



Global Entrepreneurship Monitor

Driving wealth creation &
social development in

Alberta



**2015 GEM
ALBERTA REPORT**

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EXECUTIVE SUMMARY

Why entrepreneurship? This analysis is designed to identify innovative and productive entrepreneurship that can promote economic growth, job creation, sustainability, and quality of life.

Why GEM? Participation in the Global Entrepreneurship Monitor (GEM) brings Canadian data into a rich international context of policies and circumstances. Uniquely, GEM paints a portrait of the individual entrepreneur by detailing their attitudes, activities, and aspirations.

ATTITUDES

In Alberta, the general population is quite positive about entrepreneurship. Seventy-five percent see good opportunities in the next six months. Over 50% of Albertans believe they have the knowledge and skills for a venture, and only 40% see fear of failure as an inhibition. Expert commentators rate the cultural and social norms of Alberta as quite favourable.

ACTIVITY

In 2015, Albertans were slightly more engaged in early-stage entrepreneurship than the rest of the country. The key indicator, TEA (total early-stage entrepreneurship), composed of the percent of population in nascent stages plus the percent operating new businesses, demonstrates the nascent contribution to be the larger. The TEA is just over 15%, down somewhat from last year. The national rate is just under 15%, placing Canada in the lead of its peer group of innovation economies. Australia stands second with the US ranked third. Overwhelmingly, the entrepreneurs in Alberta are motivated by perception of an opportunity. Few are driven by a lack of options and necessity. For the first time, women's early-stage entrepreneurship rate has surpassed that of men's. The rate may not be statistically significant, but the ratio of rates (women/men) is undoubtedly higher in Canada, and especially Alberta, than in any peer jurisdiction. In other innovation economies the ratio can typically reach to values between 0.6 and 0.7, in contrast to Canada's over 0.8.

In contrast to TEA, the rate of entrepreneurial employee activity (EEA) within the province is lower. The Alberta rate among respondents who were employed is just above 10% compared to 9% in the rest of Canada. These results indicate that by comparison Canada is not in a position of leadership.

ASPIRATIONS

A key issue in evaluating the significance of start-up and early-stage entrepreneurship is the plans and aspirations of the entrepreneurs. These include sectoral focus, job creation, innovation, export orientation, and technology use. All of these factors are at the core of the role that entrepreneurship plays in the economy.

ENTREPRENEURSHIP IN THE ECONOMY

Sectoral focus

GEM assigns each business reported to one of four sectors: extractive (oil, agriculture etc.), transformative (e.g manufacturing), business oriented services, and consumer oriented services. Most studies find the largest number of jobs to be in consumer services. In 2015 in Alberta, consumer services accounted for 48% of respondents, business services 38%, transformative activity 12%, with the residual in extractive. Transformative is higher in the rest of Canada and was so in Alberta last year. Business services have been more prominent in the past two years and, as is the case this year, consumer services among the established businesses that are over 3.5 years old. In a resource economy, the lack of extractives may seem odd. However, among small new firms oriented to the oil and gas industry it is more likely that they contribute business services.

Job creation

Job number reports are grouped: none, 1-5, 6-19, and over 20. Current numbers and aspirations for five years in the future were both calculated. At present over 40% report no jobs, nearly 40% report 1-5 jobs, and 10% report 6-19 jobs. Aspirations for five years drop the no jobs (self-employment) rate to 20%, the 1-5 group is over 50%, the 6-19 group has shrunk to 5%, and about 15% report aspirations for

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20 and over. The results for the rest of Canada are a little lower in the no job category and have some at 20+ currently. Nationally, five year aspirations for 20+ reach 20%.

Innovation, export orientation and technology

Impacts of productive entrepreneurship can arise from: new products in new markets, export orientation, and use of advanced technology.

Two questions address the novelty and uniqueness of products, or services. Is the product (or service), new to all, or some, customers? Are parallel products, or services, offered by other firms? While, the new to none generates the largest response, 16% in Alberta report new to all. Many firms offer parallel products in the dominant response on competition, but 12% report no competitors. These response rates are similar to those in other provinces.

Export orientation signals participation in an economy larger than the immediate community and joining global value chains. Responses were divided into three classes: those anticipating 25% or more of revenue from outside Canada, those reporting at least 1% but less than 25%, and those not expecting export revenue. The non-export category is large, but 45% of firms report some expectation of export revenue, and 29% are strongly export oriented. Other provinces are higher in the 1-25% category, but are similar to Alberta in the share of firms with strong export orientation.

Use of recent technology is often seen to correlate with innovation. This is not a strong point of Alberta early-stage entrepreneurs. Over 80% of Alberta firms report no technology available for less than five years. In the rest of Canada the corresponding percentage is near 65%.

DEMOGRAPHICS

Age

Entrepreneurs ages are grouped into five brackets: 18-24, 25-34, 35-44, 45-54, and 55-64. For Canada we also have data on seniors but the rate is under 4%. The early-stage entrepreneurship percentage rate in each group is shown in the table below along with the percentage of the total early-stage activity contributed by that group.

age	18-24	25-34	35-44	45-54	55-64
rate	20	19	14	11	12
% of total	20	30	20	17	14

The obvious story here is the role of youth and the 25-34 age group stands out in comparison to other provinces.

Education

The groupings of educational experience are segmented to harmonize with the different systems in other countries. These are, with the TEA (%) in Alberta for the group in parentheses: some secondary (13%), secondary diploma (9%), post-secondary degree or diploma (12%), and some graduate experience (25%). The first category represents a small population, this is not surprising since 88% of working Canadians have a high school diploma. The remaining three segments show a secular rise with level of education. The high participation rate of those with advanced education suggests a significant role for initiatives requiring specialized knowledge. In conjunction with the age distribution, a typical Alberta entrepreneur is seemingly young and well educated.

Gender

TEA rates by gender were reported above. Attitudes in Alberta toward entrepreneurship do differ somewhat for females and males. Females see somewhat less opportunity (still 50%), have less confidence in skills and knowledge (53% vs. 67%), and a greater inhibition from fear of failure (48% vs. 34%). However, women report opportunity driven initiatives at a high rate than men. Figures for necessity motivated initiatives are too low for a meaningful comparison. An important difference is in choice of sectors. Women are concentrated in consumer services to the extent of 54% (vs. men 39%). The other important category for women is business services (38%).

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EXPERT OPINION OF FRAMEWORK CONDITIONS FOR ALBERTA ENTREPRENEURS

A panel of 38 experts drawn from nine professional areas relevant to entrepreneurs were asked to evaluate the surrounding conditions in Alberta for the degree to which they are favourable for entrepreneurship. A nine point scale was used to assess a series of items in ten areas. Expert opinion found conditions most favourable for *cultural and social norms* and for the *physical infrastructure* available to entrepreneurs. These two areas received average rankings above neutral. The most problematic areas were *internal market dynamics* and *entrepreneurship education at primary and secondary levels* which received average rankings below neutral.



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RECOMMENDATIONS

1. Education and training for entrepreneurial thinking and innovation should be enhanced at all levels. In the early years, creativity should be complemented with enriched exposure to the basics of economic life. In later years, attention to entrepreneurial thinking should be integrated in all programs – not just business faculties.
2. Female entrepreneurs continue to need mentoring programs to overcome perceived limits and to recognize opportunity beyond consumer oriented services, so that they can realize a full range of possibilities in diverse sectors.
3. Governments should build in priorities for young growth firms in procurement and focus subsidies into firms promising innovation and growth in those areas deemed strategic.
4. Government support services should be easy to access in a timely fashion. Access through a single window is preferred to reduce barriers to entry.
5. Ways to assist integration of small and growing firms into the export value chain should be explored. This is because 45% of GEM survey respondents aspire to export revenue and 29% identify as export oriented.

1. INTRODUCTION

Alberta, Entrepreneurship, and GEM

This is the third year of a comprehensive survey of entrepreneurship in Alberta. A representative random sample of Albertans was canvassed with a questionnaire also used for a national GEM Canada Adult Population Survey (APS). This is a part of an international project providing the opportunity to benchmark Canada with seventy other countries. In addition, a panel of Alberta experts was queried about the state of the framework conditions, such as finance availability and government policies, under which Alberta entrepreneurs operate.

The subjects of this study are the entrepreneurs whose role was articulated by the Government of Alberta in the presentation of the key responsibilities of Alberta Economic Development and Trade.

This ministry works to grow the province's economy, strengthen small and medium enterprises (SMEs) and promote economic stability. Key activities include:

- *Promoting strategies for sustainable growth and economic resilience*
- *Developing and promoting non-energy sectors*
- *Supporting small and medium-sized enterprises*
- *Collaborating with communities and stakeholders to nurture regional economic development*
- *Facilitating technology adoption and commercialization through industry partnerships*

*Ensuring vibrant and sustainable economic development provincially and regionally is a primary role for the ministry. The ministry works with the **Premier's Advisory Committee on the Economy**, industry sectors, businesses, communities and the **Regional Economic Development Alliances** to grow the province's economy and make Alberta globally attractive and competitive.¹*

¹ Ministry of Economic Development and Trade (2016). Retrieved from <http://economic.alberta.ca/economic-development.asp>

The nature and role of entrepreneurship

The concept of entrepreneurship provides a key element in achieving the goals of the Alberta Ministry of Economic Development and Trade noted above. The GEM project, internationally, works with the following definition of entrepreneurship:

“...any attempt at new business or new venture creation, such as self-employment, a new business organisation, or the expansion of an existing business, by an individual, a team of individuals, or an established business.”

The goal of the activities highlighted in this definition is the creation of value as emphasized in an OECD framework.² The definition is expansive enough to include and champions of all types of innovation, but a special place is reserved for those entrepreneurs who create new establishments, businesses or other ventures with the prospects of job creation. There is extensive and persuasive empirical evidence that entrepreneurship is indeed a driver of job creation and economic growth,³ so contextualizing the Alberta situation within this definitional framework is valuable.

It is well known that we live in a knowledge economy. Knowledge is the economic good that does not degrade in use. In practice, few organizations can effectively realise the full economic return on all of the knowledge they must possess to accomplish their core mission. This leads to the ‘spillovers’ that, for example, creates productive clustering for which the archetype is Silicon Valley, but which can be clearly seen in Alberta’s oil and gas cluster providing stimulus for telecom manufacturing and GPS, as well as petrochemicals.⁴ Among the most productive forms of entrepreneurship is ‘spillover’ knowledge driving new ventures that escape and go beyond the limitation faced by large firms that is imposed by the ongoing requirement to attend to their ‘core business’ (and the next quarterly returns). Such ‘spillover’ can lead to transformative innovation.

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² Ahmad, N. & Hoffman, A. (2008). *A framework for addressing and measuring entrepreneurship*, OECD Statistics Working Papers, OECD Publishing. <http://dx.doi.org/10.1787/243160627270>

³ Van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small business Economics*, 29(4), 351-382.

⁴ Langford, C.H. Wood, J.R. Ross, T. (2003). *Origins and structure of the Calgary wireless cluster*, in D.W. Wolfe (Ed.), *Clusters old and new*. Montreal & Kingston, Canada: McGill-Queens Press.

1. INTRODUCTION

The influential economist William Baumol,⁵ has pointed out that there are three types of entrepreneurship: productive, unproductive and destructive. Productive entrepreneurship is that which has growth potential and produces significant innovations. It yields growth and quality of life benefits as well as jobs. Unproductive entrepreneurship simply reshuffles the locus of monetary accumulation. It includes opening imitative consumer services businesses. Still, net employment may increase. Destructive entrepreneurship, such as criminal inventiveness, is outside the scope of GEM study. There is no rigid line between productive and unproductive types; more realistically, it is a continuum with these as the end points. Nevertheless, the main interest in entrepreneurship study is understanding the productive entrepreneurial process, which supports long-term, often transformative growth. Here attention centres on entrepreneurship in relation to innovation, where much innovation analysis has focused attention on only the knowledge creation inputs, R&D, and technology. Yet, it is clear that not all innovation is derived from technical inventiveness. Think of Tim Horton's coffee shops or the introduction of 'Medicare.' In fact, analysis of innovation shows that every success depends in large measure on non-technical social factors. Hall and Martin⁶ point out that an innovation must pass four hurdles: technical feasibility, commercial viability, organizational capability, and social acceptability. They argue that uncertainty increases as we pass along this value-added chain from left to right. An entrepreneurial venture must succeed at each stage. In most cases, the major challenges arise after technical feasibility has been established.

Why GEM?

First and foremost GEM is a regional, national and global project. Participation in GEM brings Alberta into a rich context of data from the rest of Canada other participating provinces. It also provides data from countries that cover a full spectrum of circumstances and policies. The uniqueness of GEM lies in the focus on the attitudes, aspirations and activity of *individual entrepreneurs*, and their surrounding populations, now recorded globally in a 16 year time series of adult population surveys (APS). There is no comparable source of such

⁵ Baumol, W. (1996). Entrepreneurship: productive, unproductive, and destructive. *Journal of Business Venturing*, 11(1), 3-22.

⁶ Hall, J.K., & Martin, M.J.C. (2005). Disruptive technologies, stakeholders and the innovation value-added chain: A framework for evaluating radical technology development. *R&D Management*, 35(3), 273 -284.

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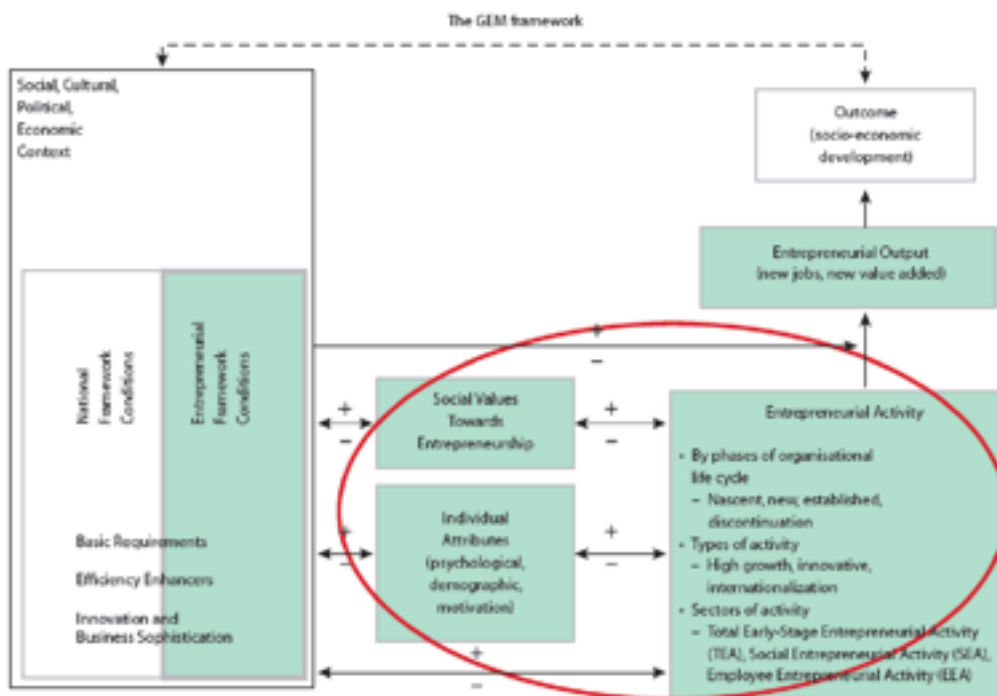
intimate information about the key actors. Every entrepreneur is a potential innovator, since an entrepreneurial initiative grows out of a new idea in some way. Most innovation literature offers analysis from the firm perspective. GEM brings the *individual initiator* back into focus.

As a complement to the APS, the framework environment that facilitates or constrains Alberta entrepreneurs is assessed through the provincial experts survey (PES).

Entrepreneurship, innovation, growth - the GEM model

The interpretation of entrepreneurship from one perspective focuses on the individual entrepreneur with personal aspirations, capabilities and opportunities against an alternative framework focusing on human capital, policy, markets, finance and culture. The GEM project regards entrepreneurship as a process in a *complex ecosystem* and examines individual entrepreneurs and ventures in this context. The GEM model is outlined in Figure 1.1

Figure 1.1: The GEM conceptual framework



(Source: GEM Global Report 2014⁷)

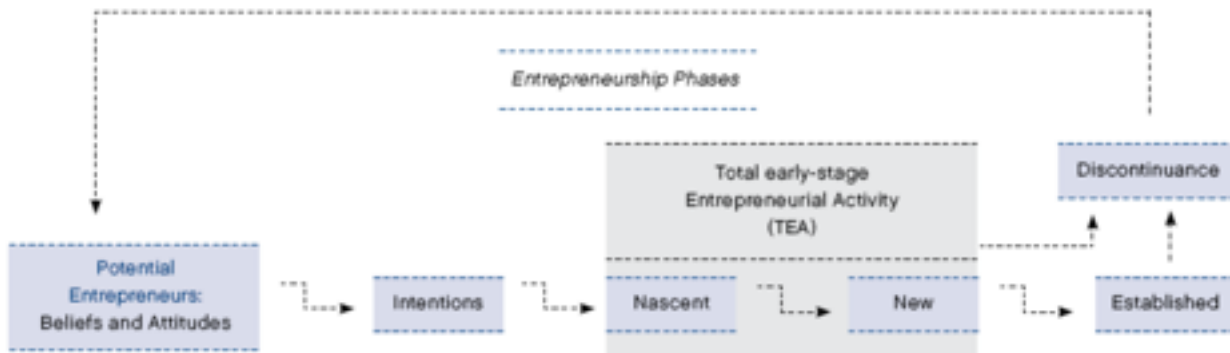
⁷ The discussion in this section relies heavily on the Global Entrepreneurship Monitor Global Reports for 2013 & 2014, available at <http://www.gemconsortium.org/>.

1. INTRODUCTION

The area inside the red oval includes the aspects of entrepreneurial activity that are the subject of questions to entrepreneurs, and to the surrounding population about attitudes (“Social values”, upper left) in the Adult Population Survey (APS). Within the red oval, in a first layer of the ecosystem, are questions addressed to all respondents that explore both general public attitudes toward entrepreneurship and general demographic characteristics. Moving to the left block outside the red oval, the top part refers to parts of the ecosystem determining the framework in which an entrepreneur must work, in the form of general national (regional) conditions specifically influencing entrepreneurship. These are assessed in a national expert panel survey (NES) or a provincial expert survey (PES). The lower part on the left refers to general socioeconomic conditions that for example determine the assignment of the jurisdiction to one of the three World Economic Forum categories of economy – in this case primarily those associated with innovation and business sophistication as core characteristics. Various sources, such as Statistics Canada data, are consulted to gather the required information. Businesses in an *innovation driven economy* (like Canada) are more knowledge intensive and the service sector figures more prominently in the economy. Entrepreneurship and innovation factors play a more dominant role in the development of these economies, but they still rely on a healthy profile of the basic requirements and efficiency enhancing factor characterized at the bottom left of the diagram as applying to economies at all stages of development.

Beyond the structural aspects, the GEM model also views entrepreneurship as a dynamic process in the ecosystem, occurring over different phases from intention to start, to just starting, to running new or established enterprises, and even to discontinuance. Given variable contexts and conditions, it is not inevitable that one phase leads directly to the next. Figure 1.2 shows the phases of entrepreneurship. In exploring the early phases, the GEM surveys assemble the critical individual level data not available from firm level numbers alone.

Figure 1.2: The phases of the entrepreneurial process



Source: GFM Global Report 2011

Research methodology and scope

Adult Population Survey (APS)

Using a telephone survey, an independent polling firm randomly selected adults between the ages of 18 and 99. Participants responded to a series of detailed questions, phrased in everyday language. The same questions are used throughout the GEM international entrepreneurship project. The questions assess *entrepreneurial attitudes, activities, and aspirations* of the provincial population. These provide a profile of a representative cross section of the Alberta adult population, balanced for age and gender distribution. This is the third year of the Alberta GEM survey. This allows some analysis to use a three year sample, which reduces statistical uncertainty.

With the common survey instrument in global use, it is possible to compare Alberta entrepreneurship to other participating provinces, to Canada as a whole, and to other countries. In international data, the ‘working age’ range of 18-64 is used for the 2015 survey. Consequently, Canada’s data are compared to other countries in the Canada Report⁸ on the basis of this age range. A separate analysis of the senior demographic has also been made for Canada. The Canadian sample was expanded to include the age range of 18-99 in order to permit study of this group’s activities. For the purpose of this analysis, the Alberta sample is weighted for age and gender to standard provincial demographic data.

1. INTRODUCTION

⁸ Langford, C.H. Josty, P., & Saunders, C. (2015). *2015 GEM Canada Report*. Calgary, Canada: THECIS. Retrieved from <http://thecis.ca/index.php/reports-and-papers/>

1. INTRODUCTION

Provincial Expert Survey (PES)

The PES is a questionnaire completed by 38 experts in Alberta using the instrument developed for the global GEM project. The experts come from different professional perspectives related to entrepreneurship where they gain considerable knowledge of entrepreneurial activities. Nine areas of expertise are specified by GEM:

- *Financing*
- *Governmental policies*
- *Governmental programs*
- *Education and training*
- *Research and development transfer*
- *Commercial infrastructure*
- *Internal market openness*
- *Physical infrastructure*
- *Cultural and social norms*

The survey instrument presents a series of statements reflecting the GEM perspective on conditions that would be supportive of entrepreneurship in these areas. The experts are asked to estimate the degree to which each is true for Alberta. The final section solicits open ended responses, which are coded in a summative manner.

Standard Socioeconomic data

Basic contextual data were obtained from Statistics Canada and OECD publications. Several other international, national, and provincial agencies published studies of relevance. Academic research was also reviewed. Relevant studies are cited in the report where information is drawn from them.

2. THE PRACTICE OF ENTREPRENEURSHIP

The key indicators from the GEM survey probe:

- ***Entrepreneurial attitudes***
(How strong is the perception of a culture of entrepreneurship?)
- ***Entrepreneurial activity***
(How much and what early-stage activity is occurring in the general population?)
- ***Entrepreneurial aspiration***
(What do these entrepreneurs seek to achieve?)

The primary indicators for these categories paint a portrait that is unique to the GEM methodology, providing a better portrait of the individual entrepreneur acting in the Alberta community.

2.1. Attitudes

The attitude survey delivers two types of information. The random sample of the whole adult population of Alberta is used to assess the *climate and culture* for entrepreneurship. With this instrument it is also possible to assess the attitudes of the early-stage entrepreneurs themselves.

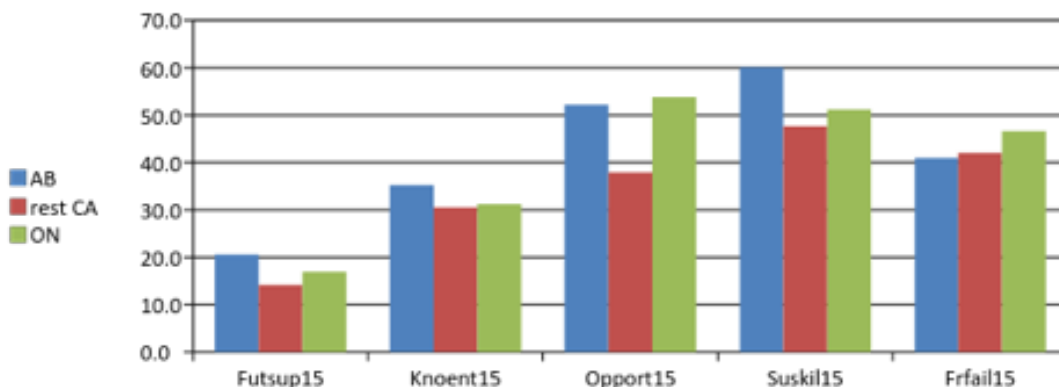
Looking at the general population, five responses are represented in Figure 2.1 for Alberta (AB), the rest of Canada (rest CA) and Ontario (ON). Reading left to right, those who foresee engaging in entrepreneurial activity in the next two years (Futsup), next those who report meeting an entrepreneur within the last two years (Knoent), then the estimate a respondent makes that there is a good opportunity to start a business in the next six months (Opport), whether respondents believe they have the skill and knowledge to start a business (Suskil), and finally would fear of failure inhibit a decision to start a business (Frfail).

Figure 2.1 shows that over 50% of Albertans believe there is a good opportunity for a business and a remarkable 60% believe they have the skills and knowledge to start a company. The percentages in all categories are higher in Alberta than in the rest of Canada as a whole, or in Ontario, with the exception that Ontarians see opportunity at essentially the same level as Albertans and the Ontario data indicate

2. THE PRACTICE OF ENTREPRENEURSHIP

a higher fear of failure. If analysis is limited to respondents who are active Alberta entrepreneurs, the percent who perceive good opportunities is unchanged. However, in this case those confident of skills and knowledge rises to 67%, and those acknowledging fear of failure drops to 24%.

Figure 2.1: Attitudes toward launching a business



These findings indicate that one in five Albertans is considering entrepreneurial activity. More than half of respondents are aware of opportunities and reasonably confident of their ability. Thus, there is little need to try to enhance awareness. The focus of policy to encourage activity should be directed to encouraging the most productive forms with job creation, growth, and innovation potential.

2.2 Activity

The critical measures of the circumstances of entrepreneurship - are those where action, with its risks, are reported. The heart of the GEM survey lies in the indicators that provide key perspectives on the culture and identifies the ongoing level of early-stage start-up activity. Comparisons among provinces, countries, and trends over time provide, in conjunction with the reports of the expert survey on framework conditions, the basic information for judging the outcomes of policy.

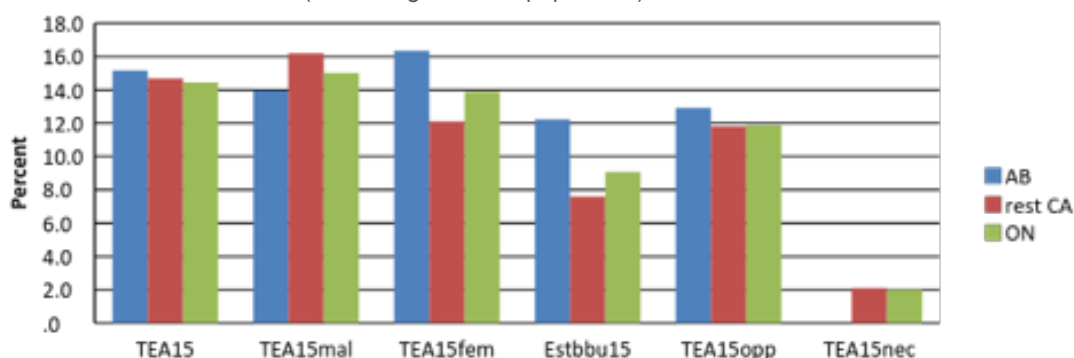
2. THE PRACTICE OF ENTREPRENEURSHIP

The analysis centres on two measures that are combined to produce a third called the total early-stage activity (TEA) that heads the tabulations below. The measures are:

- 1) *The nascent entrepreneurship rate*, the percentage of the 18-64 age population (in Canada data on seniors are also included) who are currently engaged in setting up a business that has not paid salary, wages, or other payments, to owners for more than three months.
- 2) *The new business ownership rate*, percentage of the same pair of age populations who are currently owner-managers of new businesses that have paid wages, salaries or any other payments to owners for more than three months but not more than 42 months.
- 3) These two are combined (counting each individual only once) to yield an overall indicator, '**TEA**', *the total early-stage activity*, or the *entrepreneurship rate*.

Understanding of the TEA is enriched by an analysis of: (1) gender, and (2) opportunity versus necessity as the driver of entrepreneurship. Additionally, it is helpful to compare the early-stage entrepreneurship rate to the population segment that own or manage an established business in operation for over 42 months. Given the random sample of the population, these respondents will predominately be owners and/or managers of small and medium size businesses that represent the next stage for the successful entrepreneurs.

Figure 2.2: TEA with gender and opportunity/necessity sub-indices
(Percentage of adult population)



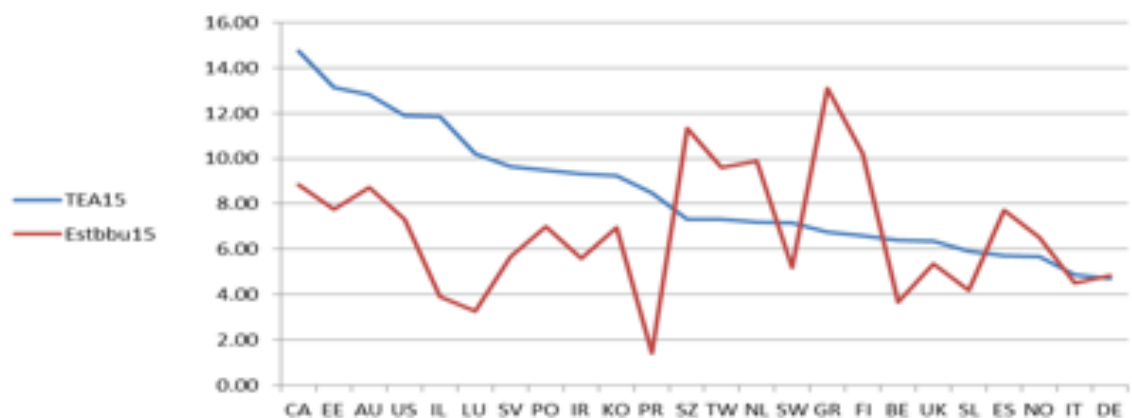
2. THE PRACTICE OF ENTREPRENEURSHIP

The first observation is that Alberta reports a slightly higher TEA than the rest of Canada, but the difference is not significant. The most interesting observation is that, for the first time, the TEA rate for women exceeds that of men's, which has slipped from 16% in 2014. Again this is in the context of a relatively small number of respondents but the best qualitative interpretation is that the historic lead of men over women is disappearing. The Alberta established business rate is good and the circumstance of entrepreneurial activity initiated for a lack of any alternative (necessity), was not reported at all. The decrease from TEA to established business (EB) is generally observed. TEA can be seen to be smaller than rate of plans for entrepreneurship (Futsup) in Figure 2.1 and in TEA the nascent component exceeds the new businesses less than 42 months old. In this we see the expected failure of a fraction of initiatives to surmount the next barrier.

It is worth recording here that the GEM Canada Report 2015,⁸ reported that the Canadian national TEA was, for the first time in recent years, the highest among the group of major countries with 'innovation driven' economies, trailed closely by Australia, the US, and Israel in that order. The overall trend in TEA values for countries in the innovation group is illustrated in Figure 2.3 (blue line). For comparison the percentage of established businesses (in business over 3.5 years) identified for each country (red line).

Figure 2.3: Trend of TEA (%) in countries in the innovation economy category

(Blue, TEA15 is % TEA, Red, Estbbus is % established businesses)

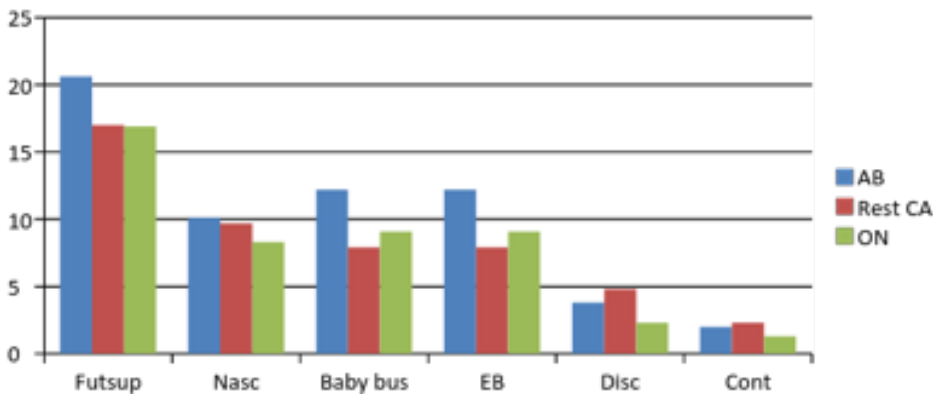


2. THE PRACTICE OF ENTREPRENEURSHIP

Looking back at the Alberta data we see women's entrepreneurship is slightly ahead of men's. The difference is probably not statistically significant, but all other provinces and Canada show men ahead. Nevertheless, the ratio of TEA(female) to TEA(male) is larger in Canada than in competitor countries by a substantial margin and the increase of women's entrepreneurship is entirely responsible for the increase that puts Canada in first place.

Chapter 1's Figure 1.2 described the segments of firm formation from initial planning (Futsup), to nascent (Nasc) activity in the first months, to young firms in the first three and one half years (Baby bus), to established businesses (EB), and finally to discontinuance. The end phase can fit one of two cases: the business was discontinued (Disc), or the business was continued by others (Cont). The first is a loss; the second may well be an indication of an entrepreneurial success. Figure 2.4 presents data about the phases of entrepreneurship in Alberta in 2015.

Figure 2.4 :The Phases of entrepreneurship
(Percent of respondents for each)



In all cases the percentages show a declining trend from left to right in agreement with the expectation that there will be losses at each transition point. The Alberta data are favourable by comparison to the rest of Canada or Ontario.

2. THE PRACTICE OF ENTREPRENEURSHIP

A final issue concerns the motivations of Alberta entrepreneurs. It is statistically impossible to dig deeply into the variety of specific motives that drive entrepreneurship in particular directions, but it is possible to evaluate some basic economic motivations. Data are shown in Table 2.1.

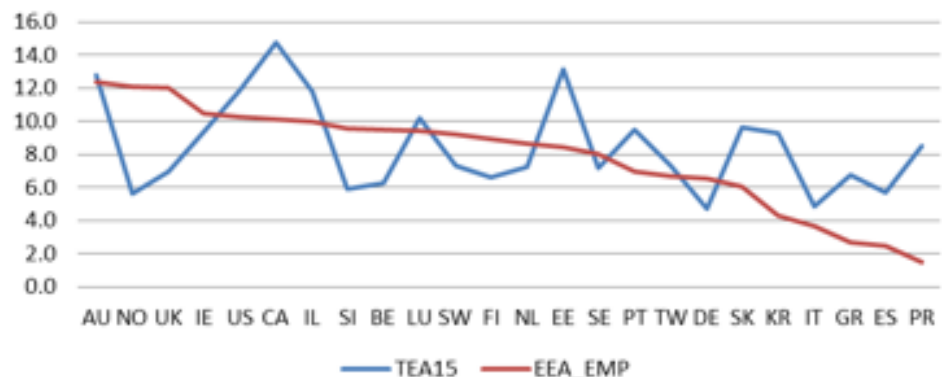
Table 2.1: Motivations of early-stage entrepreneurs

Increase income	Independence	Maintain income	Mixed
45%	18%	14%	23%

Employee Entrepreneurial Activity (EEA)

In contrast to the TEA new independent business formation, there is a measure of the activity of employees involved in the start-up of a new venture for their principal employer firm. These initiators are sometimes called ‘intrapreneurs’ or ‘entrepreneurial employees.’ The shorthand term is EEA as a parallel to TEA (these populations can overlap). One important point is that opportunities are under the control of established firms and consequently dependent on firm strategies. This is one reason why TEA and EEA do not necessarily correlate. Figure 2.5 is similar to Figure 2.3 and shows the trend of EEA for the innovation (developed) economies. The red line shows the percentage EEA among those respondents currently employed contrasted to the blue line reporting percentage TEA.

Figure 2.5: Percentage of EEA compared to percentage of TEA among innovation economy countries

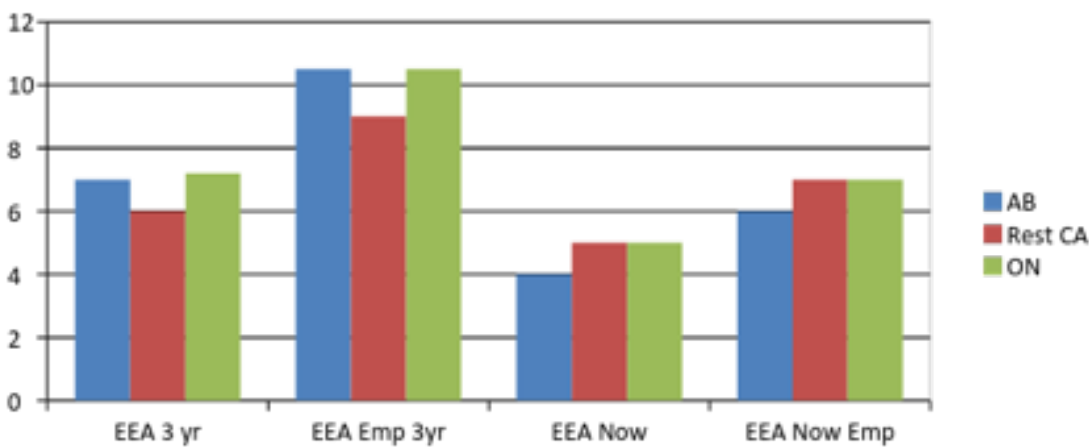


2. THE PRACTICE OF ENTREPRENEURSHIP

In the case of EEA, Australia is the leader and has closely matching values. However, a number of countries such as Norway, Finland, and the Netherlands have an EEA above the TEA. Canada is in fourth place with an EEA well below the TEA.

Turning now to Alberta, EEA values for Alberta, the rest of Canada, and Ontario are shown in Figure 2.6. In this chart, values are shown for the percentage of all respondents who report EEA activity in the last three years (EEA 3yr). The second column reports EEA percentage among respondents currently employed (EEA Emp 3yr). The last two columns limit attention to those reporting activity in the current year (EEA Now) for the total and the employed respondents.

Figure 2.6: Percentage of respondents reporting employee entrepreneurial activity (EEA)



Over three years, Alberta compares favourably, but may be below the comparators in current activity (EEA now). Throughout, EEA values lie below TEA values, raising questions about firm strategies toward innovation.

2. THE PRACTICE OF ENTREPRENEURSHIP

2.3 Aspirations

A final key aspect of early-stage entrepreneurship is the entrepreneur's aspirations. This has a great deal to do with the potential for impact on *innovation, employment, export, and revenue growth* (i.e. on the question of the extent of *productive* entrepreneurship). These aspirations are explored through a series of questions concerning expectations for firm performance after five years. The ambitions for the new businesses are probed with queries about: what fraction expects substantial job growth, what fraction will produce *new products and expand markets*, and what fraction *will export*. The responses received are critical to evaluating the effects of entrepreneurship in the economy, which is the subject of the next chapter.

3. ENTREPRENEURS IN THE ECONOMY

The *entrepreneur* who was introduced to us by Joseph Schumpeter⁹ in ‘The Theory of Economic Development’ in 1911 is the committed agent of economic change, moving the economy into a new cycle. Entrepreneurial action can lead to job creation and innovation that can stimulate economic growth and, in favourable cases sustainability. The *entrepreneur* acts in various contexts: as the agent launching a new enterprise, as the champion of a new direction for an established firm, or as the innovator launching an initiative which delivers social impact. Thus, a more robust understanding of the role of the entrepreneur in the economy lays a critical foundation for the development of economic and social policy. The GEM survey identifies and profiles these actors in their variety.

It is always important to remember that not all entrepreneurial efforts are constructive. Baumol’s categories⁵ distinguish productive from non-productive initiatives, where the first are seen as economically creative and the second as simply re-arranging the distribution of economic benefits. Clearly, the productive category is closely tied to innovation. The total entrepreneurship measures do not give indications of the degree to which a given effort has productive content. It was noted above that the less ‘productive’ may still have positive aspects, as for example, in job creation. Finally, of course productive character does not guarantee socially beneficial outcomes.

Shane¹⁰ in an award winning paper, shows that ‘non-productive’ entrepreneurship may even be economically negative (e.g. for growth when too much local competition is generated). He recommends that policy instruments be carefully designed to focus start-up support to those new businesses that have clear growth plans, and observes that ‘picking winners’ may be hard, but in many cases, identifying the non-productive is much more straightforward. “Policy... should stop subsidizing the formation of the typical start-up [and] focus on the subset...with growth potential.”¹⁰ It does not require ‘picking winners.’

⁹ Schumpeter, J. (2011). *The theory of economic development*, (English, 1934) Translation published 1982 Transaction Publishers.

¹⁰ Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*, 33(2), 141-149.

3. ENTREPRENEURS IN THE ECONOMY

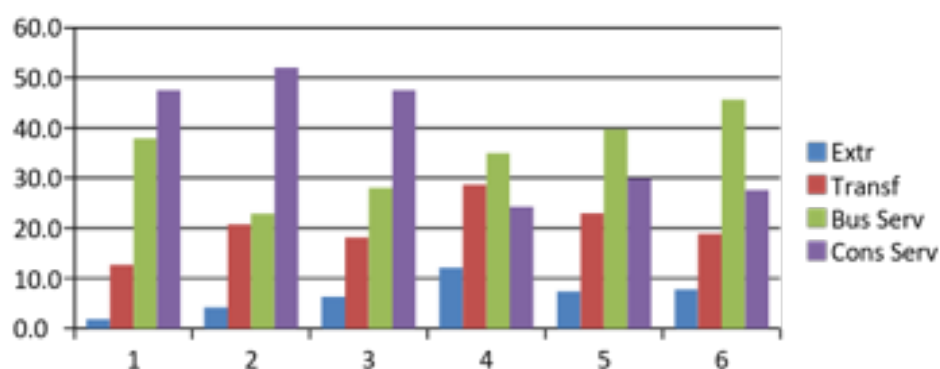
The aspects of economic roles considered here include:

- Sectoral focus
- Jobs creation and job aspirations
- Indicators of innovation
- Export orientation
- Uses of technology

3.1 Sectors

The subdivision of initiatives by sector in GEM is achieved by asking each respondent to describe the new business. Responses are then coded using four digit international industry codes (ISIC). These codes are then grouped into four sectors which have a statistically significant numbers of firms. These groupings are: *extractive (Extr)*, including mining and agriculture; *transformative (Transf)*, mainly manufacturing; *business oriented services (Bus Serv)*; and *consumer oriented services (Cons Serv)*. As might be expected, the last of these is commonly the most populated. Data for 2015 activity in Alberta, the rest of Canada, and Ontario are shown in Figure 3.1 for both the new initiatives of TEA and the established businesses (EB).

Figure 3.1: Sector distribution (%) of 2015 early-stage entrepreneurs (TEA) and established businesses (EB)



In all TEA cases, consumer services are the most common sector. However, this trend does not hold for the businesses that have been in operation for over three years (EB). For these organizations, business services have become the leading sector. This is especially true in

3. ENTREPRENEURS IN THE ECONOMY

Alberta, where business services are important at both the start-up and established phase. Manufacturing and extractives are low in Alberta's 2015 TEA, but manufacturing in Alberta is at a competitive level in established businesses. The low extractive sector may reflect that few opportunities exist for small firms in the oil and gas sector unless these fall in the category of business services. This is an interesting possibility since it would suggest the presence of knowledge intensive business services in Alberta, a topic which has received much attention in recent innovation literature.¹¹

The category of business services merits some expanded analysis to characterize its activities. For smaller samples (e.g. provinces), subdivision of the categories is not likely to yield statistically significant results. However, the four categories are constructed by grouping twelve categories that correspond to the most significant digit in the international standard industry codes (ISIC). Business services include such areas as real estate and financial services, but also have major components in professional services and businesses that support health, education, and government. The 2015 GEM Canada report¹² analyzed three years of national data for TEA sector activity in the twelve one digit ISIC categories. The leading sector is retail, hotel and restaurant (20%) in consumer oriented services, but the 'social' sector (17%) and professional services (15%) are the two other largest. The emphasis on retail, hotel, restaurants, and businesses serving the social sector (education, health, government etc.) does not emerge clearly by analyzing only a four sector scheme.

The 2013 through 2015 three-year TEA trend in Alberta has been for a slight increase in consumer services with a small loss in the percentage of business services.

¹¹ Muller, E. Zenker, A. (2001). Business services as actors of knowledge transformation: The role of KIBS in regional and national innovation systems, *Research Policy*, 30(9),1501-1516.

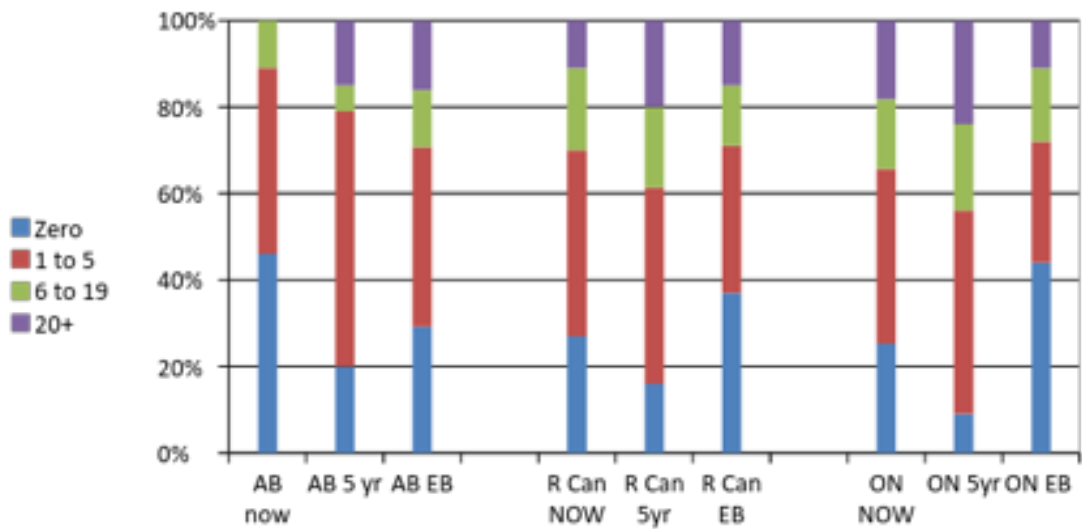
¹² Langford, C.H. Josty, P., & Saunders, C. (2015). *2015 GEM Canada Report*. Calgary, Canada: THECIS. Retrieved from <http://thecis.ca/index.php/reports-and-papers/>

3. ENTREPRENEURS IN THE ECONOMY

3.2 Job creation and job aspirations

Job creation is a key target for entrepreneurship policy, yet a significant number of initiatives are for self-employment. The latter are not necessarily unproductive. For example, the sector described above as professional services can include self-employment where the services support innovation and growth of other firms. Still the focus here will be on jobs created at start-up and, especially the *aspirations* for job levels to be reached after five years.

Figure 3.2: Job levels in TEA now, TEA in 5 years, and in established businesses (EB)



Job number reports are grouped as: over 20 jobs, 6-19, 1-9, and zero. Figure 3.3 shows the current job number shares (now) for Alberta entrepreneurs, the aspirations for 5 years in the future (5yr), and the current job numbers in established businesses (EB). The Alberta data are compared to the rest of Canada and Ontario. The share reporting no jobs is rather large in Alberta by comparison. The fact that it drops in the aspirations shows the share of self-employment intentions is not well represented. However, Albertans do not report as many firms with growth goals aimed at the two larger categories. There is a further question that asks: are aspirations for more than 10 jobs accompanied by 50% growth in five years? This draws a yes from 14% of Alberta entrepreneurs, 15% from the rest of Canada, and 20% in Ontario.

However, these percentages are based on the number of respondents providing a 'yes' or 'no' answer. And participation rates are not high (many decline to answer), so the results are suspect.

If we accept a perspective taking the three years from 2013 to 2015 as an extended survey, a much larger sample is available to give greater robustness to the finding. Focusing on the 'yes' answers over the three years as a fraction of the total population surveyed, 3.6% of the surveyed population reported expectation of growth by 50% yielding more than 10 jobs. For the question of job expectation rising to 20 or above, 2.5% reported that aspiration.

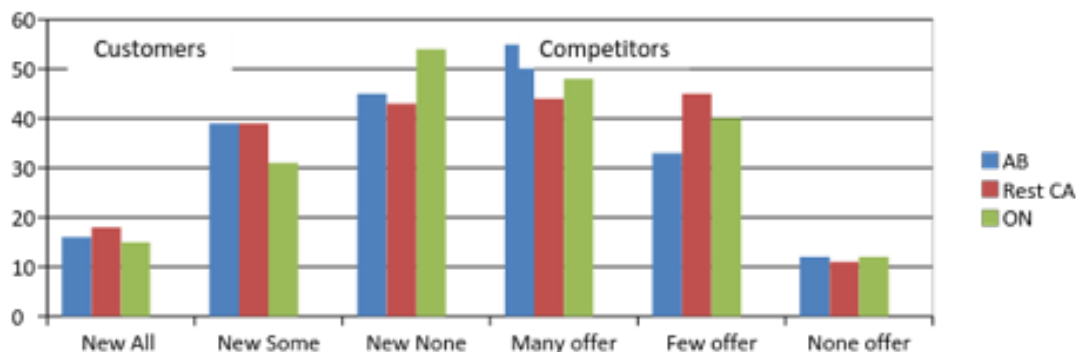
3.3 Innovation, export orientation, and technology

Beyond job creation, impacts of productive entrepreneurship can include: new products in new markets, export orientation, and use of advanced technology.

The introduction of new products to new markets is a very direct indicator of product and market innovation.

Two questions address the novelty and uniqueness of products (or services) of the early-stage entrepreneurs. The first asks whether the product will be new to customers; all, some, or none. New to none is the most common response, but 16% in Alberta report new to all. The second question asks whether parallel products are offered other firms. The most common response is that many other firms offer the product (or service), but 12% in Alberta report that no competitors offer the product. The distribution for Alberta is compared to the rest of Canada and to Ontario in Figure 3.3. Alberta data differs little from the others.

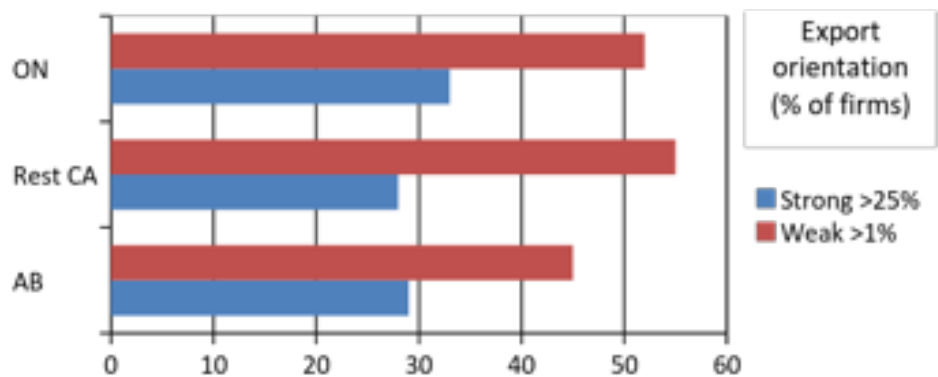
Figure 3.3: Novelty of product to customers and existence of competitive firms offering comparable products



3. ENTREPRENEURS IN THE ECONOMY

Export orientation of firms signals participation in an economy larger than the immediate community. It may suggest participation in global value chains, although such participation may be indirect when the early-stage firms are suppliers to larger firms involved in global networks. As well, export orientation may depend on more innovative practices. The sample of entrepreneurs is large enough to reliably assign them to three classes: those that anticipate more than 25% of revenue from outside Canada (strong orientation), those with some export orientation that is >1% but less than 25% (weak orientation), and the remainder not expecting export revenue. The data in Figure 3.4 show that 29% of Alberta entrepreneurs have a strong export orientation and 45% have some expectation of export revenue. This is close to the rest of Canada, but in Ontario young firms may be significantly more export oriented. With the large role of the energy industry, Alberta firms may be especially likely to export indirectly as suppliers to large firms.

Figure 3.4: Percent of firms expecting strong or weak contributions of export to revenue

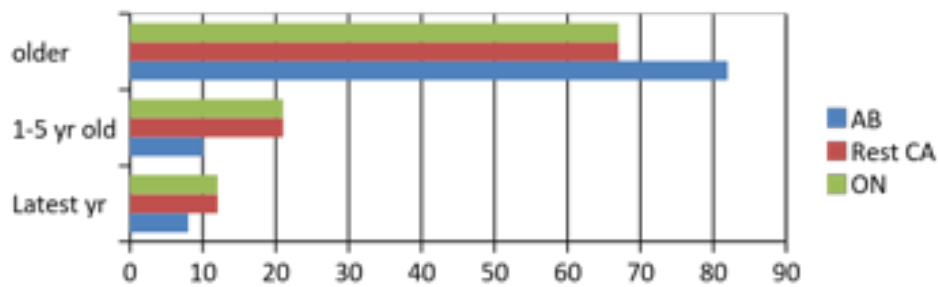


The degree to which firms use up-to-date technology is considered an indicator of productivity that is correlated with innovation. Figure 3.5 shows percentage of firms reporting use of: the latest technology introduced in the last year, technologies from one to five years old, and older technologies. In all cases, older technology dominates, but young Alberta firms appear to be behind in the adoption of recent technology. The percentage of firms belonging to the high or medium

technology sectors (OECD definition) are: 12% in Alberta, 6% in the rest of Canada, and 6% in Ontario. Alberta's leadership is interesting and probably unexpected.

3. ENTREPRENEURS IN THE ECONOMY

Figure 3. 5: Percentage of firms reporting use of technology introduced in the latest year, one to 5 years ago, or over five years ago



4. DEMOGRAPHICS

4.1 Age

There are two aspects associated with the age distribution of entrepreneurs. First there is the entrepreneurship rate in each age range. Second there is the question of the share of total entrepreneurial activity provided by each age bracket. Internationally, entrepreneurship is reported for the 'working age' population: ages 18 to 64 years. The age categories reported are 18–24, 25–34, 45–54, and 55–64. The Canadian survey data includes seniors but the TEA entrepreneurship rate for this group is only 4% compared to over 5% for seniors in 2013 and 2014. Below the data for the 18-64 age range is analyzed.

Figure 4.1: TEA percentage for each age bracket for Alberta, Ontario and the rest of Canada

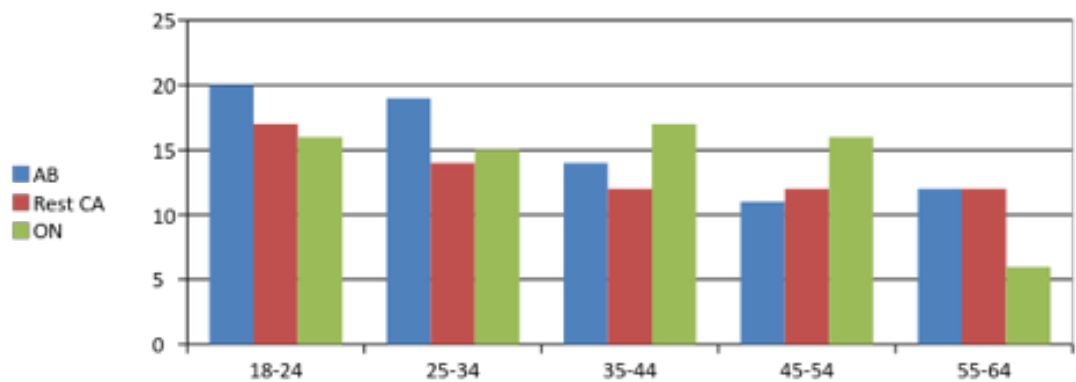
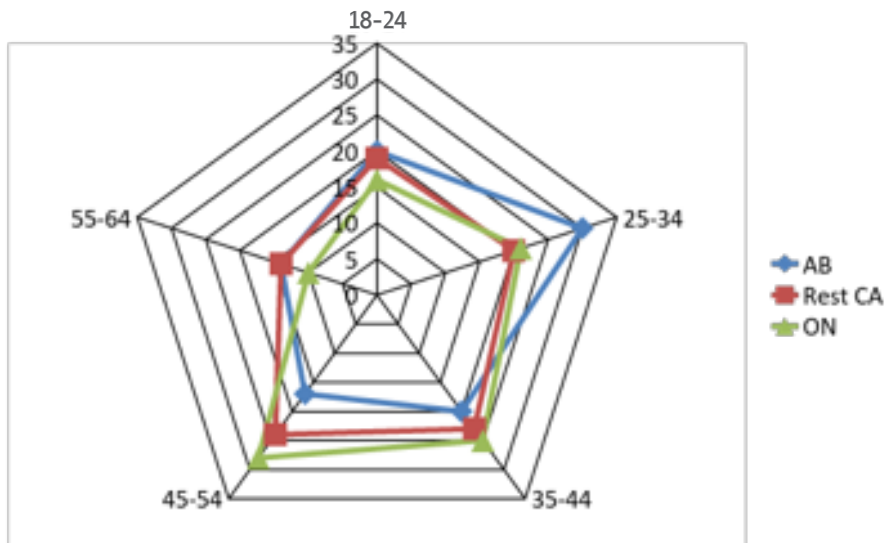


Figure 4.1 shows the rate of early-stage entrepreneurship in each of the age categories. The obvious feature for Alberta is the high level of activity among the two younger cohorts. This was not the case in 2014 data, but is similar (with greater activity among the 18-24 age group) to data for 2013. It would appear that a high level of activity among younger Albertans is a significant feature despite year to year fluctuations. As might be expected, the ownership of established businesses is centred in older groups.

4. DEMOGRAPHICS

Figure 4.2 compares the relative contribution of each age bracket to the total early-stage activity. The Alberta numbers are: 20%, 30%, 20%, 17%, and 14%. This emphasizes the importance of the 25-34 age group in Alberta compared to the importance of the 45-54 age group elsewhere.

Figure 4.2: Relative contribution of each age group to the overall early-stage activity



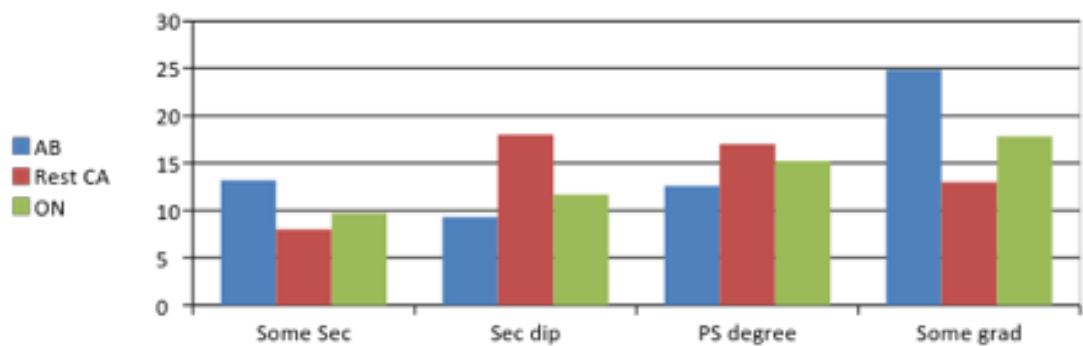
In Alberta, the two younger cohorts account for 50% of the activity. If we extend the classification of younger entrepreneurs up toward age 40, they are responsible for a clear majority of entrepreneurial activity in Alberta.

4. DEMOGRAPHICS

4.2 Education

The categories of education used in GEM Canada are: some secondary (Some sec), secondary diploma (Sec dip), post-secondary degree or certificate (PS degree), and some post graduate experience (Some grad). Figure 4.3 shows the distribution of educational background for early-stage entrepreneurs. There is a significant TEA rate among those who do not hold a high school diploma in Alberta. I. With the exception of the non-graduates of high school, both Alberta and Ontario exhibit an increasing trend in rate of entrepreneurship with increased level of education.

Figure 4.3: Early-stage entrepreneurship rates (percent) as a function of level of education



The role of the non-graduates of high school is probably not as large a fraction of activity as the rate might suggest because 88% of working Canadians have graduated from high school.¹³ The high rate of early-stage activity by those with advanced education indicates a significant role for initiatives depending on sophisticated or specialized knowledge. The higher percentage within this category in Alberta appears to lend special relevance to that idea.

The combination of data on age and education suggest that the portrait of a 'typical' Alberta entrepreneur would be of a young and well educated individual.

¹³ Conference Board of Canada. (2106). *High school completion*. Retrieved from <http://www.conferenceboard.ca/hcp/details/education/high-school-graduation-rate.aspx>

4.3 Gender

Earlier in this report, Figure 2.2 indicated that the Alberta women's entrepreneurship rate exceeds that of men for the first time ever. The national report noted that the increase of entrepreneurship activity by women was the factor responsible for Canada reaching, for the first time, the highest TEA rate among the larger innovation driven economies across the globe. In exploring gender differences a first issue might be found in probing different attitudes towards entrepreneurship. Table 4.1 reports the gender differences in the key attitudes measuring public orientation toward entrepreneurship in the general population.

Table 4.1: Gender differences in public attitudes

Percent	Know entrepreneur	Opportunity	Skill Knowledge	Fear fail
Female	37	50	53	48
Male	33	54	67	34

This analysis indicates that Alberta women are more likely to know an entrepreneur. In addition, they see slightly less opportunity to start a business in the next six months, have less confidence in their knowledge and skill for start-up, and greater inhibition from fear of failure. While this might be viewed as a less positive attitude toward entrepreneurial activity it could equally be characterized as a more realistic outlook. Certainly, the 67% of men responding that they have the skills and knowledge to start a business is in sharp contrast to the expert opinion assessing the level of relevant knowledge in the population (see Chapter 5).

Turning to the entrepreneurs, a higher percentage of female respondents report an opportunity driven initiative (15%) as compared to male respondents (12%), where the reports for both groups on necessity driven activity are very low and indistinguishable.

4. DEMOGRAPHICS

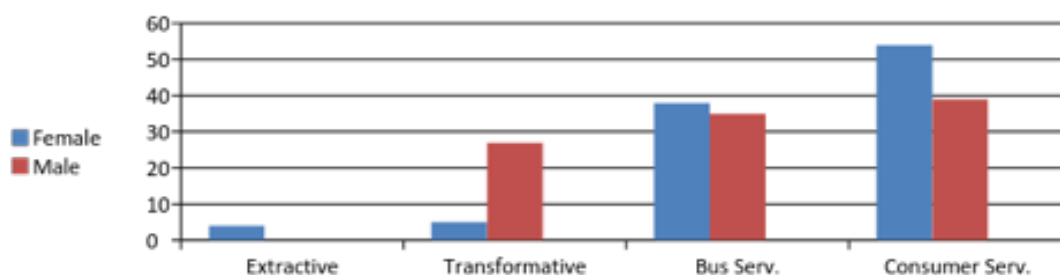
Table 4.3: Gender differences in motives

Motives %	Increase Income	Independence	Maintain	Mixed
Female	53	8	10	30
Male	46	23	19	12

The simple economic motives for entrepreneurship vary significantly with gender in Alberta (see Table 4.3 above). Increase of income is less frequently cited among men and maintenance more frequently. This could be a 'household primary breadwinner' pairing reflecting a larger fraction of men in that role. Independence is considerably more often important to these men than it is to these women.

Another central area of gender difference in Alberta is in sector distribution of entrepreneurial activity. Figure 4.4 reports the distribution of early-stage activity over the four sectors. The two groups have similar engagement with business oriented services (Bus Serv.), but women have a high concentration in consumer oriented services (Consumer Serv.) in contrast to significant engagement of men in transformative areas such as manufacturing. Within the larger sample of the national report it emerged that these sector differences do not correlate closely with job creation aspirations.

Figure 4.3: Gender differences in sector distribution



5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP –EXPERT OPINION

The Canadian framework conditions that create the environment for entrepreneurship are probed by the Provincial Experts Survey (PES), which is the version of the expert survey used for participating countries known as the National Expert Survey (NES). Thirty-eight Alberta experts from nine entrepreneurship related professional perspectives responded to a series of statements used in the global NES study. These statements express GEM formulations of circumstances judged *favourable* to entrepreneurship. The experts identify how favourable conditions in Alberta are by rating the statements on a new nine point scale:

1. *Completely false*
2. *False*
3. *Moderately false*
4. *Somewhat false*
5. *Neither true nor false*
6. *Somewhat true*
7. *Moderately true*
8. *True*
9. *Completely true*

As the scale demonstrates, upper range values indicate higher agreement with statements favourable to entrepreneurship. Discussion here will report the *mode*, the most probable value, which treats the options as ordered categories, and the *mean* that assume a quasi-continuous underlying variable (e.g. expert satisfaction) with equal intervals. Mean scores above 5 indicate *some satisfaction* with the affirmatively worded statement on one of the conditions favourable to entrepreneurship. An alternative view is given by the *modes* that identify the evaluation of the statement given by the *largest number* of experts, a convergent group within the panel. The survey has been carefully validated for quantitative significance and international comparability by statisticians in the GEM consortium.

In addition to rating conditions, the experts provided open ended comments that were coded into categories for the purpose of this analysis.

5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP —EXPERT OPINION

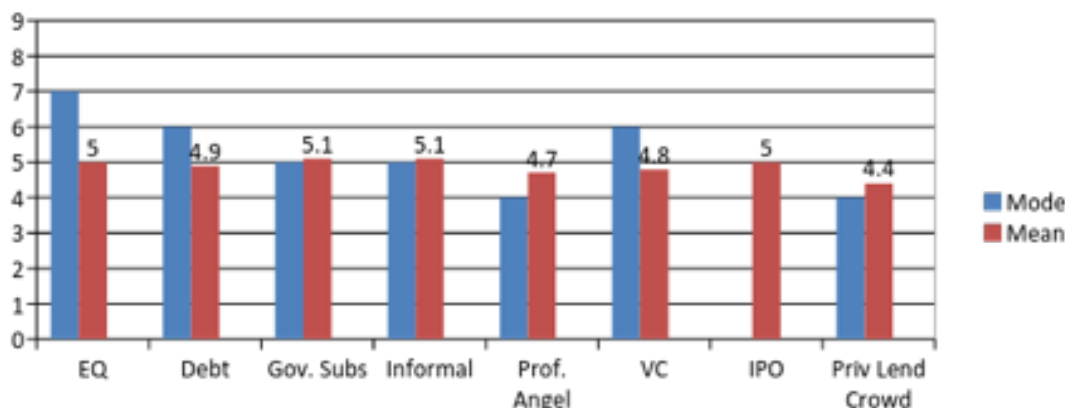
5.1. Finance

The first area explored in questions to the experts was finance. Some other documents, such as the *Power of Three Report*,¹⁴ have suggested that Canada ranks well in international comparisons and find that the cost of starting a business has fallen significantly. Moreover, the population survey data rates the role of informal investor participation in Alberta at a leading level. Still, financing is always a key challenge for young and growing firms. Questions posed concern sufficiency of equity funding (*EQ*), adequacy of debt funding (*Debt*), sufficiency of government subsidies (*Gov. Subs*), adequacy of informal angels (Informal) and private 'angel' funding (Prof Angel), sufficiency of venture capital (*VC*), availability of Initial public offering (*IPO*) funding for new and growing firms, and private lender funding/crowdfunding (*Priv Lend/ Crowd*). As noted above, the responses offer a nine point scale ranging from 'completely true' (9) to 'completely false' (1), with false or true, 'moderately' (\pm) 'somewhat' (\pm), and 'neither' (neutral) as intermediate descriptors. Responses, are shown in Figure 5.1. Both the mean of answers and the mode (the most frequently chosen option) are highlighted. The mode is an interesting parameter identifying the largest consensus on one point. It is regarded as the most significant metric, since the survey does not sample a continuous underlying variable. The scores here are near 5, corresponding to the neutral 'neither true nor false' with most leaning towards 'somewhat true'. The modes at 6 indicate the most common choice of individual experts was 'somewhat true'. Professional angels are rated low, and informal angels (family friends, etc.) draw neutral opinion in contrast to the population survey. Availability of equity funding is rated highly and venture capital (*VC*) is also seen positively, but *VC* commonly enters at a later stage than the first 3.5 years. These responses are somewhat more positive than those from experts last year. *IPO* funding received a mildly positive bimodal reading with equal response at 5 and 6. The private lender funding, subtitled crowdfunding, was rated as low as professional angels.

¹⁴ Mc Morrow, C. & St. Jean, C.A. (2013). *The power of three, EY Entrepreneurship Barometer*. Retrieved from <http://www.ey.com/GL/en/Services/Strategic-Growth-Markets/The-EY-G20-Entrepreneurship-Barometer-2013>

Overall, the experts appear to be mildly positive but not satisfied with the funding environment. The neutral view of government's role suggests an invitation to policy creativity.

Figure 5.1: Finance conditions



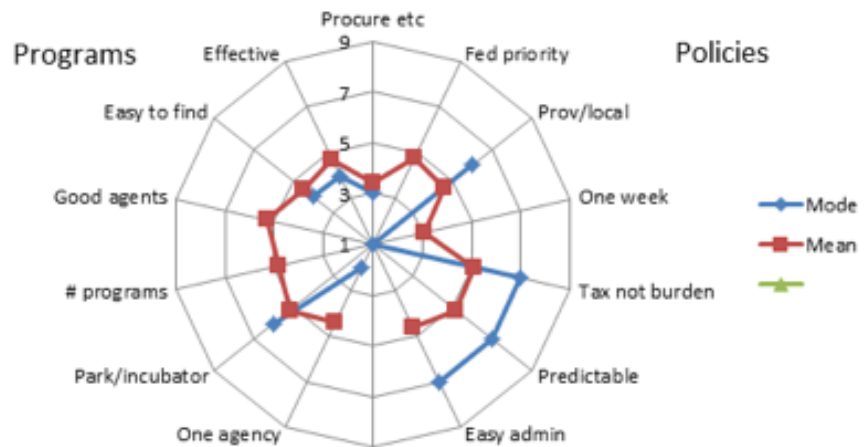
5.2 Government policies

A set of nine questions about Alberta government *policy* include: (1) do various policies (1) such as procurement, favour small and growing firms (*Procure etc*) consistently? The next two queries explore whether small and growing firms are a high priority at both (2) the Federal (*Fed priority*) and (3) (*Provincial*)/local levels. Other issues are as follows: (4) Are necessary permits and licenses available within about (*One week*); (5) In Alberta, are taxes NOT a burden (*tax not burden*); (6) and, are taxes and other government regulations being applied to small and growing firms in a (*Predictable*) and consistent way? Finally, (7) it is asked whether in Alberta, coping with government bureaucracy, regulation and licensing regulations is simple for small and growing firms (*Easy admin*)? Responses on the same scale as above are shown in the right half of Figure 5.2 starting at the top, using the terms in above as labels.

5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP –EXPERT OPINION

5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP —EXPERT OPINION

Figure 5.2: Government policies (right) and programs (right)



Means on a majority of policy issues are near neutral. Federal priority was bimodal with both 3 and 4 equal, where the mode for provincial priority was positive. That permits etc. could be obtained in one week was viewed as moderately false. Government business interaction (e.g. procurement) seems not to favour small and growing firms, and the centralization of service access to a single agency (“one stop shopping”) remains a significant expert concern. Dealing with government is still found to be fairly difficult. On issues of predictability, light tax burden, and effective agents, the neutral means are accompanied by positive modes of “moderately true.”

5.3 Government programs

The left side of Figure 5.2 shows the expert responses to six statements about government programs for small and growing businesses. The first (1– top left in figure 5.2) deals with (*Effective*)ness of programs. The mode is mildly negative. (2) The question of whether anyone needing help can find what they need (*Easy to find*) also draws a mildly negative mode, whereas the question of agents working in government, (3–*Good agents*) receive a mode of “somewhat true.” (4) Are there enough programs (*# programs*)? Experts are split with a mean of 4.8 and modes at 6 and 2. (5) The presence of Science parks and incubators (*Parks/incubators*) are rated mildly positively with a mode at 6,

“somewhat true.” In contrast, (6) the accessibility of programs through (*One agency*) is not thought to be available with a mode of 2. This is the most striking exception to the generally neutral evaluation of the government programs evaluated here.

5.3 Education

The fourth framework factor that is important for development of individual entrepreneurship is appropriate education. So that populations who respond positively, as Albertans do, about their capacity to start a business the opinion will be well founded. Issues will, of course, be different as education proceeds from primary and secondary to post-secondary in both general and directly business oriented programs. The first three items address primary and secondary education, and differ significantly in expectation from the last three that apply to post-secondary. The first three include encouraging creativity and self-confidence in the earlier grades (*Creative/confid.*). This is fundamental, especially for productive and innovative entrepreneurship and entrepreneurial thinking in all environments. This may be the goal most appropriate to primary grades. Market economic principles (2) (*Mkt econ Prin.*) are also addressed with respect to primary and secondary, perhaps with the role of secondary emerging more prominently. Education for entrepreneurship and firm formation (*New firm formation*) (3) is also an issue for the secondary system. A role (4) suggested for general college and university programs is preparation for the start-up and growth of firms (*PS prep. Firm form.*). This question may be missing the issue of education for entrepreneurial thinking, which should appear across the curriculum to support intrapreneurship and social entrepreneurship. Business and management programs (5) are rated next (*PS Bus/mgt Educ.*), and vocational, professional, and continuing (*Voc/cont. Educ.*) are last (6).

In the primary/secondary stages, none of the ratings reach neutral with modes of 4 in all three. Similar to last year, this is a call for new emphasis throughout the education system. The Alberta ratings differ somewhat from the national expert survey which rated the creativity

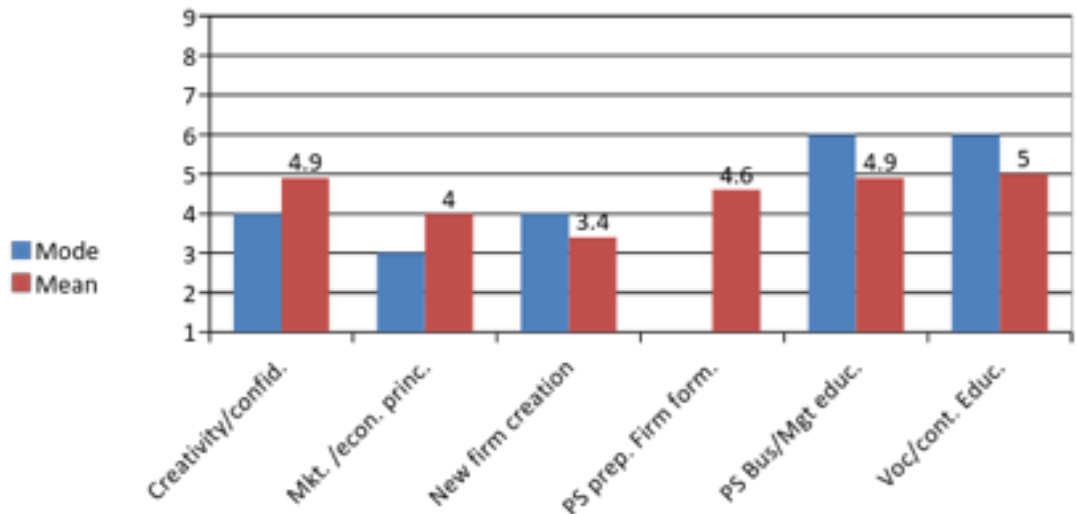
5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP –EXPERT OPINION

oriented education more highly, but there is general agreement that new and enhanced initiatives are recommended at both a provincial and national level.

Among the post-secondary sectors, means all approach neutral. Modes are a negative and bimodal (3 and 4) for general programs. The modes for the two professional education environments are 6, perhaps reflecting the recent renewed attention to entrepreneurship in the institutions.

The general conclusion is that experts on entrepreneurship find the current educational supports inadequate. This is in direct contrast to the opinion of so many members of the general public (i.e. those in the Adult Population Survey) claiming that they have the knowledge and skills to start a business (60%, see Chapter 2). In the primary/secondary systems, education for the basics of entrepreneurial thinking, creativity and self-confidence are on the agenda but specifics are missing. At least a strong base in entrepreneurial thinking, applicable in all environments encountered in adult life (start-up, inside a firm, social innovation) is a priority.

Figure 5.3: Education for entrepreneurship

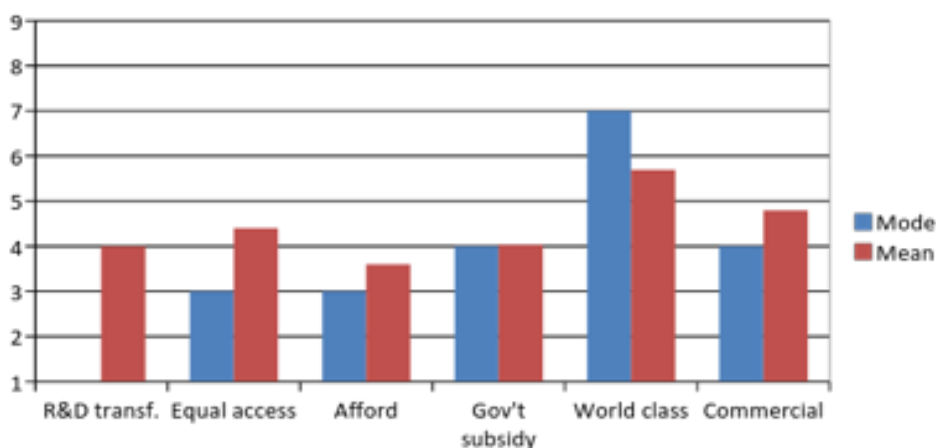


5.5. Research and development (R&D) transfer

Six propositions are tested with the experts that address the effective transfer of R&D knowledge to small and growing firms. The coverage is primarily of formal mechanisms and will not provide a full picture of informal transfer and knowledge spillover (e.g. a geophysicist using imaging knowledge to enter into the medical imaging sector). The issues covered are:

- (1) Is transfer (*R&D transf.*) efficient from universities and public research centres to small and growing firms?
- (2) Do small and growing firms have the same access (*Equal access*) to research and technology as large established firms?
- (3) Can growing firms (*Afford*) the latest technology?
- (4) Are government subsidies (*Gov't subsidy*) to new and growing firms adequate to acquire new technology?
- (5) Can the Alberta science and technology base support the creation of a new world class technology venture (*World class*) in at least one area?
- (6) Is good support available to engineers and scientists to have their ideas commercialized (*commercialize*) through new and growing firms?

Figure 5.4: R&D Transfer



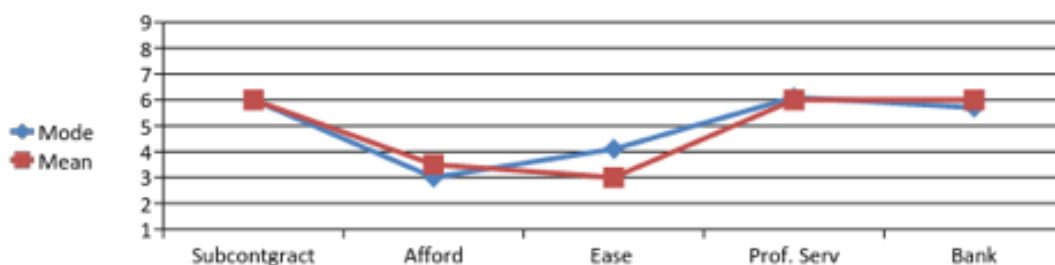
5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP –EXPERT OPINION

The expert opinion is quite similar to last year and largely negative. This pattern is also similar to the views of the national expert panel on the Canadian situation. The most positive opinions were about opportunities for research commercialization and, especially, the capacity to support development of a world class technology firms. This last finding is probably influenced by experience with the growth of firms such as Computer Modelling Group Ltd (CMG) and Smart Technologies. R&D transfer may be misestimated because the role of informal pathways is not addressed and are known to be important (i.e. informal contacts, conferences).

5.6 Commercial infrastructure

Commercial infrastructure includes suppliers, subcontractors, consultants, professional services (accounting, law) and banking for small and growing firms. The issues for expert opinion are: (1) enough subcontractors (*Subcontract*), (2) affordability of subcontractors (*Afford*), (3) ease of obtaining subcontractors (*Ease*), (4) ease of obtaining good professional services (*Prof serv.*), and (5) ease of acquiring good banking services (*Bank*). Figure 5.5 shows that expert opinion is that subcontractors, professional services, and banking services are reasonably available, with modes at 6 (somewhat true) and means very close, but these subcontractors are not very affordable or easy to find, generating modes at 3 (moderately false), with means of 3.6 and 4.6, respectively. In summary, commercial infrastructure may be there, but it isn't friendly to new and growing firms.

Figure 5.5: Commercial infrastructure

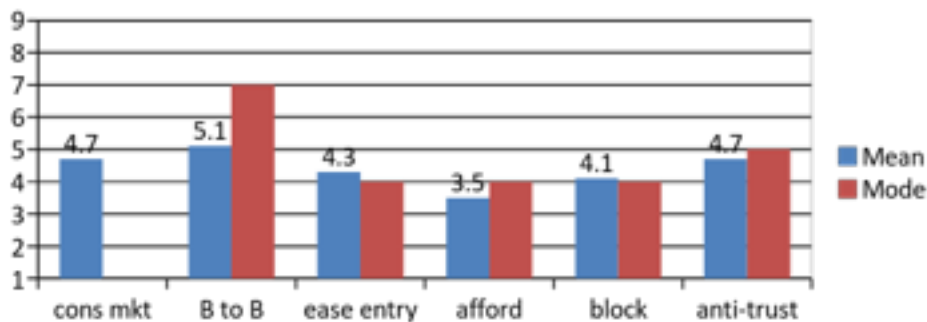


Opinion around this area is similar to last year and consistent with the findings in the national survey.

5.7 Internal market openness

This section evaluates the volatility of markets, ease and cost of market entry, blockage by established firms, and effectiveness of anti-trust legislation. Issues are: (1) extent of consumer market (*cons mkt*) change from year to year, (2) extent of business to business (*B to B*) market change from year to year, (3) ease of new firm entry (*ease entry*), (4) affordability (*afford*) of new firm entry, (5) lack of unfair blocking (*block*) by established firms, and (6) effectiveness and enforcement of anti-trust (*anti-trust*) legislation.

Figure 5.6: Internal market openness



The results suggest only moderate market volatility, difficult affordability of entry, limited barriers from established firms, and modest effectiveness of anti-trust legislation. Overall, opinions are similar to those of last year. The national survey was somewhat more positive on ease of entry. There is an interesting disagreement with data from the EY G20 Entrepreneurship Barometer¹⁵ that finds Canadian cost of entry low and reports a recent sharp decline.

¹⁵ McMorrow, C. & St. Jean, C.A. (2013). The power of three, EY Entrepreneurship Barometer. Retrieved from <http://www.ey.com/GL/en/Services/Strategic-Growth-Markets/The-EY-G20-Entrepreneurship-Barometer-2013>

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5.8 Physical infrastructure

Physical infrastructure is the second most favourably viewed category next to culture and social norms (reviewed below). Means are at least 4 for all issues and modes are 5 for all but one. This is consistent with the national survey and the survey of Alberta last year. Issues are: (1) physical infrastructure provides good support for new and growing firms, (2) communication is not too expensive, (3) communication can be accessed in about a week, (4) firms can afford basic utilities, and (5) firms can access utilities in about a month.

Table 5.1: Physical infrastructure support

	Good infrastructure support	afford communication	communication in a week	afford utilities	utilities in a month
Mode	7	7	Bi 7,8	6	7
Mean	6.8	6.6	5	6.7	6.7

It is worth noting however, that for firms with customers beyond their local region there are further infrastructure needs that are not addressed in the survey, for example for transportation infrastructure.

5.9 Culture and social norms

This is the area where the expert panel rates Alberta most highly. Consistent with the general population positive attitudes toward entrepreneurship found in the Adult Population survey, the experts find a culture of entrepreneurship is present in the province. Aspects assessed are: (1) Alberta culture is highly supportive of success achieved through (*personal effort*), (2) the culture emphasizes (*self-sufficiency*) and personal initiative, (3) the culture encourages (*risk-taking*), (4) the culture encourages creativity and innovativeness (*creative innovative*), and (5) the culture emphasizes (*individual responsibility*) over the collective.

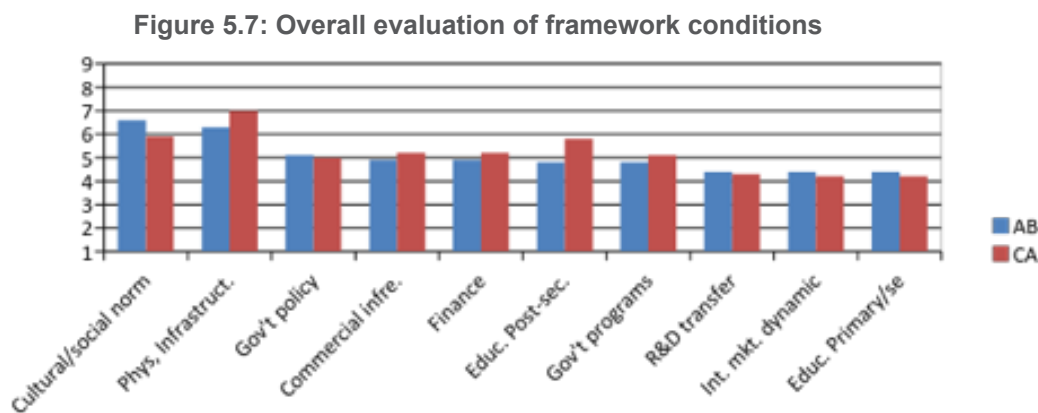
Table 5.2: Culture and social norms

	personal effort	self sufficiency	risk taking	creative innovative	individual responsibility
Mode	7	7	8	Bi 6,7	7
Mean	6.9	6.8	6.3	6.2	6.9

The Alberta ratings are slightly more strongly oriented to valuing the individual effort and self-sufficiency than those tabulated in the national survey.

5.10 Mean of expert ratings for each of the areas of framework conditions

Beyond the expert appraisal of the detailed framework condition issues the entrepreneurs face; it is useful to have an overview of the areas and their relative ratings. Figure 5.7 compares each area of the evaluation of framework conditions for entrepreneurship as seen by the panel in Alberta compared to the views of the national panel. The data are the unweighted means of the individual mean values in each category. They are presented in the order of decreasing ratings by the Alberta expert panel.



5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP –EXPERT OPINION

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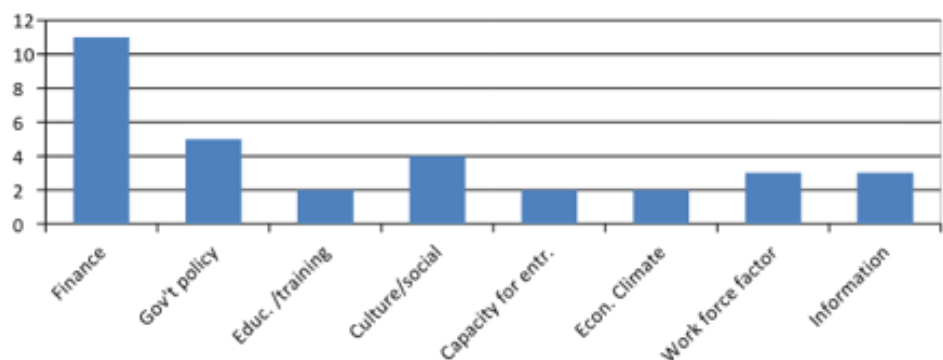
5.11 Open ended responses: constraints, fostering factors, recommendations.

The last task for the expert panel was to offer open ended responses in three categories: constraining factors limiting entrepreneurship, fostering factors promoting entrepreneurship, and finally recommendations. In each category, three responses were requested, given in priority order. The responses were rich and varied. They played a significant role in the formulating the recommendations made in this report. In an effort to provide a holistic overview, the responses were coded into fourteen categories. The leading issues identified are summarized below for each of these categories.

Constraining factors

Many categories of suggested constraining factors received top priority. The ones cited by more than one expert are shown in the histogram in Figure 5.8.

Figure 5.8: 1st priority reading areas of constraints on entrepreneurs in Alberta



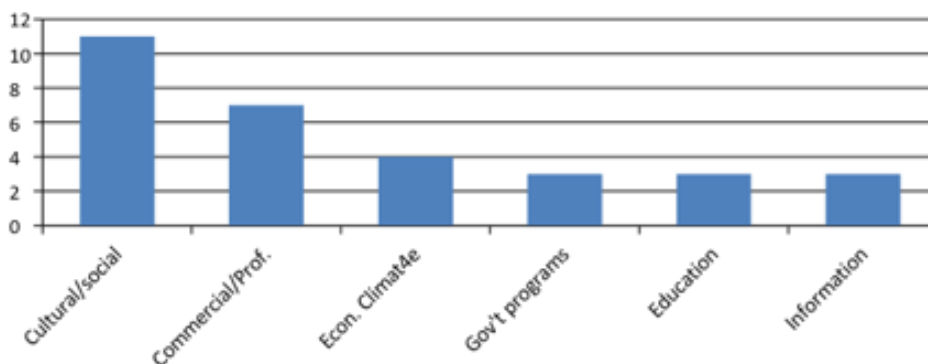
The clearest indication is that financial resources are a primary concern. This is not surprising, nor is it inconsistent with above opinions that constraints related to government policy are identified. Given the high ratings above for cultural and social factors, it is a worthwhile reminder of the complexity of the entrepreneurship ecosystem that several experts still highlight constraints that lie in this area. At second priority was that of government policy. This area was a source of identified constraints by six experts, with five highlighting

aspects of education, and five citing capacity for entrepreneurship issues. At third priority, finance and government policy are again often cited as constraint areas.

Fostering factors

There is strong convergence seen in Figure 5.9 that a key factor in fostering entrepreneurship in Alberta is the strong entrepreneurial culture of in Alberta. The role of commercial and professional infrastructure to support the entrepreneur draws the second most expert attention as a support. At second priority, we find further recognition of aspects of commercial and professional infrastructure from eight experts, finance factors from six, and an additional four citing cultural and social norms. At the third level of priority, finance emerges strongly in this positive light of fostering factors from 11 experts. Commercial and professional infrastructure is cited by five. It should be noted that finding finance factors as both a constraint and fostering factor but this is a consequence of the categories including a number of (possibly) contrasting factors.

Figure 5.9: 1st priority leading factors fostering entrepreneurship



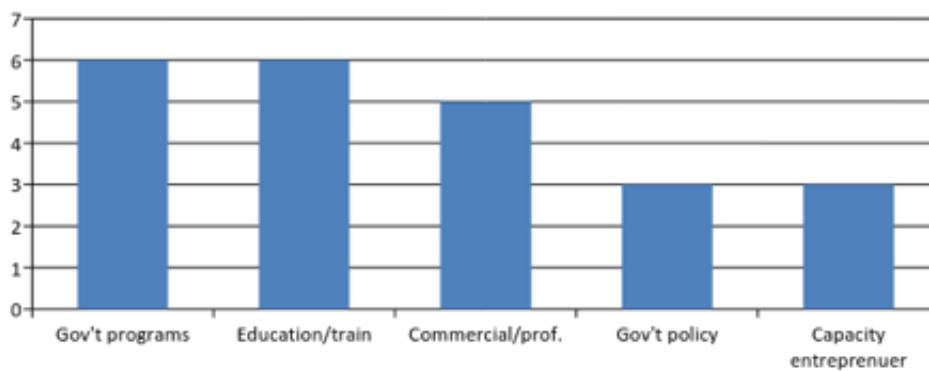
Recommendations

The experts show that they believe the government can make policy and program changes that will significantly improve the entrepreneurship and innovation climate in Alberta. These are specific and vary over a number of opportunities, but government policy and programs are clearly perceived as an area of opportunity. There is also broad interest in improving education for entrepreneurship with

5. FRAMEWORK CONDITIONS FOR ENTREPRENEURSHIP –EXPERT OPINION

several different suggestions. Ideas about further strengthening the commercial and professional infrastructure reflect the attention this area received under constraining and fostering factors.

Figure 5.10: 1st priority leading areas for expert recommendations



The Alberta entrepreneur. In 2015 an entrepreneurial project was likely to focus on business oriented services or manufacturing more so than is the case in other jurisdictions. Although a significant major share of start-ups will be in consumer oriented services. Entrepreneurship rates among younger demographics are quite prominent in the Alberta profile, and entrepreneurs are typically well educated.

Women's entrepreneurship. Although the rate of participation by females has caught up with the male rate this year, fostering women's initiatives and opening opportunity to sectors beyond consume services should receive continued attention. Government mentoring programs, illustrated by the Federal Business Development Bank and regional economic development agencies, need support for their activities and the capacity to substantially assist scalable initiatives by female entrepreneurs. With these points combined, a typical Alberta entrepreneur in 2015 might well look like the photo on the right.

The Alberta entrepreneurship culture. The vital signs are all positive and competitive with any jurisdiction among the 'innovation driven' (developed) economies. The general population has positive attitudes toward entrepreneurship and a good deal of confidence in their ability to engage. Expert opinion may be uncertain about such capacity, but it emphasizes the strong supportive cultural and social norms of Alberta. It is unlikely that any significant increase in the level of interest and activity above the current, slightly lowered, TEA rate is desirable. Rather attention needs to be directed to improving the quality of the initiatives and the effectiveness of the support framework. A cautionary observation is, as it was in 2013 and 2014, that it is the nascent entrepreneurship rate that is driving the high TEA, not the young business level. Are there significant barriers to the transition from the first few months that can be lowered, or is a failure rate in the nascent project to be considered normal? The large difference is not observed in all developed countries.

6. IMPLICATIONS AND CONCLUSIONS



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Goals. In the introduction, public goals were identified as:

- ***Economic growth***
- ***Job creation***
- ***Sustainability***
- ***Quality of life***

It is clear that not all entrepreneurship serves these goals to the same extent. Baumol⁵ points out that the goals are served to the degree that the venture does more than reorganize the flow of value, rather it adds new value (productive entrepreneurship). In other words that it is all innovative at the most fundamental level. Shane's prize winning work shows that some entrepreneurship may even be negative for growth and jobs by simply dividing markets and reducing viability of incumbents. One reasonable indicator of productive character is for a business to serve new clients, perhaps beyond its own immediate community.¹¹ This has led to analysis of potential for innovation and growth by exploring job intentions, new product goals, new market efforts, export share, and the exploitation of technology. The literature on the innovative role of knowledge intensive business services (KIBS) suggests the promise of a major role in Alberta for business oriented services. In this context, the expert survey indicates Alberta policy is fairly well oriented to innovation and rapid growth, but established firms and governments, are not sufficiently open to considering the novel outputs of these entrepreneurial firms.

Education and training. Despite the confidence in skills and knowledge for start-up expressed in the population survey, expert opinion is that lack of skills and knowledge is a problem and that the educational system does not contribute much until the level of professional business/management post-secondary programs, and continuing education courses aimed at potential and active entrepreneurs. In the light of the overall goals of innovation growth and sustainability, education for entrepreneurship must be seen as education for innovative entrepreneurship and entrepreneurial thinking applicable in all settings. This has benefits beyond business start-up activity. Such education supports entrepreneurial and

innovative activity in large firms and social entrepreneurship. A good model of educational initiative is the Shad Valley program, which offers summer enrichment for secondary students combining science, engineering and entrepreneurial activities. At the post-secondary level, entrepreneurial thinking should not be limited to business programs but offered broadly across the institution.

Government policies and programs. Expert opinion values government policies and programs, both provincial and federal, as important supports to entrepreneurship and consequently has numerous recommendations for improvement. One significant opportunity highlighted by the experts as a gap is illustrated by the US Defense Department. It has been a major stimulus to innovation and firm growth through procurement. The use of government procurement plays a much smaller role here. For example, one large government jurisdiction is the health care system, which does not have a good record of drawing on innovative young firms.¹⁶ In addition, the experts call for more ‘one stop shopping’ for delivering services to young and growing firms, a reduction in time delays for obtaining necessary authorizations, and support efforts by government to reduce ‘red tape.’ Programs also need to have a clear focus for young and growing firms with criteria that prioritize those with growth potential. Finally, governments have been shown to play a basic role in transformative innovation.¹⁷ In all cases governments accepted up front risks and thus should be willing to do so in the Alberta context.

6. IMPLICATIONS AND CONCLUSIONS

¹⁶ Langford, C. H. (2008). *The Alberta health industries innovation system*. Calgary, Canada: THECIS. Retrieved from <http://www.thecis.ca>

¹⁷ Mazzucato, M. (2015). *The entrepreneurial state: Debunking public vs. private sector myths*. Anthem Press.



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The 2015 GEM Alberta report is available at www.gemcanada.org

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Although GEM data were used in the preparation of this report, their interpretation and use are the sole responsibility of the authors and the GEM Canada team.

In addition to the GEM Alberta report there will be GEM reports for Canada, Ontario, Quebec and Atlantic Canada. They will be available at www.gemcanada.org in due course.

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