Toronto: Innovation in the Megacity

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Regional Resilience under the Shadow of Globalization

• In a global world, location matters more
  – “The world is not flat, it is spiky” (Florida)
  – Innovation & research concentrated in places with key knowledge assets – asymmetric knowledge capabilities

• But (older industrial) regions still face disruptive change & external shocks
  – Involves the ability to adapt to changes in competitive, market, technological or policy conditions
  – Globalization of production and technological innovation “exert a formative influence over how the economic landscape changes over time” (Martin)
Why City-Regions Matter

• City-regions are defined as:
  – the presence of a core city linked by functional ties to a hinterland – factors include economic, housing market, travel-to-work, marketing, or retail catchment factors

• International hierarchy of cities and regions is emerging
  – Much knowledge transfers between these regions
    • City-regions are repositories of leading edge knowledge for activities in which they are specialized
    – Regions are leading nodes for internationally distributed system of innovation
      • Play role as gateways for diffusing leading edge knowledge through their respective national urban and regional hierarchies
Cities as Centres of Innovation

• Knowledge economy demands proximity
  – Proximity fosters the flow of knowledge
    • “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”

• Diversity and specialization contribute to economic growth
  – The transmission of knowledge across diverse sectors stimulates growth in additional sectors (Jacobs)

• Medium-sized and smaller cities are more specialized
  – Established industries move to take advantage of lower land, transportation costs, etc. outside of large cities
Specialization versus Diversity as Sources of Growth and Innovation

- Specialization versus diversity affected by other factors
  - Point of insertion into global network of urban nodes
  - Evolution of the industrial structure towards knowledge-intensive activities

- Diversity, not specialization, contributes to employment growth
  - Transmission of knowledge across diverse sectors stimulates growth in additional sectors (Glaeser)

- Diversity across complementary industries sharing a common science base stimulates innovation
  - Degree of local competition for new ideas within a city also stimulates innovation (Audretsch & Feldman)

- Competition for new ideas within a city creates a conducive environment for innovative activity
Dynamic Cities are Globally Networked, Regionally Based

• Moving beyond specialization vs. diversity
  – Cities reconstituted as ‘Schumpeterian hubs’ of innovation and creativity (Veltz)
  – Emerging ‘cognitive-cultural’ economy (Scott)
• Shift from sectors and clusters . . .
  – to networks and knowledge platforms
• From local innovation capabilities . . .
  – to global knowledge networks
  – Global pipelines trump local buzz!
  – RIM Blackberry – 400 parts, 200 suppliers – where are they?
Toronto Region: Economic Overview

- Largest city in Canada
  - 6 million in the GTA – more than 8 in the GGH
- Most diversified economy
  - Transition from manufacturing to KIBS and cultural/creative industries
  - Strongest financial services sector in Canada
- Scores high on creative occupations & number of Bohemians (Florida)
- Some civic capital, but lacks cohesive development coalition
  - Lack of integration between civic associations & municipal government
Innovation in the Toronto Region

• Innovation patterns vary across sectors
  – Knowledge flows primarily intra-sectoral within autos and advanced manufacturing
  – Weak links to local research infrastructure
  – SMEs rely more on in-house R&D
  – Universities primarily contribute to local talent pool
    • Weak collaborative links with firms
  – Biomedical sector relies on inputs from related industries

• Toronto’s cultural-creative sector
  – Strong inputs from local sources
  – Strength of the local talent pool
  – Primarily oriented to serving local/national market
  – Strong infrastructure of supporting institutions
Key Toronto Region Economic Challenges

- Regional competitiveness:
  - Loss of traditional manufacturing base
  - Slow recovery from recession – rising unemployment
  - Mismatch between jobs and labour demand
  - Sprawl/transportation congestion (OECD report)
  - Strong research base – weak commercialization record
- Fiscal imbalance between needs and resources
- Infrastructure demands and utilization
Toronto’s Key Clusters

- Agriculture
- Mining
- Oil and Gas
- Wood & Wood Products
- Maritime
- Construction
- Higher Education
- Business Services
- Creative & Cultural
- ICT Services
- Automotive
- ICT Manufacturing
- Finance
- Food
- Steel
- Plastics & Rubber
- Biomedical
- Textiles & Apparel
- Higher Education

% Employment Change 2001-2006

Location Quotient
Innovation in Toronto’s ICT & Financial Services Industries

- Strength of Toronto’s ICT and Financial Services industries presumed source of resilience through recession and downturn
- Offset economic impact of losses in automotive and manufacturing
- Targeted as potential growth sector for future development of the city
- Focus on emerging ‘white spaces’ in growing industry (BCG Report)
Toronto’s ICT Cluster

• GTA
  – 11,500 firms in the ICT sector in Toronto
    • 605 manufacturing firms & 10,900 service firms
  – Employed 161,000 in 2009
  – Key firms include headquarters of most major MNCs
    • Bell Canada, IBM, Rogers, Nortel, Celestica, Xerox, HP, EDS, AT&T, Motorola, Clearnet, SGI, Microsoft, Siebel, ATI, Gennum
  – 500 firms are active R&D performers – 6,600 researchers
    • IBM Software Solutions Lab – 2500 employees
    • Xerox Research Centre in Sheridan Park
  – Cluster is geographically dispersed
    • From Markham to Oakville
  – Multiple, competing industry associations
    • representing different segments and interests
Location of FS & ICT Firms

Software, programming, and database firms
- Employees:
  - 10
  - 50
  - 100
  - 500
  - 1,000

Finance and insurance firms (excluding retail)
- Employees:
  - 10
  - 50
  - 100
  - 500
  - 1,000
Diversity & Related Variety in Toronto’s Urban Economy

- Presumption of strong demand & supply linkages between finance & ICT
  - Large deposit institutions and wealth management firms are heavy consumers of ICT infrastructure – Canadian telecoms & global providers
  - Rely on global or multinational consultants & suppliers
  - 100 firms that provide highly specialized e-commerce and IT security services to financial institutions
    - Algorithmics, Certicom, G&D Systems Canada, Rypple

- Large deposit institutions also innovate in-house
  - Interac – alliance of 5 major financial institutions
  - BMO – Cebra, Merx
  - Symcor started as alliance between BMO, RBC & TD
Sources of Resilience in Toronto Financial Services

• Co-location of ICT and Financial Services is a product of factors that anchor each sector
  – Interaction between them is less significant

• Key ingredient for cross-sectoral knowledge flows
  – Depth and breadth of labour market depends on strength of educational institutions
    • TFSA – Centre of Excellence in Education for Financial Services
    • U of T involved with new Risk Institute

• Underlying quality of place
  – Ranked among top 5 most livable cities by Economist Intelligence Unit

• Superior performance due to national regulation
  – But faces global challenges – TMX-LME/Maple merger?
From the Creative Class to the Creative Economy

• Leading edge technologies facilitate shift to deroutinized production and outputs
  – In leading edge sectors
  – ‘Cognitive-cultural economy’ (Scott)

• Cities are breeding ground for new production or consumption oriented experiments
  – Reconstituted as ‘Schumpeterian hubs’
  – Cities reconstituted as ‘Schumpeterian hubs’ - “giant matrices for recombining resources in order to generate innovations.” (Veltz 2004)
Innovation in Toronto’s Design and Cultural Industries

• Hub for large fashion, design and other creative industries
• Fashion designers work in film, art, dance and theatre doing costume design – seen as “more creative”, less commercial
• Synergies between publishing, design, music film and television – Magazines, books and digital media all feed off proximity to other cultural and creative industries
Institutional Underpinnings of Resilience

• Resilience is result of more than just market forces - involves interaction of three sectors
  - Private (firms)
  - Public (governments)
  - Civic (networks and associations - governance)

• Local governments and governance are central to these processes
  - Resilient regions are ones in which markets and local institutional structures continually adapt to changing environmental conditions,
  - including changes in the policy environment introduced by senior levels of government (NAFTA, WTO)
Collaborative Institutions

• Formal and information organizations that:
  – Facilitate exchange of information and technology
  – Foster cooperation and coordination (Porter and Henton)

• Enhance civic capital and improve competitiveness by:
  – Creating relationships and establishing trust
  – Creating collective institutions
  – Identifying common strengths and developing common agenda

• Civic associations draw upon civic capital created by these institutions
  – Generate trust by engaging key social partners in ‘talk’ – to build a set of shared understandings and expectations
Role of Civic Associations in Economic Development

• Key Networking Institutions
  – Promote awareness of city-region
  – Engage in dialogue of city’s competitive position
  – Monitor & communicate market & technology trends
  – Develop mentoring programs for new firms/business people
  – Participate with multiple levels of government in strategic planning for the city region

• Emergence of local civic associations is critical step in the formation of civic capital
  – CivicAction Alliance, TRRA – Greater Toronto Area
Toronto CivicAction Alliance

• Meta-governance through CivicAction Alliance:
  – Not-for-profit non partisan group founded in 2002 to address Toronto region’s economic and social future

• Private and community sector driven collaboration (more than 50 civic leaders)
  – Emerged from Mayor’s summit on the future of the city

• Role of CivicAction Alliance
  – “convenes leaders of all different sectors to identify key areas that need attention and then identifies actions that can undertaken very quickly”

• Over 8000 people involved with CivicAction initiatives
  – Lobbies senior levels of government to get them involved
  – Greater Toronto Summit, 2011 – over 700 participants
Civic Leadership and Economic Planning

• Perception of CivicAction Alliance as civic ‘champions’ who could ‘get things done’
  – Strong track record on series of successful projects
• But limited involvement with strategic planning efforts for economic development
  – No overlap with Mayor’s advisory committee
  – Board of Trade expanding its role and scale
• Sectoral strategies have varied leadership
  – Strong in financial services and aerospace
  – Fragmented in ICT, biotech and fashion
• Regional stewards lack integration & cohesion
“One Size Does Not Fit All”

• Policy needs to be tailored to the circumstances of individual city-regions
• Cities & regions develop the organizational & institutional infrastructure for collective action
  – Identify and cultivate local assets
  – Undertake collective planning processes
  – Promote regional mindset to foster growth
• Drivers of economic change demand response from city regions
  – Formulate innovation-based strategic plans
  – Strategic management for cities and regions
    • Enhance factors of production that cannot easily be transferred from one city/region to another