

SHARING BEST PRACTICE

Understanding the Canadian Innovation System

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Abstract

The paper reports on the qualitative research of the Canadian innovation systems. Primary method employed for the study is semi-structured expert interviews carried out at Southern Ontario, Alberta and British Columbia universities, science and technology offices, industry and government institutions. Principal assumption and purpose of the study is the useful understanding of the Canadian regional policies for innovation to Lithuania and other emerging economies in the Baltic region and elsewhere. The study aimed to review and identify innovative Canadian policies, which can be held responsible for stimulating and means for sustaining technological innovation and technological entrepreneurship, and to compensate for the inherent draw of the larger developed economies.

Keywords: Canada, innovation system, public policy.

Introduction

Sponsored through the Understanding Canada – Canadian Studies Faculty Research Program of the Government of Canada –in August and September 2011 the author was visiting Canada, more specifically Southern Ontario, Alberta and British Columbia, universities, industry and government institutions, interviewing experts and investigating Canadian provincial innovation policies, handling of intellectual property rights within the Canadian universities and translation of academic knowledge into the economy.

Canada is recognized as an advanced industrial nation with a high per-capita income and highly developed science and technology sector. It is further discernible that Canada flourishes next to very powerful and advanced economy in the United States, what is a common challenge to many emerging economies. Yet Canadian public policies are relatively obscure in the Baltics. Very little is known in Lithuania about Canadian innovation policies. Citation to some Canadian authors and high lever overview in the study of innovation policies is available in

Lithuanian research of innovation systems and related phenomena (Kriaucioniene, 2002).

The Canadian way with the innovation and entrepreneurship is of intense interest for Lithuania and other emerging economies among the Eastern EU Members, which are working on fostering national innovation, modernizing local industries and energizing the university-industry tandem. Innovation and entrepreneurship are central to the economic prosperity and security, as already demonstrated by the existing research (Scherer and Perlman, 1992; Libecap and Thursby, 2008; Carree and Thurik, 2010). Continuing brain drain in the Baltics (and attraction of such countries as Canada), which is assisted by the lack of efficient innovation and entrepreneurial infrastructure in countries like Lithuania, emphasizes the urgent need for innovative public policies in Lithuania.

Added interest in the need to study Canada is exemplified by the Fermentas International Inc. case. Fermentas UAB (now part of Thermo Fisher Scientific), the Lithuanian national champion of technological innovation and technological business, established and operated all its international operations though Canadian venture – Fermentas International Inc.

The study assumed multi-disciplinary qualitative analysis of the phenomena of innovation, technological entrepreneurship and their incentives, focusing on public policies and other tools employed by Canada (e.g. intellectual property support programs, public sponsorship, public venture capital, grants, infrastructure related factors, education, etc.). Primary method employed for the study is semi-structured expert interviews.

Principal assumption and purpose of the study is the useful understanding of the Canadian regional policies for innovation to Lithuania and other emerging economies in the Baltic region and elsewhere. The study aimed to review and identify Canadian approach to stimulating and means for sustaining technological innovation and technological entrepreneurship, and to compensate for the inherent draw of the larger developed economies. Nevertheless, feasibility of replication of the Canadian public policies elsewhere was not evaluated and falls outside of the scope of the study, since it would require much broader

assessment of the socio-economic and enterprise context, as well as careful consideration of the quantitative aspects.

Canada is appropriate target for provincial (regional) layering of the innovation system study due to federal structure of the state, which is inherently promotive of regional policies (Doloreux and Parto, 2005) and predisposed to regional policies influencing national policies (Salazar and Holbrook, 2007). Although, the focus of research project is provincial, it is complemented by the country (federal government policy) level and organization (individual actors within the same province; this especially applies to Southern Ontario) level analysis. Such multidimensionality highlights the diversity of Canadian public policies (deriving from the Canadian federalism) and allows drawing conclusions of relevance to the national level.

Methodology of the study

The study assumed inter-disciplinary inquiry (assessing legal, managerial, policy and other social aspects) into the Canadian innovation systems. The study mainly relied on qualitative data gathered from expert interviews with industry, government and other key informants, representing the main innovation system actors, as well as content, systemic, comparative, teleological and phenomenological analysis of the acquired materials and interview data.

The study was concluded through three principal phases of research activities. The first phase was systematic research of the principal innovation and entrepreneurship development initiatives in the selected Canadian provinces (elaborated in scope below). This phase included analysis of the relevant public policy documents, as well as Canadian scholarly work. The second research phase focused on the comparative analysis of the selected Canadian provinces through direct comparison of institutional structures, policy targets and instruments. The third phase focused on direct in depth interviews of the select Canadian experts, who have benefited from the Canadian innovation/entrepreneurship initiatives or are part of enacting/implementation thereof, as well as cross examination of interviewed experts.

The in depth expert interview method was chosen as the most appropriate qualitative research method according to the design of the study, limited presence of the author in Canada, limited scope of the study, as well as high costs associated with other research methods (Neuman, 2009).

The author personally visited multiple Canadian provinces and established direct (sometimes even informal) contact with people involved with the Canadian innovation/entrepreneurship policies, in order to learn on the inside of the process and latent factors, which are often missed in the formal research reports. Direct visits also allowed operative cross-examination of the interviewees. The choice of Canadian host institutions and experts was based on the involvement in the same research networks and involvement with the enactment or implementation of the innovation policies (or part thereof). Experts were specifically embraced from pertinent government institutions, Startup Incubators/Accelerators, Technology

Development Centers, Technology Transfer Offices, innovative industry.

Overall 31 experts were interviewed. Experts were involved based on experience, positions held, relevance to the object of the study and availability. All experts acknowledged apprehension of the provincial innovation policies, reliable, real and mostly practical experience therewith. Such experts are in position to objectively and critically comment on the real world situation and effects of public policies, and factors influencing them. All experts came directly from the regional innovation systems context, which is the prime requirement for the qualitative research.

In addition to the selection of the experts, the reliability and quality of the research was ensured both through quantity and scope of interviews, as well as through cross-examination of the interviewees (Flick, 2009).

There are five principal issues discussed with the experts for the purpose of the study. No specific questions or interview protocol was adopted, resulting in semi-structured interviews. The five targeted issues are:

1. Comprehension of the Canadian innovation system and what role their institution plays. Competitive advantage of their province/municipality, compared to the other provinces/municipalities.
2. Distinctive features of Canadian innovation system, standout policies of their province and their organization.
3. What public policies are considered most successful or unsuccessful? Is there change in the real economy attributable to the policies employed? What has most contributed to their success and failure?
4. Interprovincial engagement and networks of their organizations. Relationship with the individual actors of the innovation systems (faculty, entrepreneurs, students).
5. Challenges encountered in their sphere of activities.

The provincial-institutional framework structured in Table 1 below was used as the basis for study.

Material and data gathered were processed through high level abstraction analysis, aiming for integrity and objectivity of the research and identification of the basic aspects most representative of the object of the study and reality of the Canadian provinces.

Institutional visits and interviews were based on geographical clustering. Total duration of the research field work in Canada was 31 days.

Key findings of the study

According to scholarly literature Canada had built a modern innovation system by the late 1990s through institutional imitation of the USA and Western Europe, and economic and political restructuring, while keeping its economy open to trade and investment, maintaining a stable macroeconomic foundation, and building institutions (Niosi, Manseau and Godin, 2000). Success of some prominent Canadian champions – Research in Motion or OpenText in Waterloo, Ontario, or AbeBooks Inc. in

Table 1

Framework of research activities in Canada

PROVINCE	INSTITUTION	EXPERTS	REMARKS
Ontario (Toronto)	Federal Trade Commissioner's Office in Ontario	2	Members of the Lithuanian diaspora were also consulted on an informal basis.
	Ontario Ministry of Research and Innovation	3	
	MaRS Centre	1	
	University of Toronto	2	
	Rogers Canada	2	
Ontario (Kingston, London, Kitchener-Vaterloo)	Queens University	2	Communitech and Vaterloo University interviews included representatives of the local business community.
	PARTEQ	2	
	University of Western Ontario	1	
	Communitech	2	
	Vaterloo University	2	
Alberta (Edmonton)	Alberta Ministry of Advanced Education and Technology	2	
	TEC Edmonton,	2	
	University of Alberta	1	
	Alberta Innovates	2	
British Columbia (Kelowna, Vancouver)	University of British Columbia (including University-Industry Liason Office)	5	Requests were made to interview experts from the British Columbia Innovation Council, however interview was referred to Premier's Technology Council instead
	Premier's Technology Council	1	

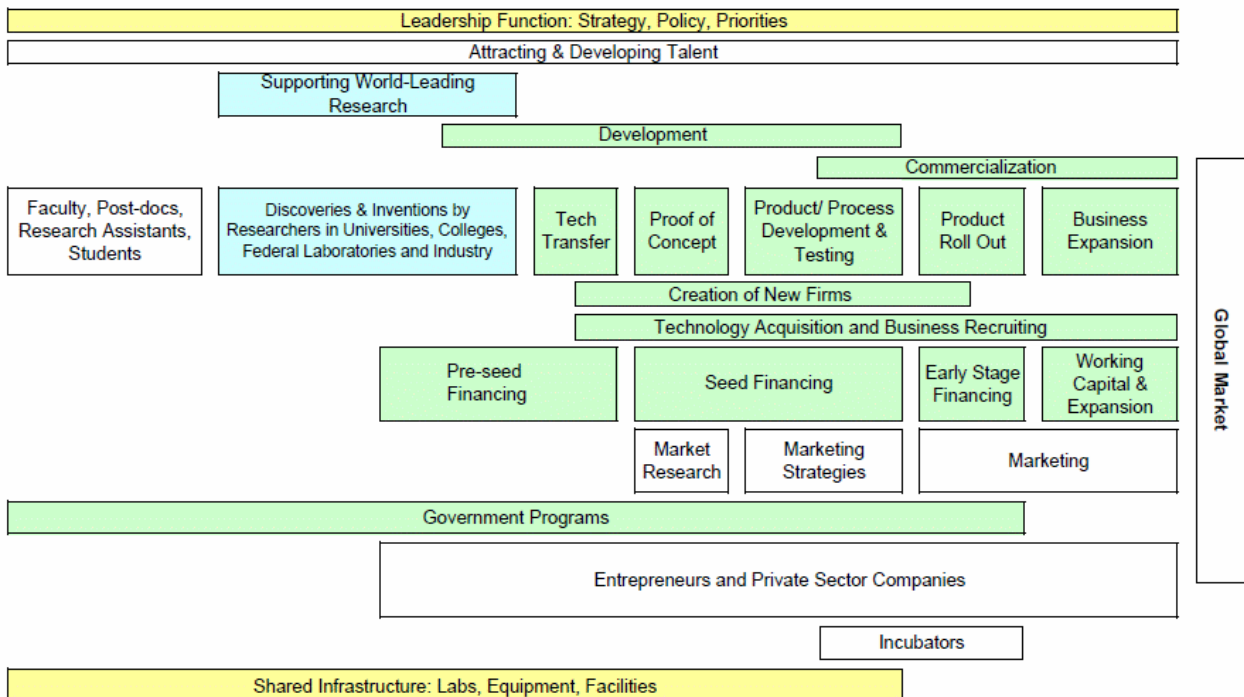


Figure 1. Canada Innovation Roadmap

Victoria, British Columbia – has grown on these foundations.

Over the last decade, Canadian innovation system has been attempting to reinvent itself. In the period from 2006 to 2009, government, higher education, foreign sources and private non-profit sectors all increased their funding for R&D (McFetridge, 2008). The Canadian government has also adopted a host of novel public policies, which stand out as innovative. Canada is taking innovation and translation of academic knowledge into the economy as a top policy priority, especially since it is acknowledged weakness. The new approach already pays some dividends – business-financed R&D performed by universities has grown substantially in Canada, especially since the early 1990s (STIC-CSTI, 2008, 2010).

The Canadian Science, Technology and Innovation Council in 2009 has developed a roadmap that outlines the following key elements as the pillars of the Canada’s innovation system:

- attracting and retaining talent;
- supporting world-leading research; and
- transforming discoveries into commercial success.

While the innovation system is recognized as a fluid and dynamic process that is not necessarily sequential in nature, the roadmap is depicted as linear for simplification purposes (Figure 1).

This ‘Canadian Innovation Roadmap’ illustrates the interconnected and complex nature of the innovative process, while also demonstrates that policy and government programs play essential role throughout most of the innovation phenomena.

Canadian governmental policies over the last decade have steered substantial and increasing resources to the Canadian universities and business support infrastructure.

Diversified instruments ranging from tax incentives to sophisticated public infrastructure for technology businesses are employed (STIC-CSTI, 2010).

Nearly 2 percent of Canada’s GDP is allocated to research and development (R&D), which fits it just above the OECD 2008 average, although it lags the G7 average. Notably and similarly to Lithuania, Canada remains in first place in the G7 in the proportion of citizens with an education beyond high school. Canada has one of the most generous R&D tax credit programs in the world, not unlike Lithuania. Yet Canada is below the OECD average in terms of business expenditures on research and development. Similarly to Lithuania, in 2009 most of the Canadian R&D was performed by the public universities and research centres, however universities are increasingly working with industry in Canada. University performed R&D was 6.3 percent of total business funded R&D. Canada is near the top of the OECD (Figure 2), and ranks number one in the G7, in terms of higher education research and development (HERD) as percentage of GDP. This is an evidence that Canadian public policies are steering the universities towards cooperation with the industry.

Imbalances in Canada are attempted to be resolved through public policies, what makes Canada an important case to study for Lithuania, which faces many of the same imbalances.

Distinctive features of the Canadian innovation system deserve special scrutiny.

Canada’s innovation policies are rather prominently government driven. There is a strong push from the government at all levels for the businesses and academia to pursue innovation.

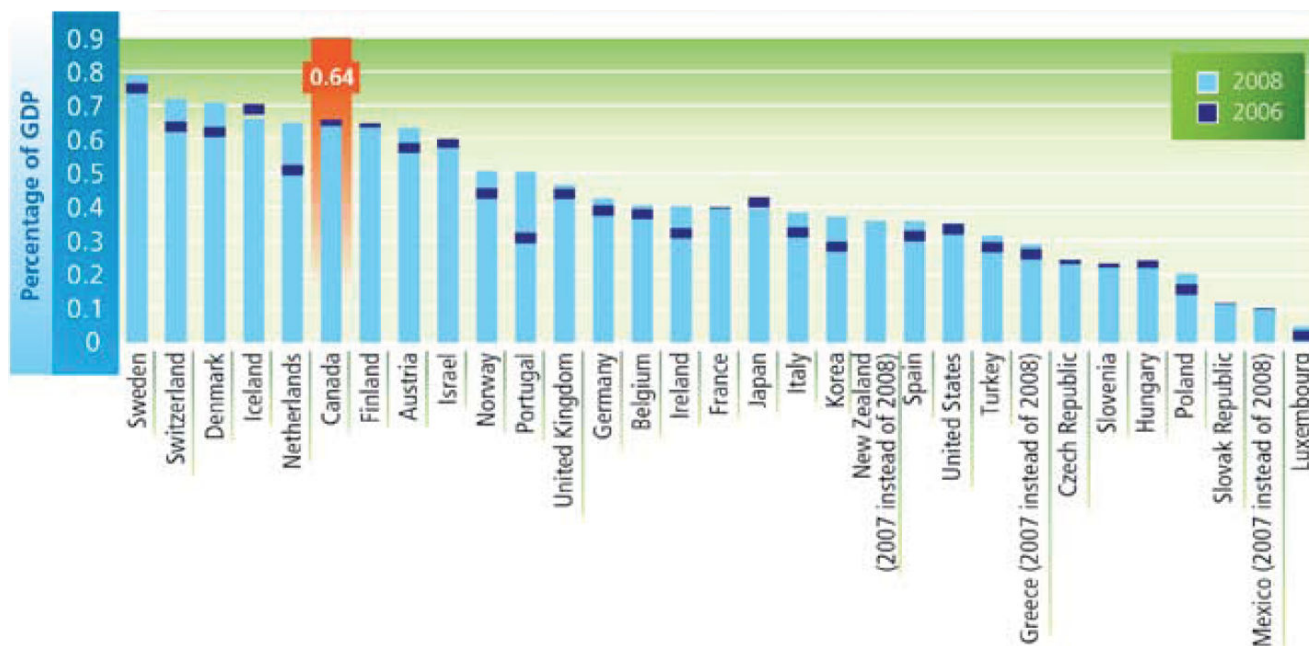


Figure 2. Higher education research and development (HERD) as a percentage of GDP (Source: OECD, Main Science and Technology Indicators, 2010.)

Ontario and Alberta are especially dedicated through specialized high-ranking agencies - Ontario Ministry of Research and Innovation and Alberta Ministry of Advanced Education and Technology overseeing public policies pertinent to innovation. In British Columbia the issue is also taken by the provincial government directly through the specialized and independent governmental advisory bodies – Premier’s Technology Council and British Columbia Innovation Council. It is also important to note that all major research universities in Canada are public.

Nevertheless, business-government tandem is expressly put at the core of many instruments. Public venture capital funds, which are original Canadian public policy invention, are a good example, since they are essentially co-investment vehicles matching the private capital. It is also notable that most grant and innovation advisory agencies in Canada are headed by people coming from business background. Established business leaders stand at the source of many innovation infrastructure initiatives (MaRS, Communitech), or run key government agencies (Alberta Innovates, BC Premier’s Technology Council). Emphasis on the business-government tandem at all stages of governance was mentioned by all interviewed experts as a key feature of the Canadian innovation systems.

Based on the federal construction of the Canadian state, innovation is supported at both federal and provincial

(in some cases also at a municipal) level. Even though at first sight it makes the innovation system overly complicated, and beneficiaries of the system are sometimes confused by overlapping support instruments and agency competences (Doloreux, 2004), it also offers an unique advantage – a second and sometimes even a third chance for a persistent project. In most smaller economies innovation support systems struggle with the insufficiency of impartial competences needed for evaluating support applications, which often results in incompetent assessment of applications, and established targets being favored at the disadvantage of the novel/innovative and hence less known (arguably riskier) targets. Two (or three) tier support system allows a second chance for the same application and hence increases its chances of getting support. It increases chances that truly disruptive project will get noticed by the system. Thus, overlapping federal and provincial instruments are benefiting Canada in an extraordinary way, which is simply not available for many other countries. On the other hand such overlap increases efficiency related risks (McFeridge, 2008), separately analyzed below.

Structurally the Canadian innovation system is characterized by multi-layers of government support, emphasis on public-private partnership and very strong role of local champions. Structurally the actors of Canadian innovation system can be represented in Figure 3.

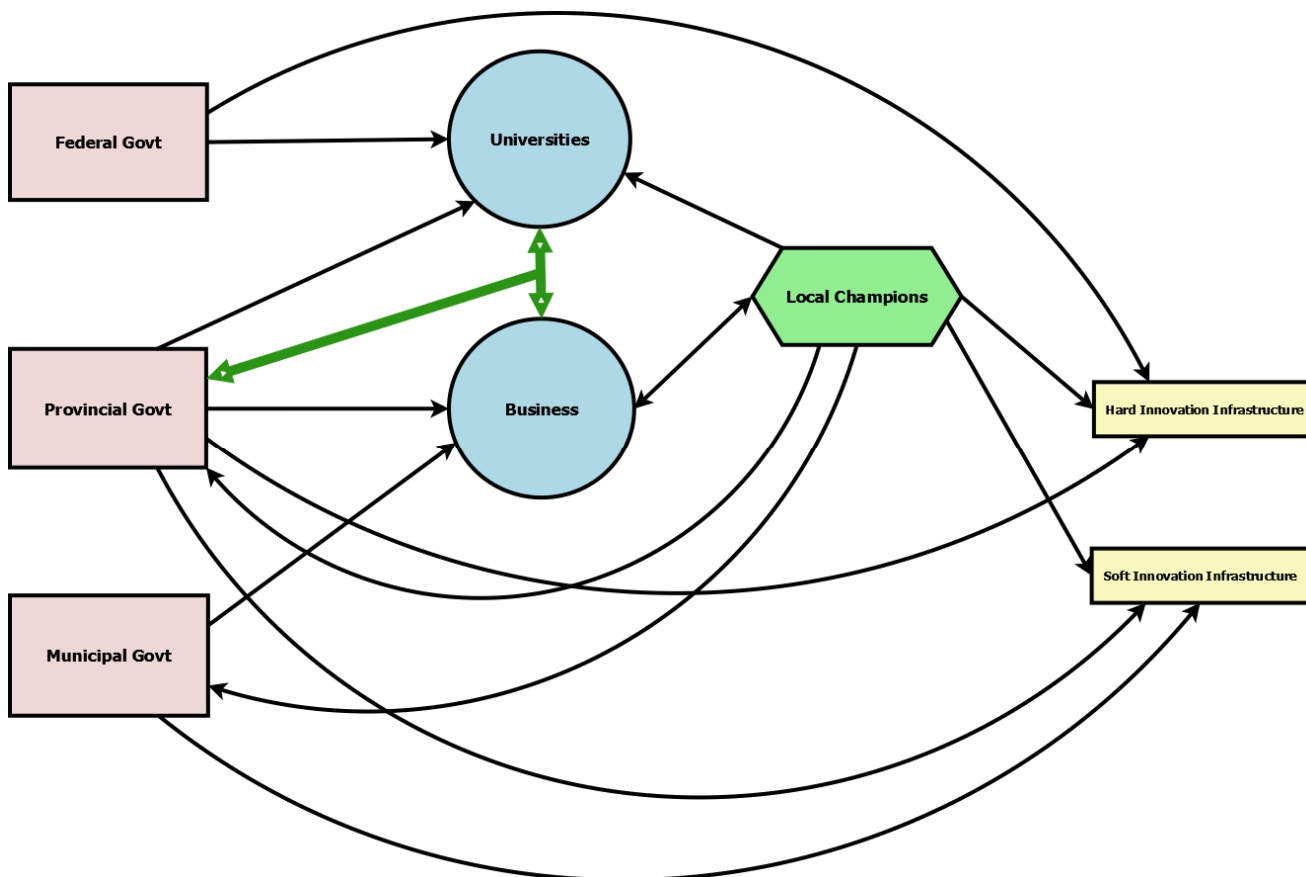


Figure 3. The actors of Canadian innovation system

Yet another benefit of Canadian federalism is a healthy provincial competition as well as variety of different policies and approaches. Canadian federal innovation support programs (e.g. excellence centers) force certain level of valuable cooperation and intellectual resource pooling among the provinces and inside the provinces. Intellectual resource pooling and forcing academic cooperation plays a role in increasing efficient use of public capital and infrastructure for research and development. Excellence centers are set out across Canada, avoiding overlap in scientific and business fields.

They draw researchers and faculty from different academic institutions and enable research collaborations, rather than competition among different institutions and researchers. As it was noted, provincial programs also emphasize collaborations, especially industry-academia type (Niosi, 2008).

According to the expert input, federalism also causes that many important issues in Canada are approached through very different ways, even within the same province. A good example is faculty and university (research institution) ownership of intellectual property rights or technology transfer model where you can find a whole palette (even within Southern Ontario). Universities of Waterloo or Queen's University lead the inventor owned policies, while University of Toronto or University of British Columbia pursue institution owned approach. Technology transfer functions are carried by an independent business-like entity (PARTEQ), quasi-independent structure (TEC Edmonton) or integral university unit (UBC University-Industry Liaison Office). Such variety allows different academic/research cultures to thrive and in a longer run allows the successful model to emerge naturally (measuring success/failure for these instruments may need a record of at least few decades). It also allows quick experimentation and fast take of different instruments and policies, what is big advantage (public policies are notably slow to translate into real world). Based on analysis of all gathered material, it is likely that the approach is rooted in the Canadian multiculturalism and university autonomy tradition.

Multicultural background makes innovation system actors to be more appreciative and receptive about the experience in other countries, with whom they have cultural association (e.g. Alberta Innovates collaborates closely with TEKES (Finland), based on influences in the management background and some natural parallels). Nevertheless most experts emphasized that Canada is not focused to repeat 'successful' 'best practice' policies of the other countries, i.e., there is a clear understanding that good practices in innovation system are context specific and follower's fortunes are not assured in any way.

Despite aforesaid multi-way policies, Canada mainly pursues integrated technology transfer or broad encompassing science-technology park model. Technology transfer functions are integrated with grant distribution, business incubators/accelerators, contract research coordination, as well as faculty entrepreneurship instruments (UBC) and even student entrepreneurship initiatives (Communtech). Specifically Communtech is implementing student aimed entrepreneurship program -

VeloCity, which integrates closely with the study programs offered by Waterloo University, facilitates cross-disciplinary student cooperation and aims to prevent entrepreneurial students from dropping-out or detaching from the university, while also enabling local society and university to benefit from the startup culture and economic gains. Vibrant seed and venture capital community and local champion (coming from a business background) leadership were mentioned as the key success factors for the broad encompassing science-technology park model. Communtech example offers best evidence for this, since Communtech has facilitated tech company financing totalling more than \$500 million and the emergence of 164 new digital media companies during the first year of The Communtech Hub's operation alone. It is notable, that broad encompassing science-technology park model has been very recently gaining scientific recognition in Lithuania (Leichteris, 2011), although has yet to make inroads into public policy.

Broad encompassing science-technology park model enables much stronger institutions, ensures more consistent operating resources, allows capturing social spill-overs and secondary benefits of technology transfer, and cross-subsidy of different activities (tech transfer is notably slow to generate returns, thus, resources can be allocated to other activities if primary activity is slow). Integrated technology transfer institutions are better fit to exploit flexibility in translating technologies/knowledge and are not limited to pre-fixed translation vehicles (e.g. university relationship with the translation enterprise is not pre-fixed to equity or licenses). Some experts from technology-transfer background have suggested that broad encompassing science-technology park model ensures that innovators are voluntarily attracted to translate their technologies through existing infrastructure, and economic returns are maximized for every party involved (including the individual innovators and even public at large), rather than seeking to commercialize their work independently. There is also some tolerance of independent (or even rogue) translation. Finally, all technology transfer institutions in Canada seem to be very well networked and concentrated at a province level (Salazar and Holbrook, 2007).

Long term return horizon is another noteworthy feature. The Canadian provinces seem not to be discouraged by the prospect of delayed returns. Very broad metrics, based on broader economic impact, rather than project ROI, patents or startup numbers, are used by all surveyed Canadian provinces (STIC-CSTI, 2010). Some of the innovation instruments are completely open-ended and are not expected to yield any measurable return. Innovation vouchers aimed at academic entrepreneurship and pioneered by Alberta Innovates are a good example of open ended government driven Canadian public policy innovation. While there is criticism of such approach as inefficient (McFetridge, 2008), some experts shared a view that retaining talent, startup culture and startup creation are very important secondary effects, which elude formal metrics and require open-ended support.

Business friendliness and risk tolerance of Canadian public administration in both tolerating no short term

financial return and experimenting with different approaches are represented in most innovation policies and instruments.

Quite a few innovation initiatives in Canada are reasonably new (put in place within the last 5 years) – e.g. MaRS or Alberta Innovates), however by drawing on all of the above features they are already generating success. Differently enviable are successes of smaller Canadian institutions, e.g. the Communitech/University of Waterloo or PARTEQ/Queen's University, which in addition to the systemic factors, also seem to be due to energized academic-business communities, strong local championship in their respective regions, as well as utmost focus on research and academic excellence.

Although the impression of the Canadian innovation system left the author is overwhelmingly positive, the study also identified some important challenges that Canada is facing. Significant resources that are made available in Canada for research and development increase efficiency related risks and science failure risks. Canadian science and education budgets have been consistently and significantly increasing in the last decade (STIC-CSTI, 2008, 2010). Risks that public resources will be burned through may need to be more expressly and systemically managed. This is where Canada may benefit in learning from smaller resource boot-strapped countries. Current overall success makes it difficult to measure the role of innovative public policies and identify the most successful, especially due to increasing background public investment into higher education, research and development (compared to austerity in most of the remaining developed economies). Therefore testing Canadian invented public policies in other countries may produce valuable feedback for Canada itself.

Heavy public investment into science (including basic science) or so called 'Science Push approach' is also criticized by the insiders. In a 2008 report from the Institute of Public Policy Research, they declared 'Science-Push Approach to addressing Canada's innovation gap not only wrong, but backward' (McFetridge, 2008). This is very important note for countries like Lithuania, where despite very limited and small (compared to Canada) resources are put at the disposal of public policies favouring 'Science Push approach'.

Canada also pursues heavy public investment into basic research, which is inherently risky. Combined with conservative private capital and early translation of Canadian university innovation (efficient technology transfer), it produces a risk that the bulk of the value from technologies developed in Canada based on public infrastructure and public capital, will be captured elsewhere. Technology absorption capacity among Canadian businesses may need more attention in the innovation public policy. More than half of the interviewed experts as well as 2010 report acknowledged that Canadian firms are characterized by the 'a weak receptor capacity for spotting and using R&D or inadequate consideration of innovation opportunities in corporate strategies' (STIC-CSTI, 2010).

Regardless of relative novelty, as well as said innovativeness, there is no lack of understanding inside of

Canada that Canadian innovation system needs to evolve further. As it was aptly concluded in the State of the Nation 2010 – Canada's Science, Technology and Innovation System – Report – 'Current best efforts are not getting [Canada] to where [it] want[s] to be. Looking ahead to a period of government restraint around the globe, Canada has the best opportunities to move forward provided industry seizes leadership in doing so. The job of those who partner with industry (including governments and higher education and research institutions) is to enable performance gains by adapting, consolidating and simplifying the policy instruments and mechanisms for collaborating with the private sector on innovation.' Such critical self-reflection and sincere self-assessment seems like the most important virtue of the Canadian public policy, which can be especially envied from the perspective of the Baltic countries.

Conclusions

The study has demonstrated a very positively dynamic Canadian innovation field, which is undergoing a period of inventing and experimenting with novel public policies. Lack of understanding of unique Canadian situation would make improper judgment of Canadian public policies, therefore the study is proud to be the first coverage of the Canadian public policies on innovation in the Baltics.

Canadian innovation systems are rather representative of the federalist structure of the state and are delineated by the governmental policies. Nevertheless they assign very important role to public private partnerships (academia-business) and surprisingly depend on the individual championship. To Canada's advantage the system is very diverse, flexible, receptive and tolerant to all sorts of innovative activities and approaches, as it is not strained by strict formal metrics and enjoys increasing funding. This is a bit unfortunate from the point of view of the outsider, since in this environment it is very difficult to identify (and to copy) specifically successful public private partnership (academia-business) vehicles and forms.

The study has highlighted two biggest challenges for Canada in the 'Science Push' approach, which consumes major public resources, and inadequate technology absorption among Canadian businesses.

Overall, the study may credit innovative public administration in Canada for stimulating and sustaining technological innovation and technological entrepreneurship, and compensating for the draws of the larger US economy.

Principal public policy instruments of interest for emerging Baltic economies currently are second chance grant approach, broad encompassing science-technology park model, handling of university intellectual property and student entrepreneurship initiatives, since these instruments are for the most part independent from public funding. Due to this reason, central role of the individual champions in Canada, especially in governing Canadian innovation institutions, also deserves added public policy attention in the Baltics.

The study also identified two areas where sharing of expertise would benefit Canada as well. They are

managing the risks of public resources efficient use and tapping into feedback from same public policies applied elsewhere, which would allow rapid development and improvement. There are clear mutual benefits for the Baltics and Canada to investigate their innovation systems and exchange public policy ideas. The author is looking forward at sparking discussions and promoting stronger economic, academic and research ties between Canada and the Baltic Europe.

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M. Kiškis

Kanados inovacijų sistemos įžvalgos

Santrauka

Straipsnyje pristatoma Kanados inovacijų sistemos studija, kurios pagrindas - kokybinis Pietų Ontario, Albertos ir Britų Kolumbijos universitetų, mokslo ir technologijų įstaigų, verslo ir valstybės institucijų tyrimas. Tyrimo *metodas* - iš dalies struktūruotas ekspertų interviu. Tyrimo *tikslas* - atskleisti Kanados regioninės inovacijų politikos naudą Lietuvai, taip pat kitoms Baltijos regiono ir pasaulio valstybėms, kurios pasižymi kylančiu ekonomikos lygiu. Tyrimu siekiama identifikuoti, kokių būdu Kanados inovacijų politika skatina remti technologines inovacijas ir technologinį verslumą, kokias priemones pasirenka, kad padėtų atsispirti natūraliai didesnių išsivysčiusių šalių ekonomikos traukai.

Tyrimas atskleidė labai pozityviai dinamišką Kanados inovacijų erdvę, kurioje šiuo metu eksperimentuojama pasirenkant naujas viešosios politikos kryptis. Šis tyrimas yra pirma išsami Kanados viešosios politikos inovacijų srities analizė, skirta Baltijos šalių problematikai. Pirmą kartą išsamiai analizuojamos ir Kanados patirties perėmimo galimybės.

Kanados inovacijų sistemos - viešosios politikos dalis - atspindi federalinę valstybės santvarką, tačiau ypač svarbus vaidmuo skiriamas viešojo ir privataus sektorių partnerystei (universitetų ir verslo), kuri stebėtinai priklauso nuo individualių lyderių. Kanados inovacijų sistemos pranašumas – didelė įvairovė, lankstumas, imlumas ir tolerancija bet kokiai inovacinei veiklai bei požiūriams. Sistema nėra suvaržyta griežtu formalumo rėmu ir gauna vis didesnę finansavimą. Tai nėra labai paranku perimamumo požiūriu, nes tokioje aplinkoje labai sunku identifikuoti (ir tuo labiau perimti) konkrečius sėkmingus viešojo ir privataus sektoriaus (universitetų ir verslo) bendradarbiavimo instrumentus ir formas.

Tyrimas Kanadoje išryškino du didžiausius iššūkius: mokslo pasiūlos (angl. – *Science Push*) kryptyje gali būti neefektyviai naudojami itin dideli viešieji išteklių; Kanados verslas nepakankamai gerai įsisavina universitetų generuojamas technologijas. Kita vertus, plinta Kanados aukštųjų mokyklų ir pramonės įmonių bendradarbiavimas. Prie to daug prisideda inovatyvi viešoji inovacijų politika. Apskritai tyrimas leidžia daryti išvadą, jog Kanados viešoji inovacijų politika yra esminis veiksnys, prisidedantis prie technologinių inovacijų ir technologinio verslumo skatinimo ir išlaikymo bei didesnės JAV ekonomikos traukos kompensavimo.

Pagrindinės Baltijos valstybėms aktualios Kanados viešosios inovacijų politikos kryptys yra „dvigubo šanso“ paramos moksliniams tyrimams ir verslui sistema, platus mokslo ir technologijų parko modelis, universitetų intelektinės nuosavybės tvarkymas pirmenybę teikiant autoriui ar išradėjui; taip pat studentų verslumo iniciatyvos, nes visos šios priemonės beveik nepriklauso nuo viešojo finansavimo. Esminis individualių lyderių vaidmuo, ypač vadovaujančiose Kanados inovacijų įstaigose, taip pat nusipelno didesnio Baltijos valstybių viešosios politikos dėmesio.

Raktiniai žodžiai: Kanada, inovacijų sistema, viešoji politika.

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