



# The future of productivity

An eight-step game plan for Canada

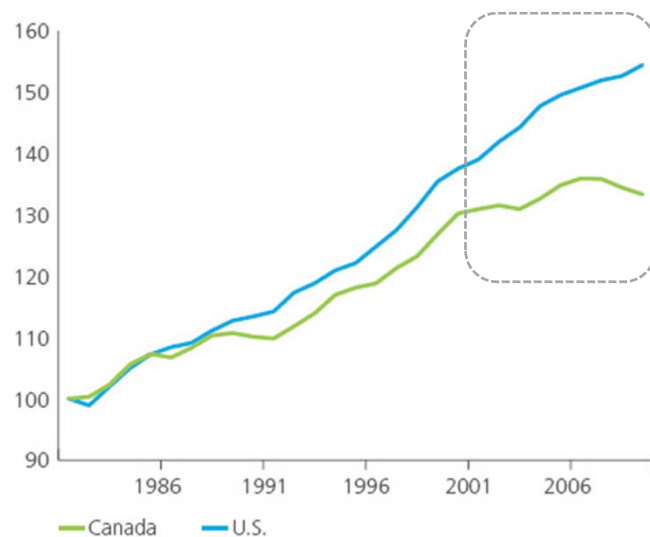
Halifax Regional Municipality  
June 14, 2012

# Canada now faces a significant and growing productivity gap relative to the U.S., which will threaten our long-term prosperity

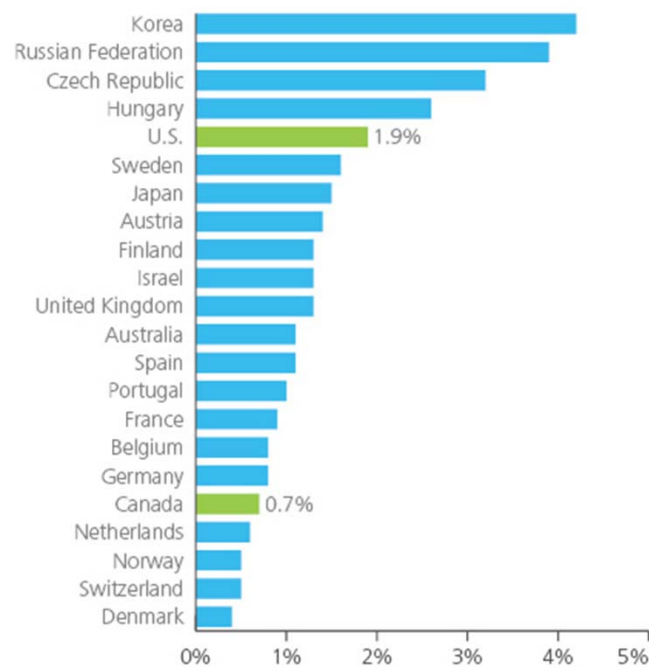
Over the past 30 years, productivity growth has taken divergent trajectories in Canada and the United States

The period from 2001 to present has been most challenging, as Canadian productivity growth has trailed most OECD nations

GDP per worker, indexed to 1981 baseline



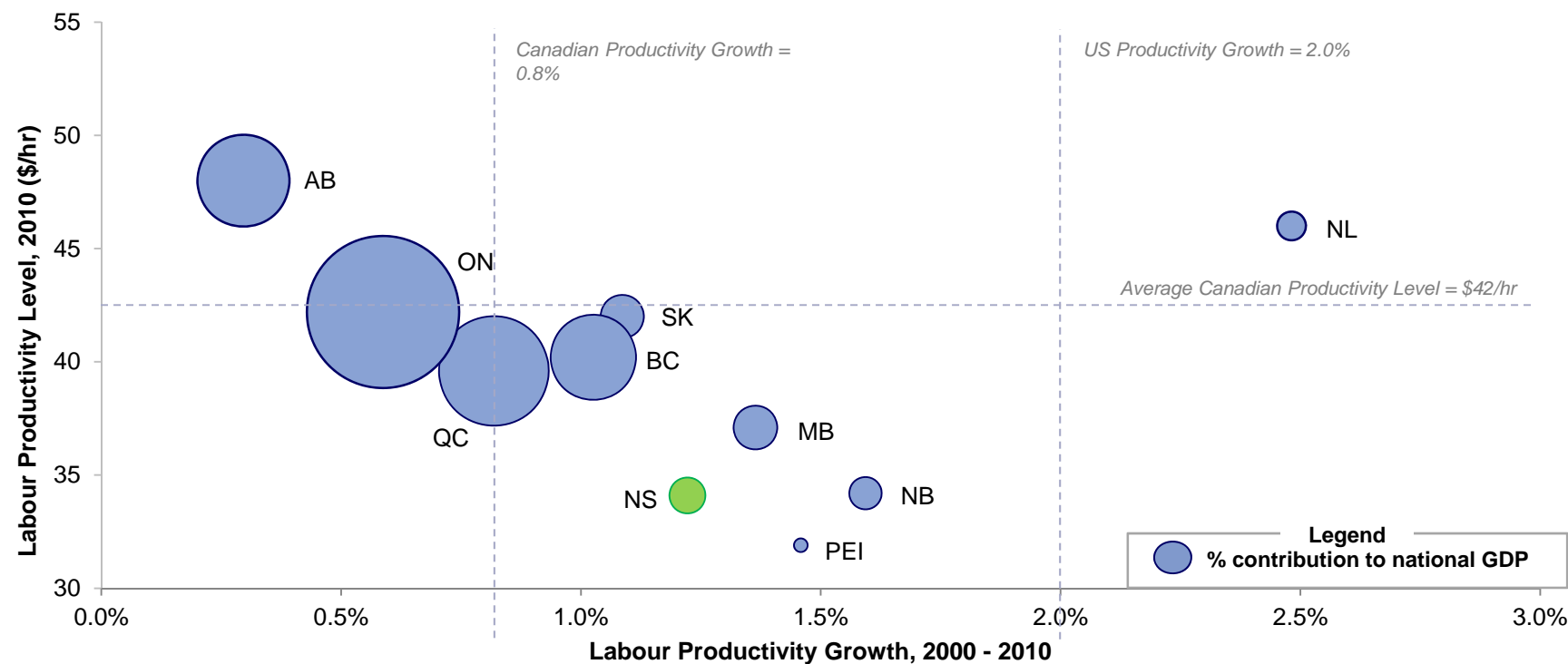
Labour productivity CAGR, 2001-2009



Sources: Centre for the Study of Living Standards, OECD

# Within Canada, Nova Scotia helps drive productivity growth but lags in its overall level of labour productivity

Provincial Productivity Level, Productivity Growth, and GDP



## Observations

- Atlantic Canada has the strongest productivity growth, led by Newfoundland, despite representing a small shares of Canadian GDP

## Deloitte believes that low productivity is, and will continue to be, the most significant threat to Canada's standard of living

$$\begin{array}{c} \text{Employment rate} \\ \text{\% of total population} \\ \text{that is employed} \end{array} \times \begin{array}{c} \text{Work effort} \\ \frac{\text{Hours}}{\text{Worker}} \end{array} \times \begin{array}{c} \text{Productivity} \\ \frac{\text{Output}}{\text{Hour}} \end{array} = \begin{array}{c} \text{Standard of living} \\ \frac{\text{GDP}}{\text{Population}} \end{array}$$

### Is this a problem for Canada?

#### No

Canada's unemployment rate has not surpassed 12% in the past 40 years, and has hovered between 6% and 9% in the past 10 years

#### No

While the average number of hours Canadians work has decreased slightly over the past 30 years, declines are in line with the OECD average

#### Yes

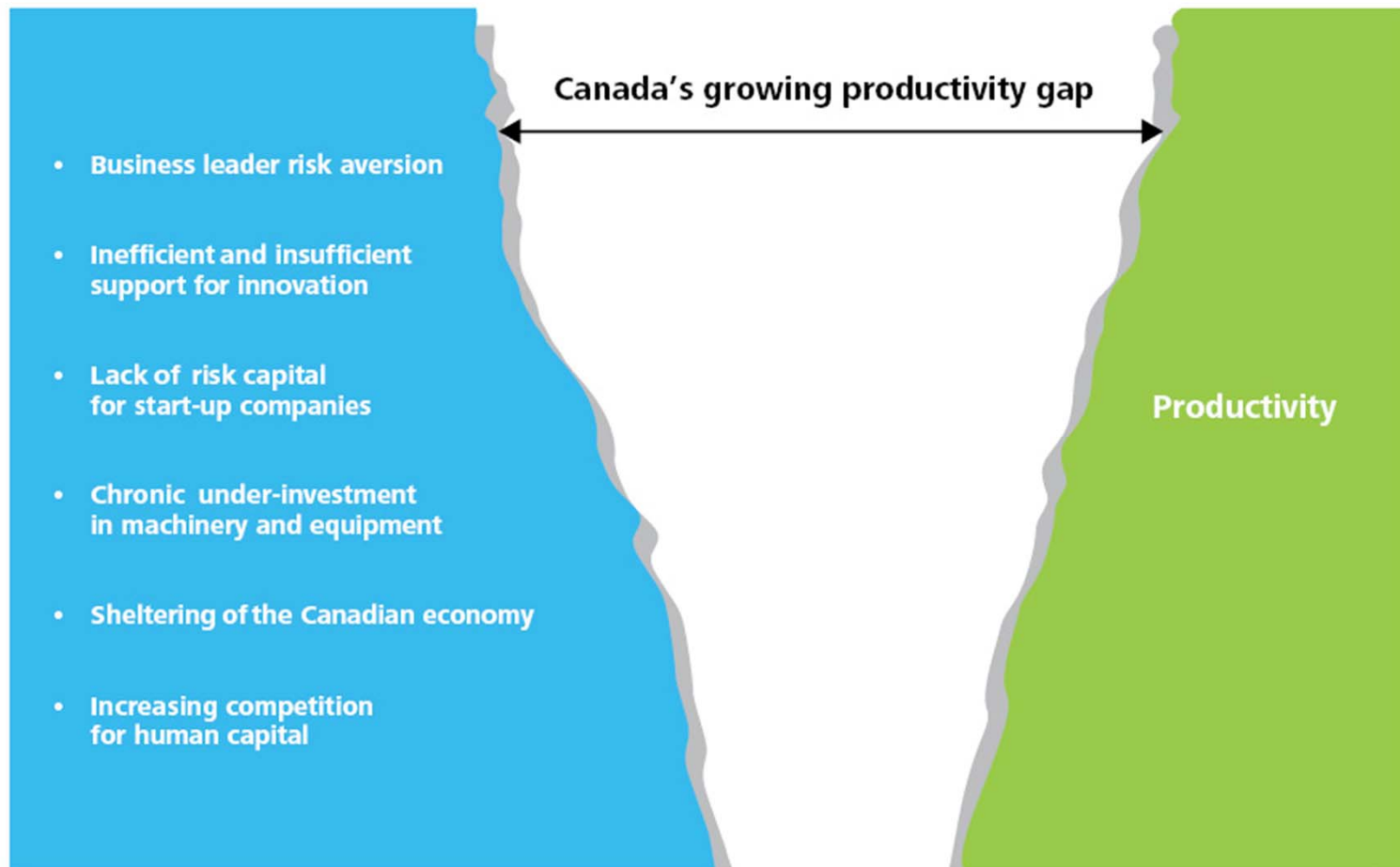
Canada's productivity growth has been declining in recent years on both an absolute basis and relative to its peers

#### Yes

GDP per capita is increasing at a slower rate than many of our peers

Sources: OECD, Statistics Canada

**We have identified six issues that Canada should focus on addressing in order to close the productivity gap**



## Although some differences exist, Canadian and American executives identify themselves as having very similar levels of risk tolerance

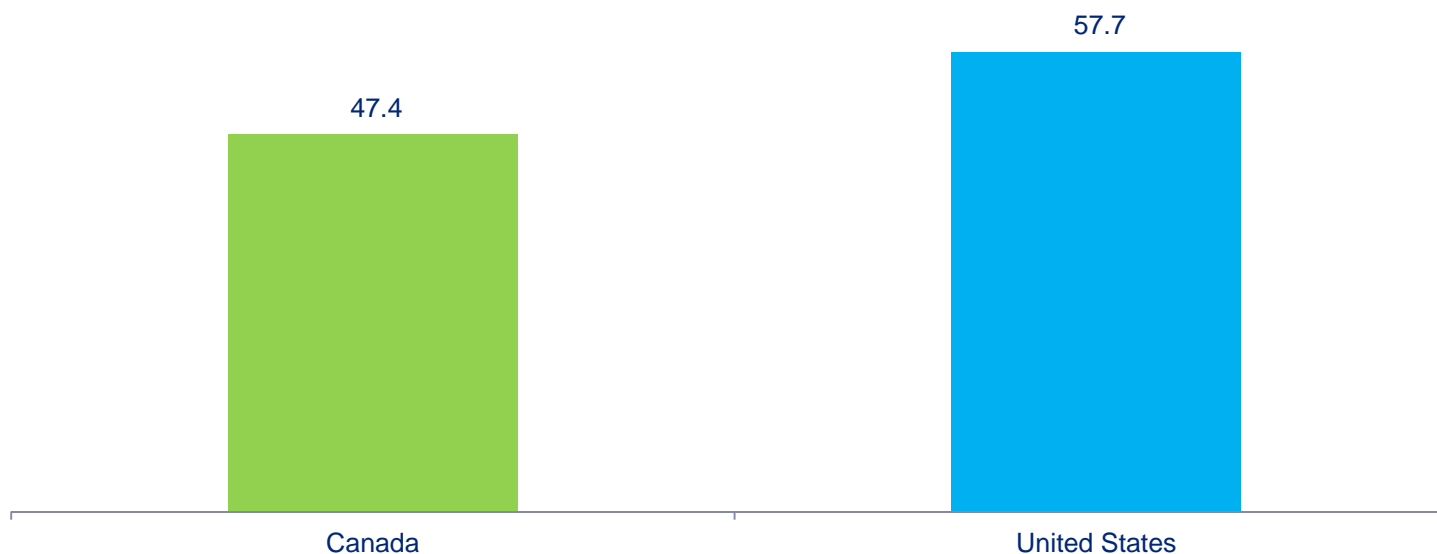
### How firms characterize their risk tolerance levels



Source: Deloitte Research

**However, when measured against Deloitte's Executive Risk Behavior Index, we see that, in practice, Canadians are much less willing to take risks**

**The Deloitte Executive Risk Behaviour Index**



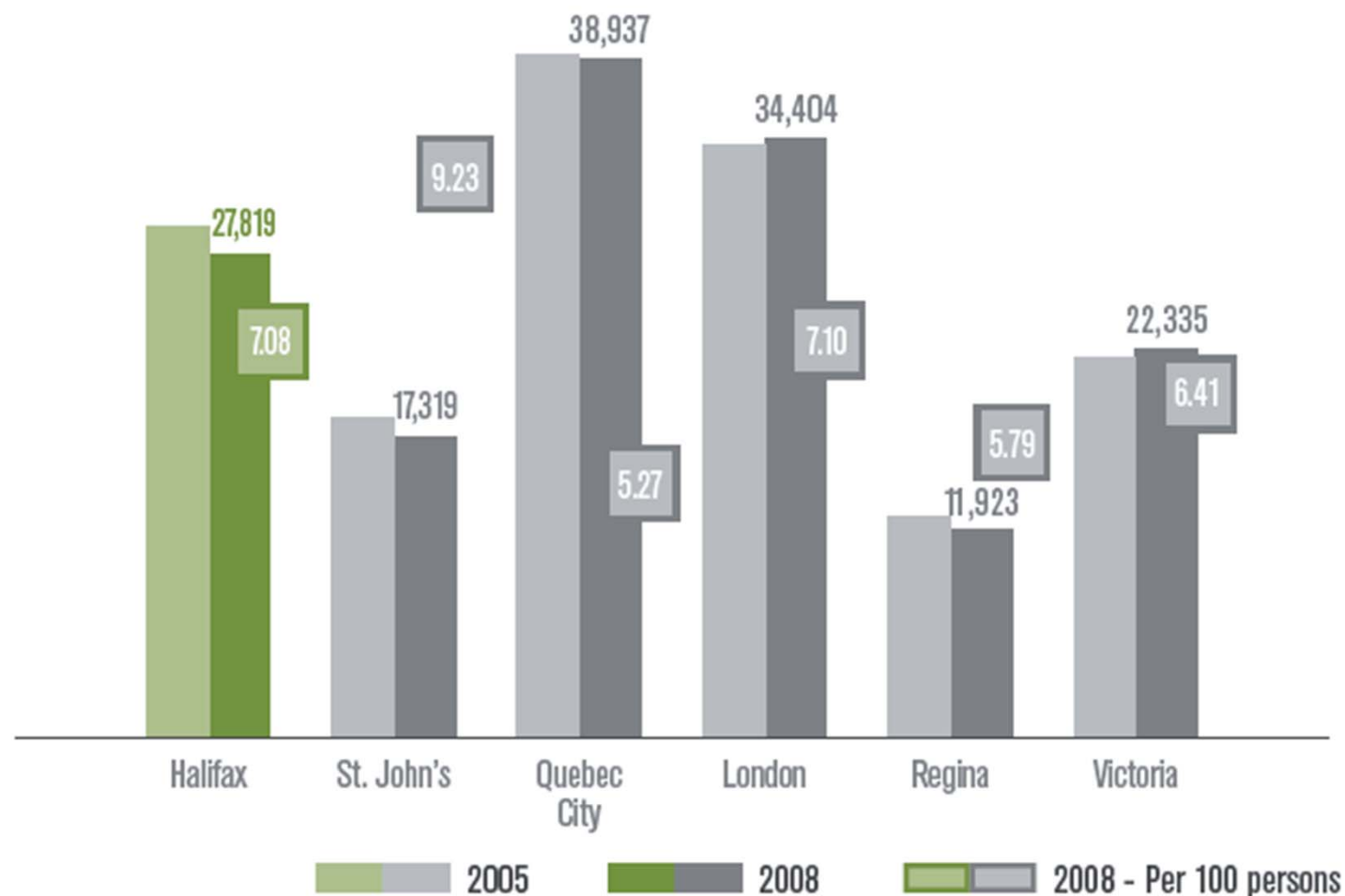
**Observations**

- Based on a survey of 900 Canadian and American business leaders, Canada scored a 47.4 on the index vs. the American score of 57.7 (maximum score of 100)
- The Deloitte risk behaviour index was constructed based on a wide array of factors representing a firm's actions, including a firm's risk evaluation practices, involvement in research, development and innovation, and dependence on government support
- The index has been adjusted to account for national differences in the current/future state views on macro-economic conditions

Source: Deloitte Research

## Total university enrolment and enrolment per 100 persons

Source: Association of Universities and Colleges of Canada



\*Note: Universities with satellite campuses in Quebec City and Victoria were excluded, as the data did not allow for separation from the main campuses in Montreal and Vancouver.

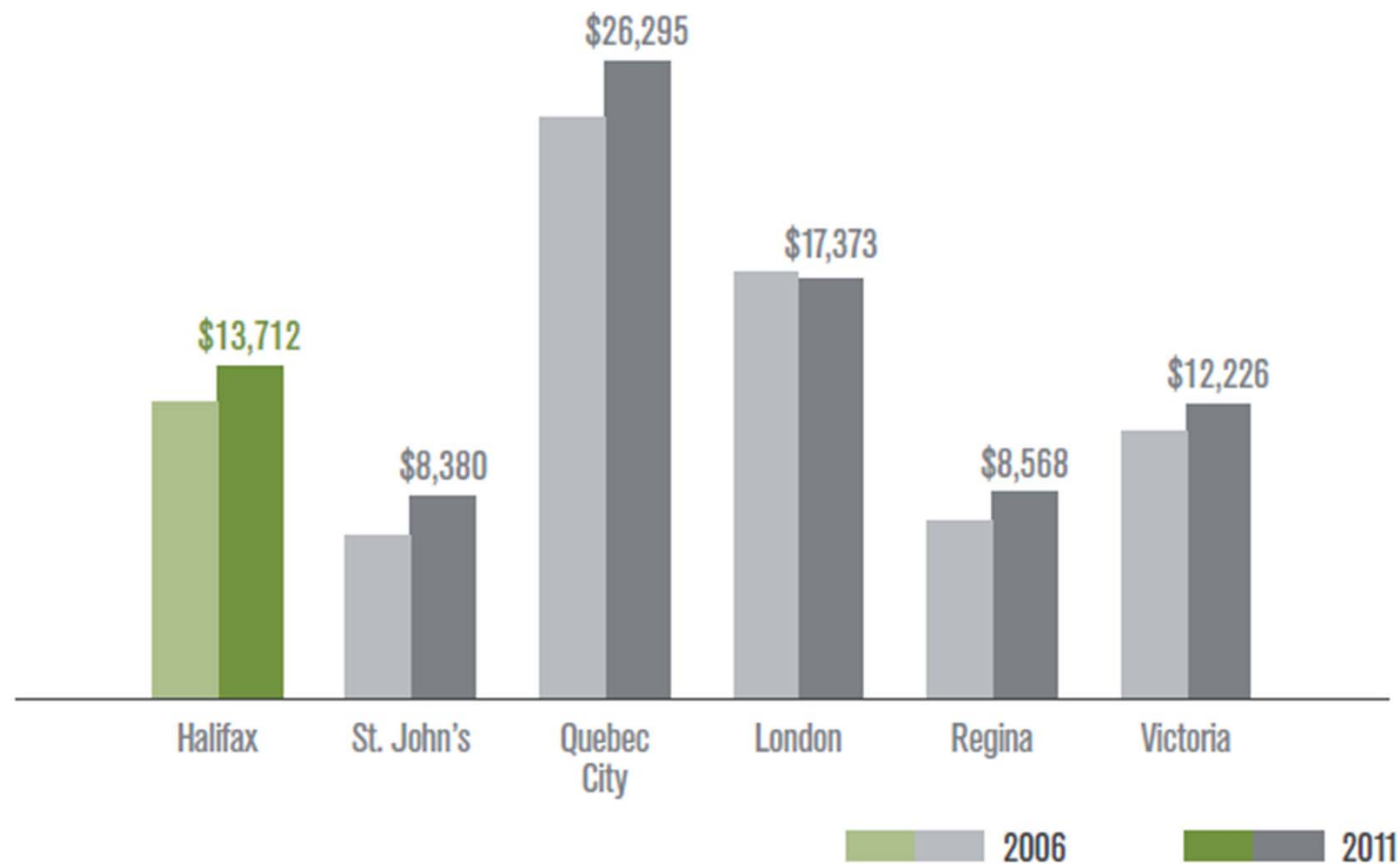


# ECONOMIC SIZE



## Real Gross Domestic Product, 2002 \$mil

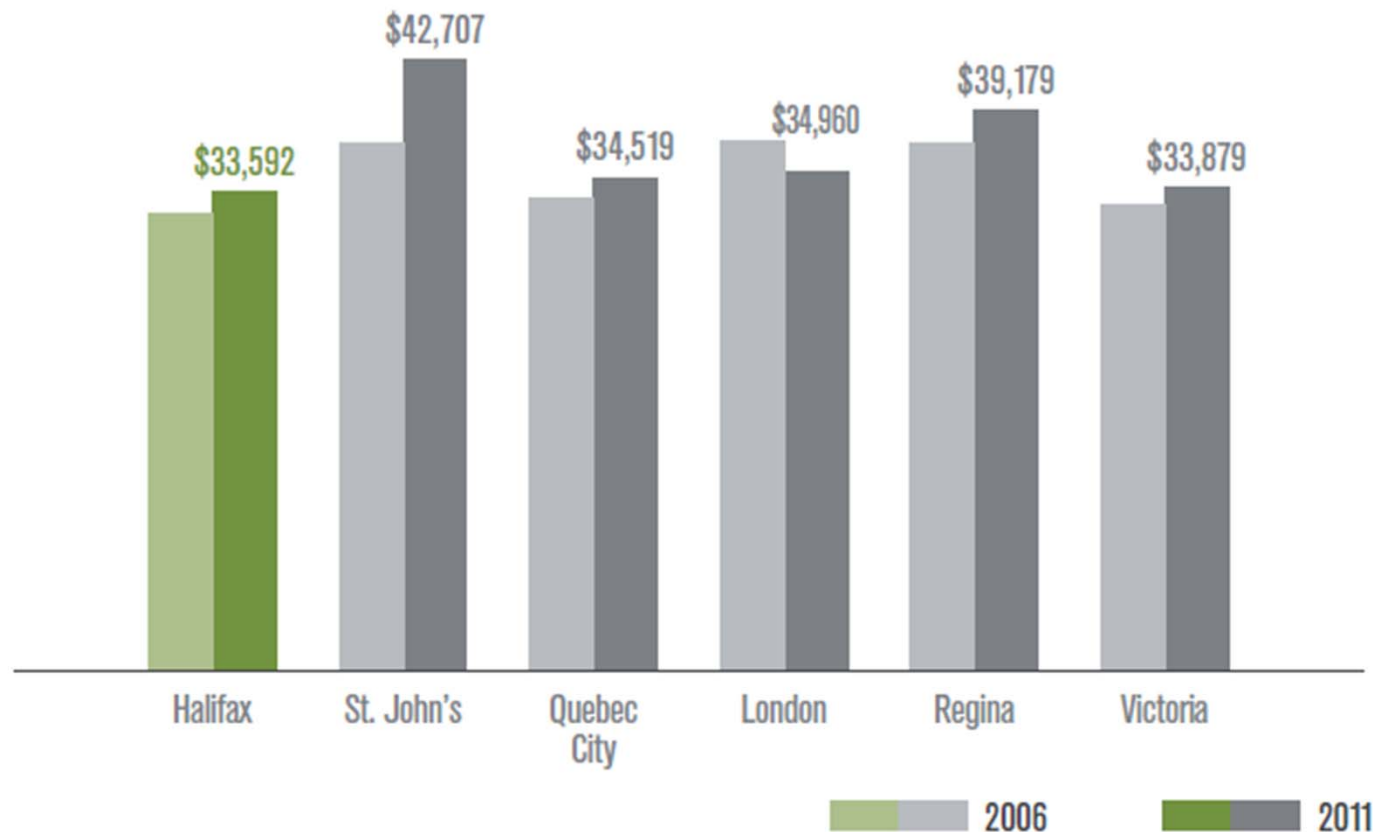
Source: The Conference Board of Canada



# GDP PER PERSON

## Real Gross Domestic Product per capita, 2006-2011

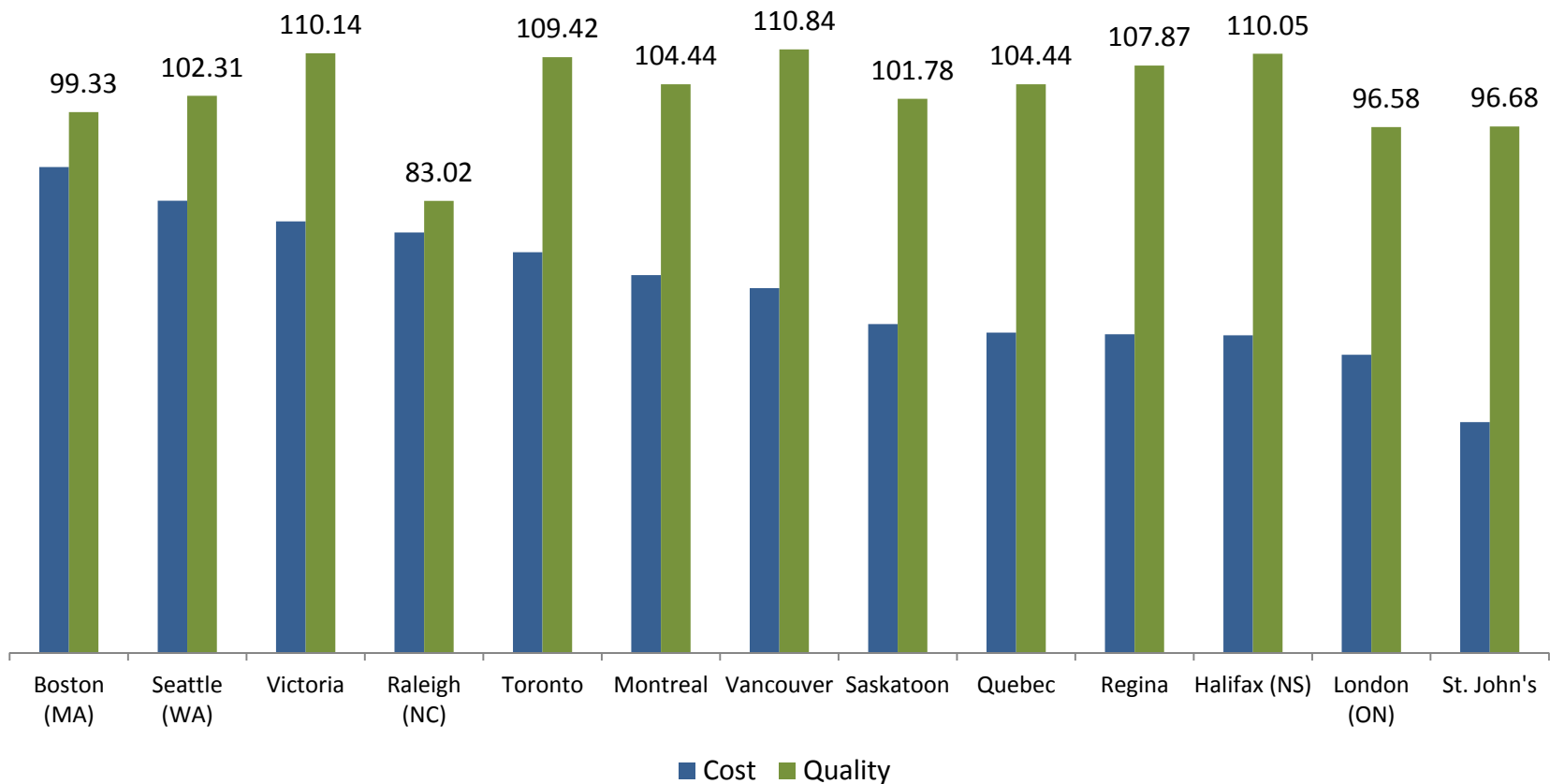
Source: The Conference Board of Canada, Statistics Canada



# HALIFAX INTERNATIONALLY COMPETITIVE



**Cost-of-living and quality-of-living indices**  
Source: fDi intelligence

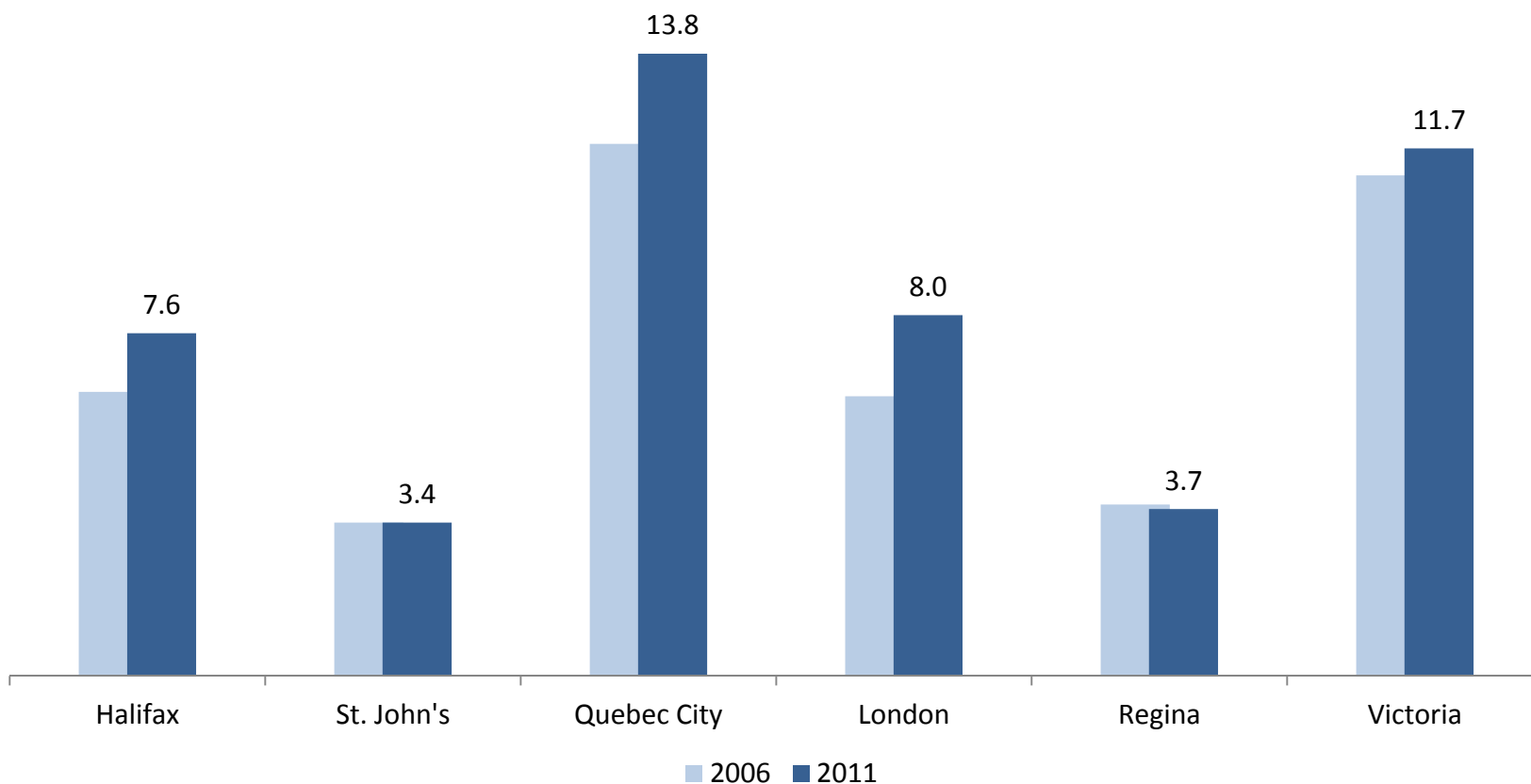


# A GROWING ARTS AND CULTURE SECTOR



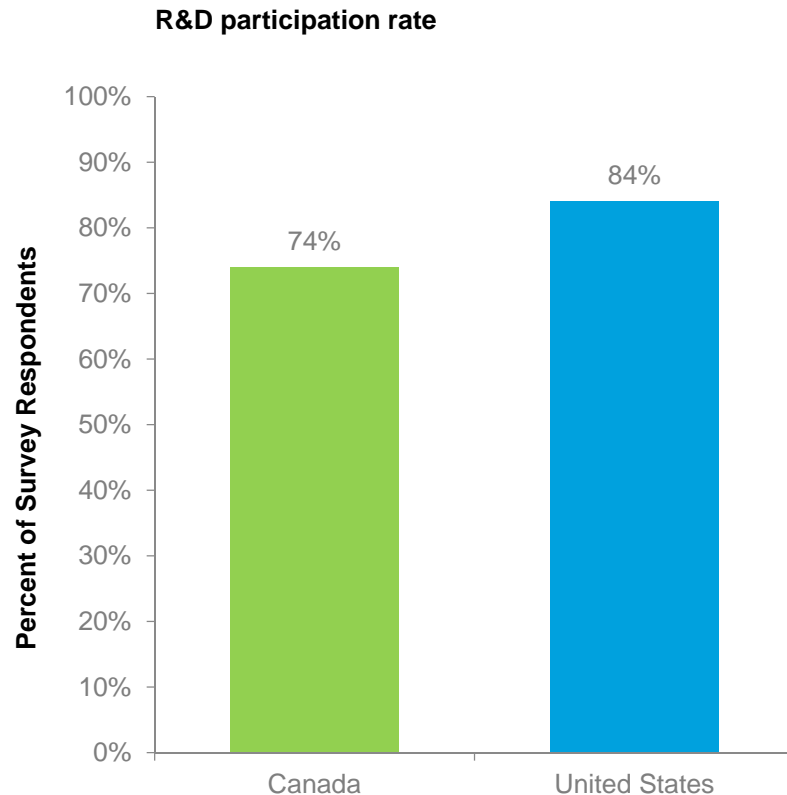
## Employment in arts, culture and recreation, 000s

Source: Statistics Canada

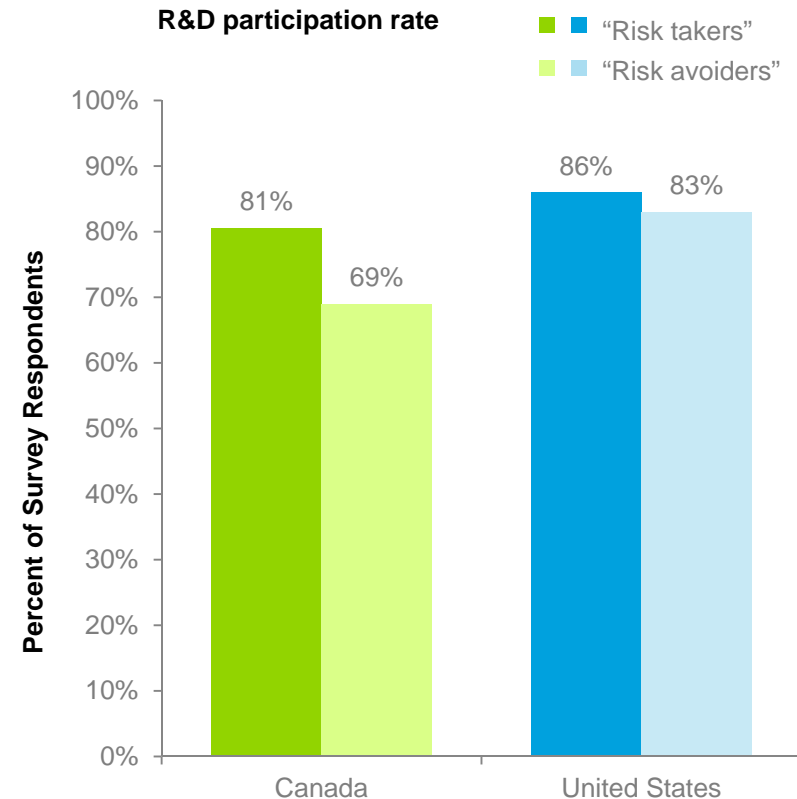


## This is illustrated by behaviours like Canada's lower R&D participation rates, a phenomenon that is largely driven by Canadian "risk avoiders"

The overall rate of R&D participation of surveyed firms in Canada is lower than in the United States



Risk avoiding Canadian firms are less likely to conduct R&D than their American counterparts



### Observations

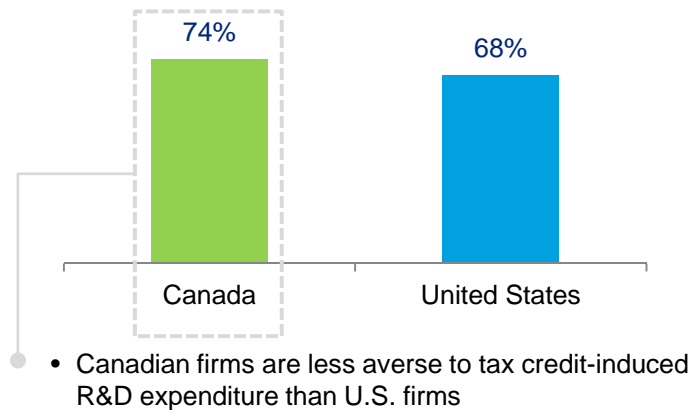
- While overall participation in R&D is lower in Canada than in the United States, the difference is most pronounced among firms with "risk avoiding" business models

Source: Deloitte Research

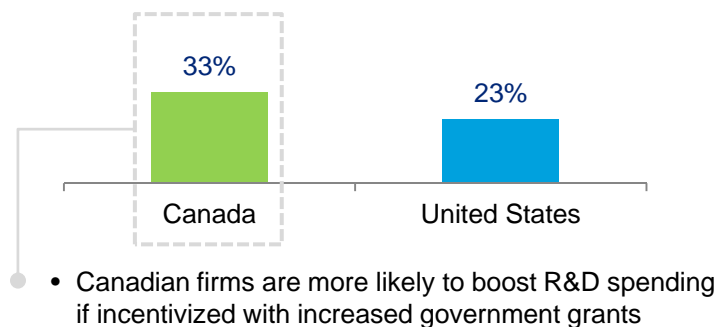
## Canadian firms also exhibited a far greater reliance on government incentives than on market factors to induce productivity-boosting behaviours like R&D

### Government factors

Firms “Somewhat Likely” or “Very Likely” to increase expenditure on R&D if offered tax credits to do so

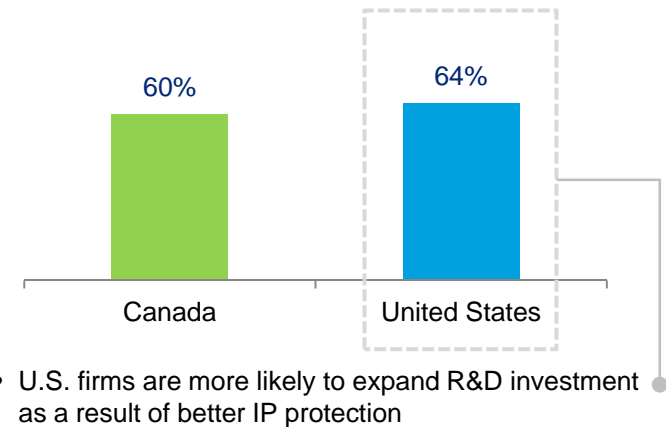


Firms “Very Likely” to increase R&D expenditure if offered increased government grants

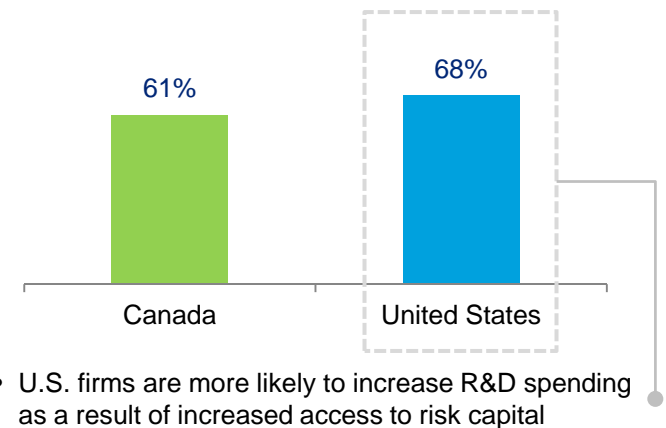


### Market factors

Firms “Somewhat Likely” or “Very Likely” to increase R&D expenditure due to improved intellectual property protections

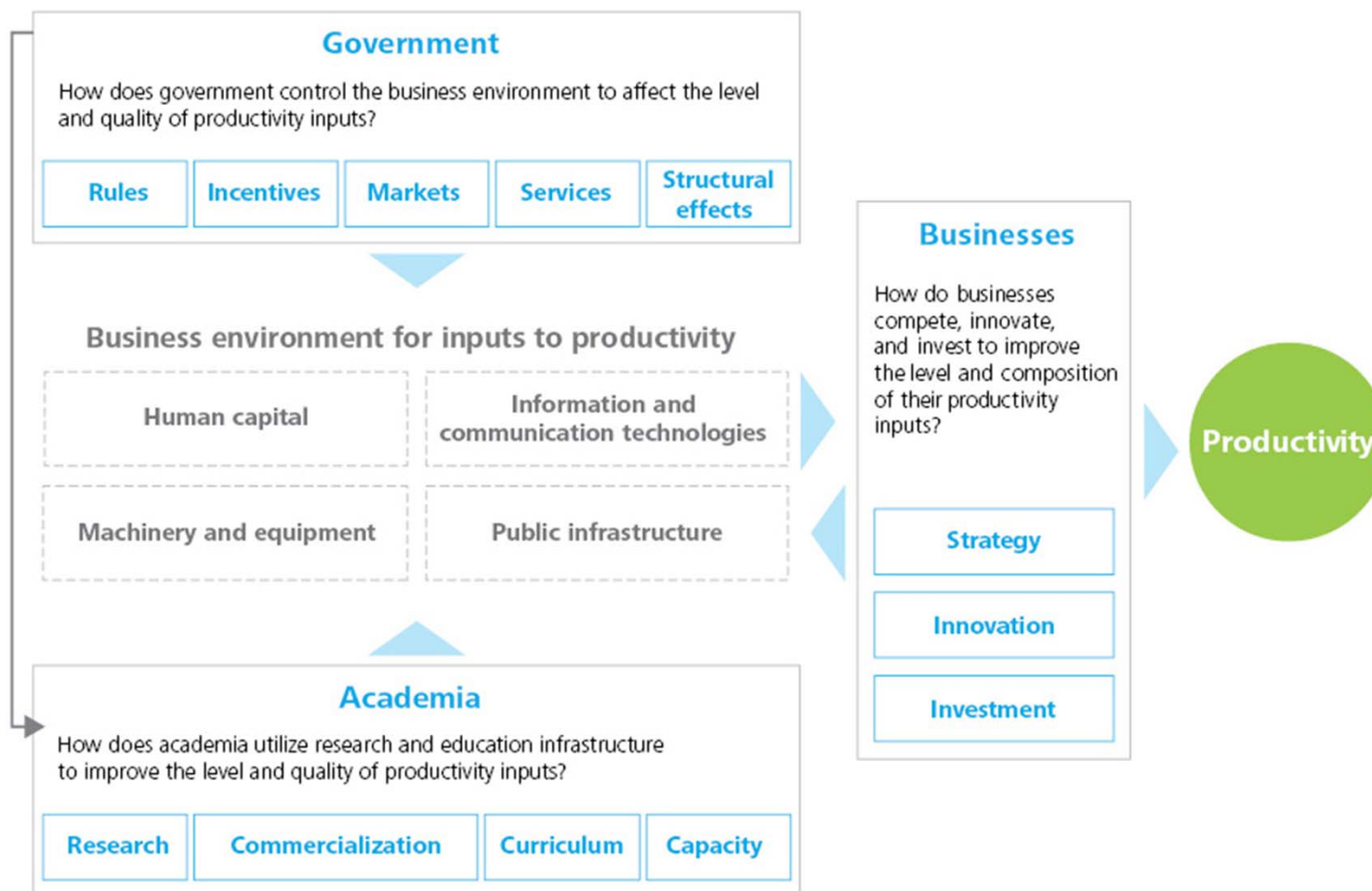


Firms “Somewhat Likely” or “Very Likely” to increase R&D expenditure if there were increased availability of risk capital



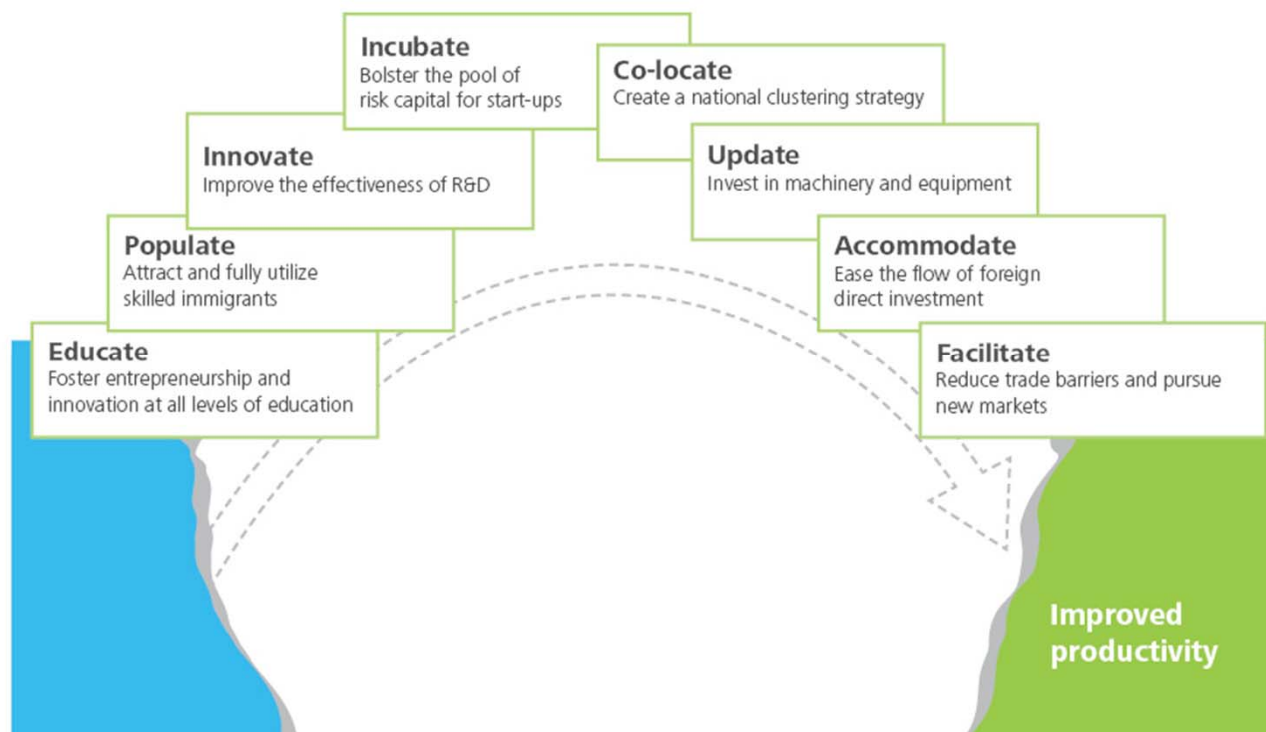
Source: Deloitte Research

**We believe that to address the issue of productivity businesses, academia and government must act in a deliberate and collaborative fashion**



## Deloitte has put forward eight recommendations we believe are necessary to improve Canada's productivity in the near-term, and to foster ongoing productivity growth

In order to achieve meaningful impacts on Canadian productivity, businesses, academia and government will need to act in a deliberate and collaborative manner across eight key recommendations:



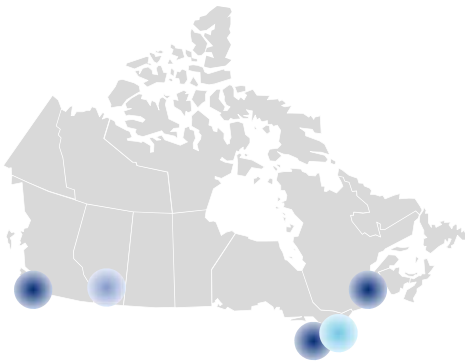
Each recommendation enables the success of others creating a self-reinforcing system for driving improvement in Canada's productivity



## Co-locate: Create a national clustering strategy

Deloitte believes that a national clustering strategy is required in order to increase productivity and drive innovation in key fields.

**A national strategy will enable Canada to realize the benefits of clustering**



- Clustering supports the growth of high productivity, high innovation areas where related firms can actively collaborate

**Cluster development must be led by local businesses, governments and academia...**



- Local stakeholders must collaborate to develop strategies to support the emergence or growth of clusters

**... their strategies must be supported by Federal and Provincial governments**

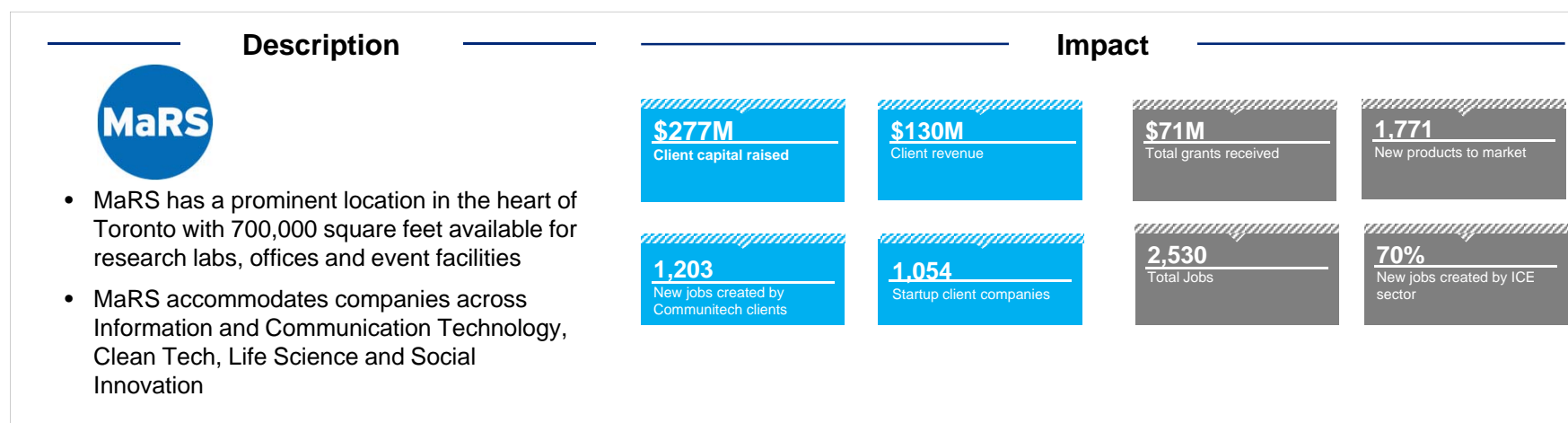
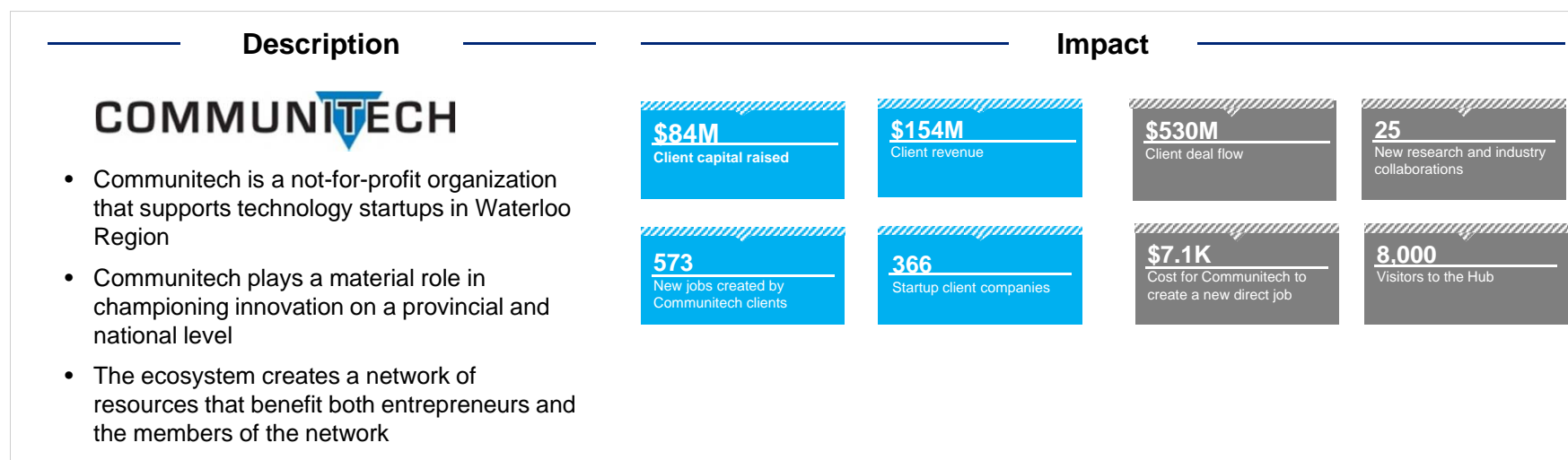


- Federal and provincial governments must provide the necessary resources and infrastructure to support local cluster strategies

### Key Considerations

- Cluster development requires a long term vision, with the growth of world class clusters measured in decades, not years
- There must be a strong rationale for each cluster that builds on existing talents, industries and or natural advantages (e.g. geography)

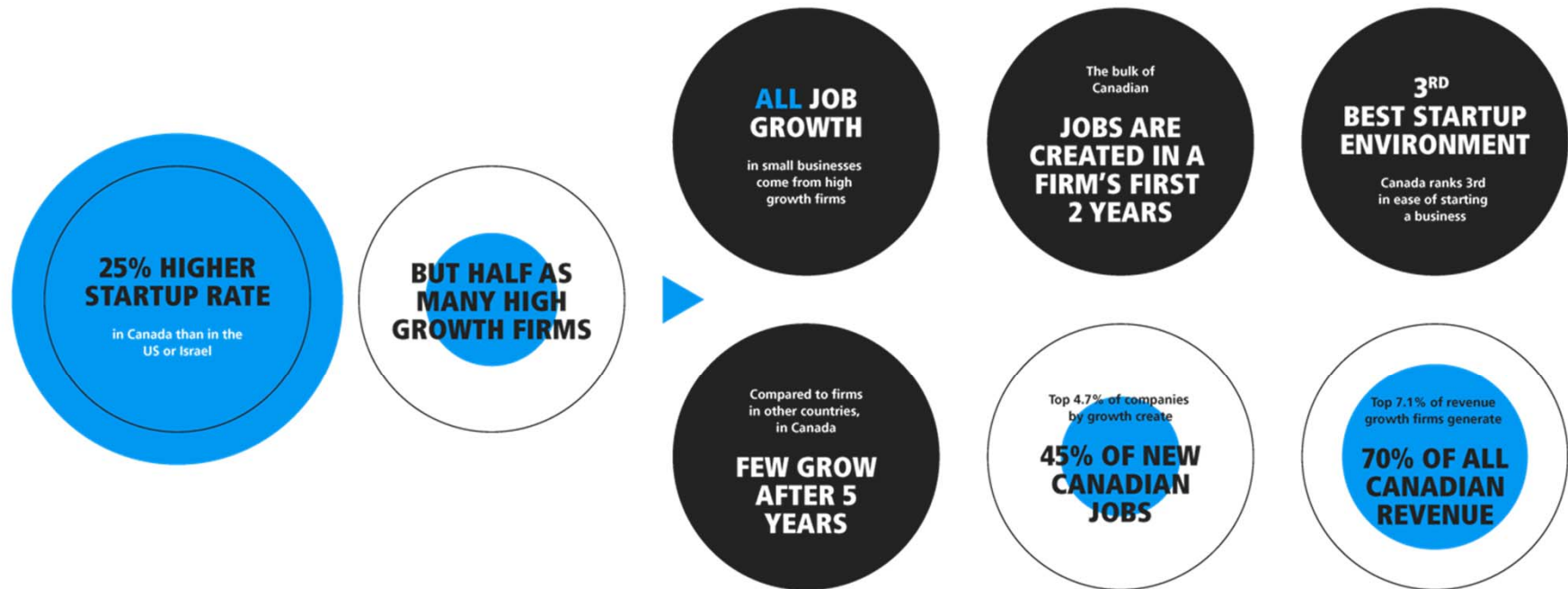
## Deloitte has worked with the leading hubs in Canada to determine their economic impact and the complexities of their clusters



Source: Deloitte analysis

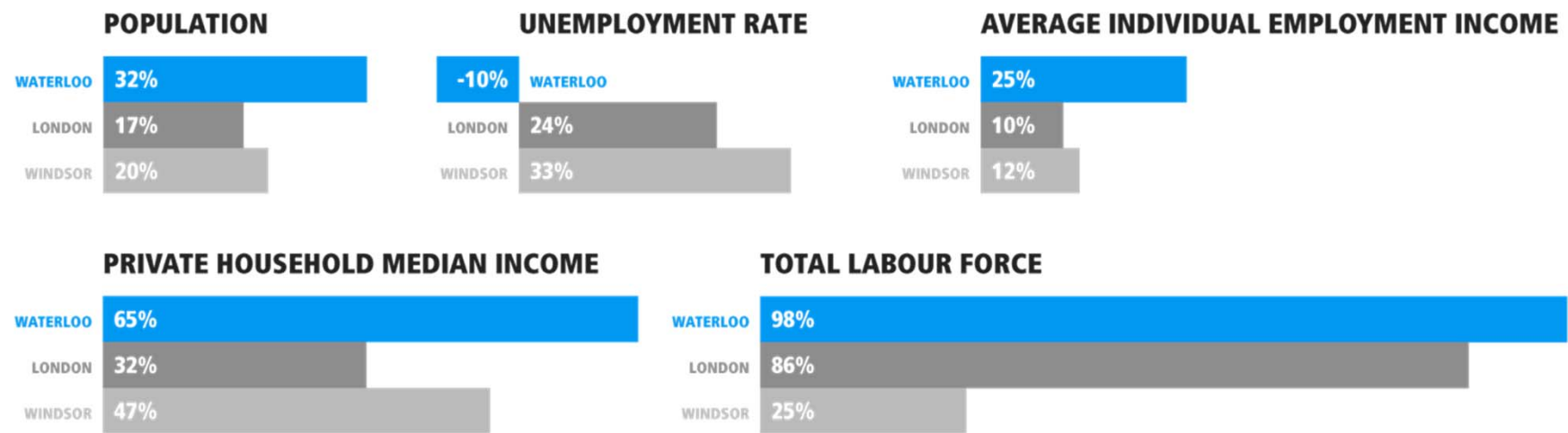
# more support is needed to grow these firms over the long term

## Why Canada Needs to Support High Growth Firms



# Waterloo has experienced significant economic traction as a result of their technology cluster

Regional Growth Comparison, 1996-2011



# that are made possible as a result of value creating invisible activities conducted by Communitech

## Communitech Incubation Process

### VISIBLE SERVICES

Incubation Cycle of "Company X", a mobile development firm that focuses on social gaming on the iOS platform.

**Physical Space**  
Company rents office space with access to admin support and communications for \$500/month

**Entrepreneurs in Residence**  
Company is connected with Doug Cooper, former Country Manager of Intel Canada

**Joins Peer2Peer Networking group**  
Company establishes deep roots in the community, shares best practices, and sources talent

**TechLife Insurance**  
Company opts in for TechLife Insurance covering all employees for a nominal fee

**Professional Services**  
Company uses Deloitte services to apply for and obtain SR&ED tax credits

**Capital Collision Day**  
Company sources angel investment round from the Golden Triangle Angel Network, who turn to Communitech for deal flow

**Waterloo TechJobs.com**  
Company hires three developers found on Waterloo Tech Jobs

**Hyperdrive success**  
Company completes A round, attracting funding from key investors

### INVISIBLE ACTIVITIES

**Quality of Life**  
Work with the government for a light rail system to make commuting to Waterloo viable

**Trust**  
Create an environment of trust to allow for business activity

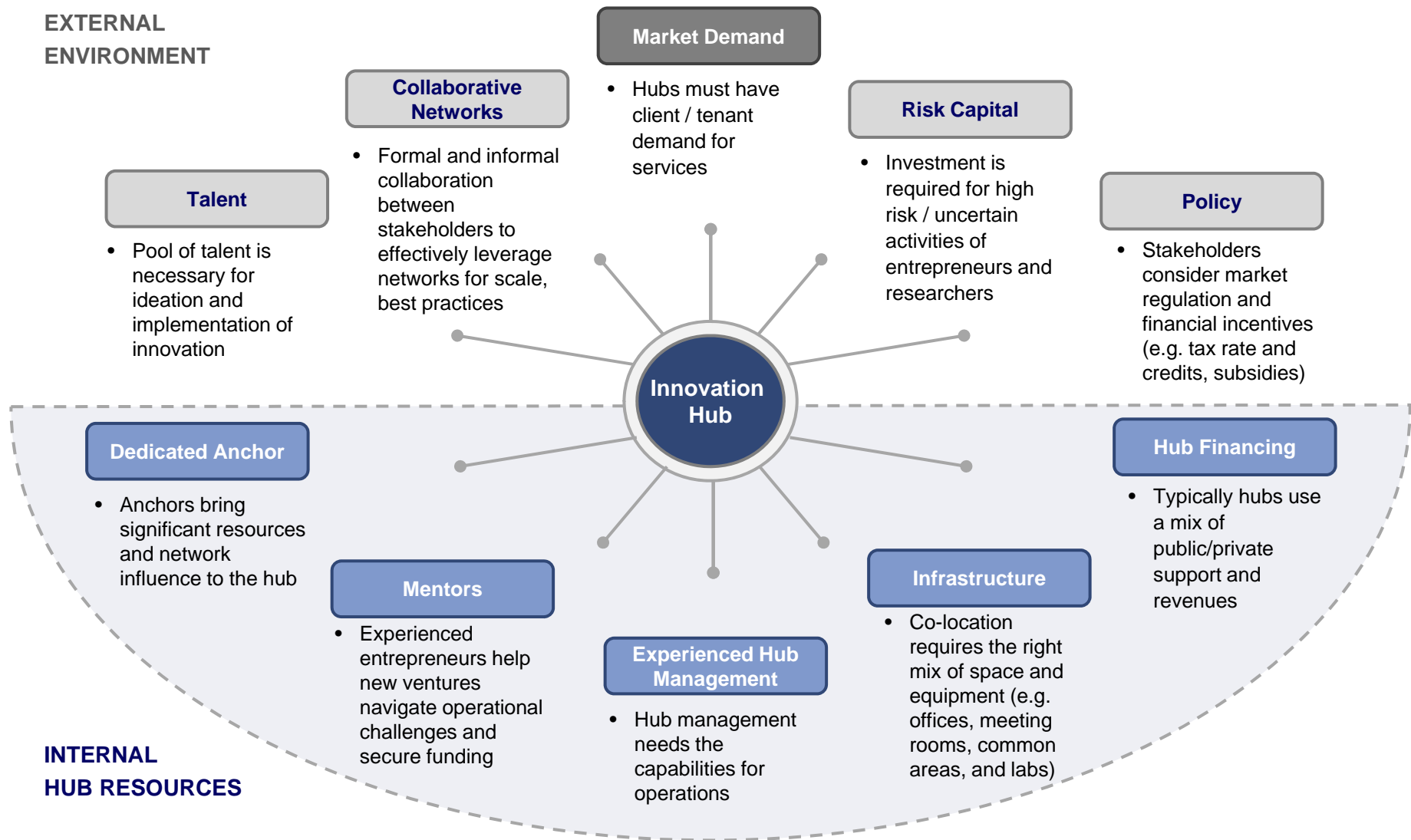
**Relationships**  
Build a network of supporters in the business community

**Talent**  
Educate students about opportunities in technology and entrepreneurship

**Physical Infrastructure**  
Build an energetic physical space to house clients

**Incentives**  
Work with the government to provide incentives to hire students

## Successful hubs leverage available resources and the existing local environment to address specific market demands



# Direct city-level support for incubators is shaped by the powers of municipal government, but there are indirect mechanisms to facilitate success

## Municipal government has the ability to support hubs, both directly and indirectly

### Infrastructure

- Cities can play a role in ensuring that there is adequate local infrastructure and favourable policy; including but not limited to: public transportation, zoning restrictions, and bylaws
  - E.g., Waterloo is developing a rapid transit system that will better connect the three major urban centres of Cambridge, Kitchener, and Waterloo
  - Waterloo has recently added GO Train service between Waterloo and Toronto to facilitate inbound commuting to the Waterloo region

### Financial

- In some situations, when the city owns land on which the hub would like to locate, the city can provide a subsidized lease, resulting in a direct financial impact
  - E.g., the city of Waterloo provided Communitech with a \$500,000 grant towards the development of the Hub as well as zoning support to allow Communitech to repurpose the existing building
- Municipal governments can also provide property tax incentives to eligible organizations to encourage locating in a given region

### Culture & Community Development

- Cities can encourage the development of the community surrounding a hub by providing incentives or enforcing developmental policy
  - E.g., Boston challenged developers and architects to experiment with new designs to invent a 21<sup>st</sup> century district that meets the needs of the innovators who live and work in Boston
- Cities, like Boston, have focused on attracting talent by developing a strong culture that motivates entrepreneurs to live, work and play in the region



There is a significant opportunity for Halifax to develop a clustering strategy;  
the initiative must stem from the business community





**Deloitte.**