception of the Council, the working groups have presented a number of recommendations to the local and regional governments, summarized in a series of working reports. The Council has also hosted a number of events, including a conference focused on the role of arts and culture in the strategic development of the region. The Council continues to build support for a broad economic and cultural development agenda in the region and serves as an important indicator of the significant deepening of civic engagement in the region.

## **Conclusion**

Along each of the dimensions discussed above -- the spatial dimension of the innovation process, the social dimensions of talent and creativity, and urban governance and civic engagement -- the city-region is a critical scale for economic analysis and policy intervention. In each case, there is an important relationship between the underlying dynamics of the city-region and its economic potential in the emerging global economy. The social and interactive nature of the innovation process make the degree of proximity found in urban agglomerations more, rather than less, valuable. Similarly, the increasing educational qualifications and skill levels demanded by a broader range of industries and occupations place a premium on the potential benefits of a talent-based development strategy. Broad approaches to economic development, which build on local civic engagement, require an integrated approach to policy planning at the 'governance' level. As the preceding discussion suggests, this approach, which has been adopted in a number of urban regions in Ontario over the past decade, provides an important illustration of how social innovation at the urban scale can help chart new economic trajectories. Initiatives built on these principles will have the greatest chance for success where they incorporate all three of the dimensions necessary for improved urban economic performance and where they succeed in aligning urban economic development strategies with programs from senior levels of government.

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