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The Growth of Vancouver as an Innovation Hub: Challenges and Opportunities

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THE GROWTH OF VANCOUVER AS AN INNOVATION HUB: CHALLENGES AND OPPORTUNITIES

CAMDEN HUTCHISON[†] & LI-WEN LIN[‡]

I. INTRODUCTION

Vancouver, British Columbia—known for its temperate climate, mountainous scenery, and progressive urban politics—has emerged in recent decades as a dynamic entrepreneurial hub. Dubbed “Silicon Valley North”,¹ Vancouver ranks highly in international startup rankings² and was recently selected by the federal government as one of five “innovation superclusters”.³ Members of the local startup community describe

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¹ See e.g. Tamsyn Burgmann, “How Vancouver is Becoming Silicon Valley North”, *The Globe and Mail* (10 August 2014) S1. Vancouver competes for the title of “Silicon Valley North” with Ottawa, Toronto, and the country of Canada itself. In the Vancouver context, “Silicon Valley North” plays on “Hollywood North”—a common term for Vancouver’s film and television industry.

² See e.g. *StartupBlink Startup Ecosystem Rankings Report* (StartupBlink, 2020); *Global Startup Ecosystem Report* (Startup Genome, 2020).

³ The Innovation Superclusters Initiative is a funding partnership between the federal government and private industry pursuant to which five regions have been selected for the development of industry-specific business and technology networks. Vancouver was

Vancouver as “a vibrant early-stage ecosystem,”⁴ “a super exciting market, a super exciting opportunity,”⁵ and “one of the fastest growing tech ecosystems in the world”⁶—an image projected by local companies to attract talent and investment capital. By all accounts, Vancouver would appear to be one of the most entrepreneurial cities in North America.

The reality is more complicated, however. Although Vancouver performs well compared to other Canadian cities, it lags many US cities in terms of number of startups, amount of venture capital, and creation of intellectual property. Unsurprisingly, the number of startups in Vancouver pales in comparison to Silicon Valley, the world’s leading entrepreneurial hub. Even when adjusted for population, however, Vancouver also trails its southern neighbor Seattle, as well as secondary US tech hubs such as Denver, Austin, and Raleigh-Durham-Chapel Hill. Like many Canadian cities, Vancouver struggles with “scaling” startups into large, profitable companies, which is an important driver of economic growth.⁷ Given Vancouver’s many advantages (including its desirable locale, open culture, and strong research universities), the city may be failing to realize its full potential.

selected as the Digital Technology Supercluster. See “Digital Technology Supercluster”, online: *Canada’s Digital Technology Supercluster* <www.digitalsupercluster.ca/>.

⁴ See Kate Wilson, “Vancouver’s Diverse Tech Portfolio Fueling Ecosystem’s Growth” (9 August 2018), online: *BetaKit* <betakit.com/vancouver-diverse-tech-portfolio-fuelling-ecosystems-growth/>.

⁵ See Kate Wilson, “Why so Many Silicon Valley Companies are Moving to Vancouver” (2 July 2019), online: *The Georgia Straight* <straight.com/tech/1261681/why-so-many-silicon-valley-companies-are-moving-vancouver>.

⁶ Raghwa Gopal, “Five BC Tech Startups that are Ready to Change the World”, online: *Daily Hive Venture Vancouver* <dailyhive.com/vancouver/bc-tech-startups-growing>.

⁷ See e.g. Statistics Canada, *The Distribution of Employment Growth Rates in Canada: The Role of High-Growth and Rapidly Shrinking Firms*, by Jay Dixon & Rollin Anne-Marie, in *Economic Analysis Research Paper Series*, Catalogue No 11F0027M, no 91 (Ottawa: Statistics Canada, May 2014); Magnus Henrekson & Dan Johansson, “Gazelles as Job Creators: A Survey and Interpretation of the Evidence” (2010) 35:2 *Small Bus Econ* 227; Pierre Lortie, *Entrepreneurial Finance and Economic Growth: A Canadian Overview* (Toronto: CD Howe Institute, 2019) at 24–26.

This article examines legal explanations for Vancouver's entrepreneurial performance. There is a broad literature within the fields of law, economics, sociology, and history connecting legal institutions to innovation and entrepreneurship. Many scholars have emphasized law's importance to the formation and growth of innovative firms. Beginning with the work of James Willard Hurst,⁸ scholars have viewed legal structures as facilitative (or inhibitive) of risk taking, investment, and technological innovation. Recent scholars including Douglas Cumming,⁹ Michael Ewens and Joan Farre-Mensa,¹⁰ Ronald Gilson,¹¹ Josh Lerner,¹² Jeffrey MacIntosh,¹³ J Ari

⁸ James Willard Hurst, *Law and the Conditions of Freedom in the Nineteenth-Century United States* (Madison: University of Wisconsin Press, 1956); James Willard Hurst, *Law and Economic Growth: The Legal History of the Lumber Industry in Wisconsin, 1836–1915* (Madison: University of Wisconsin Press, 1964). Hurst's thesis was that 19th century American law channeled and released the productive energies of the American population.

⁹ See e.g. John Armour & Douglas J Cumming, "The Legislative Road to Silicon Valley" (2006) 58:4 *Oxford Econ Papers* 596 [Armour & Cumming, "The Legislative Road"]; Douglas J Cumming, "Measuring the Effect of Bankruptcy Laws on Entrepreneurship Across Countries" (2012) 16:1 *J Entrepreneurial Fin* 80; Douglas J Cumming & Dan Li, "Public Policy, Entrepreneurship, and Venture Capital in the United States" (2013) 23 *J Corp Fin* 345.

¹⁰ See e.g. Michael Ewens & Joan Farre-Mensa, "The Deregulation of the Private Equity Markets and the Decline in IPOs" (2020) 33:12 *Rev Fin Stud* 5463.

¹¹ See e.g. Ronald J Gilson, "The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete" (1999) 74:3 *NYU L Rev* 575 [Gilson, "The Legal Infrastructure"].

¹² See e.g. Paul Gompers & Josh Lerner, "The Use of Covenants: An Empirical Analysis of Venture Partnership Agreements" (1996) 39:2 *J Law Econ* 463; Josh Lerner, "The Future of Public Efforts to Boost Entrepreneurship and Venture Capital" (2010) 35:3 *Small Bus Econ* 255; Josh Lerner & Antoinette Schoar, *International Differences in Entrepreneurship* (Chicago: University of Chicago Press, 2010); Josh Lerner & Joacim Tåg, "Institutions and Venture Capital" (2013) 22:1 *Indus Corp Change* 153.

¹³ See e.g. Jeffrey G MacIntosh, "Tantalus Unbound: Government Policy and Innovation in Canada" (2012) 5:8 *The School of Public Policy Publications*, University of Calgary 1.

Pandes,¹⁴ and many others have explored relationships between specific areas of law and the prevalence and success of entrepreneurship. According to these authors, laws regarding taxation, labour, insolvency, corporate finance, and immigration can have a significant impact on entrepreneurship, both within and across jurisdictions. The implication of this research is that jurisdictions can promote entrepreneurship by enacting more efficient laws.

This article contributes to the literature on law and entrepreneurship by comparing Vancouver to analogous regions in the United States—most notably Silicon Valley. We focus on Vancouver due to its similarities with northern California in terms of geography,¹⁵ political culture,¹⁶ and financial/institutional history.¹⁷ As the laws that affect Vancouver startups are both federal and provincial, our analysis focuses primarily on federal and British Columbia law. Our results are not limited to Vancouver however: given the substantial homogeneity of Canadian provincial law,¹⁸ our findings have implications for the entire country of Canada.

Our comparison reveals that legal differences between Canada and the United States cannot explain differences in startup activity.¹⁹ Not only are

¹⁴ See e.g. J Ari Pandes, Michael J Robinson & Bryce C Tingle, “The IPO Market in Canada: What a Comparison with the United States Tells Us About a Global Problem” (2013) 54:3 *Can Bus LJ* 321; J Ari Pandes & Michael Robinson, “Is Effective Junior Equity Market Regulation Possible?” (2014) 70:4 *Fin Analysts J* 42.

¹⁵ Vancouver is the westernmost of Canada’s major cities, with a mild Pacific climate. It shares the same time zone with California, an important factor for business and investment connections.

¹⁶ Vancouver is often regarded—accurately or not—as one of Canada’s most progressive cities.

¹⁷ Similar to San Francisco, Vancouver lies distant from the traditional financial centers of eastern Canada. Much of the personal wealth in Vancouver is held in the form of real estate.

¹⁸ See e.g. Camden Hutchison, “Pluralism and Convergence: Judicial Standardization in Canadian Corporate Law” (2021) 58:1 *Osgoode Hall LJ* 163. Note that Quebec, a civil law jurisdiction, is a (partial) exception.

¹⁹ Although our analysis of provincial law focuses on British Columbia, the legal environment in Canada is similar across the provinces. Much of our analysis applies

the two countries' laws similar, the differences that exist are not consistently in the US's favor. We therefore offer an alternative explanation for disparities in startup activity: Rather than differences in law, the variance in entrepreneurship between Canada and the United States is due to broader institutional factors, including underdeveloped business networks, a lack of Canadian venture capital, and "brain drain" to the United States. Although certain of these challenges are amenable to policy reform, others are an inevitable result of the size of the US economy. Given this economic reality, the best strategy for strengthening the Vancouver startup economy may be greater integration with the United States.

This article is organized as follows. Part II presents statistical data on the Vancouver startup economy. These data show that while Vancouver produces more startups and receives more venture capital investment per capita than other Canadian cities, it underperforms many US cities on equivalent metrics. Part III compares Canadian and US law in the areas of tax, securities, corporate law, labour, bankruptcy/insolvency, trade policy, and immigration. We argue that, taken as a whole, none of these areas explain Vancouver's weaker economic performance. Part IV suggests alternative institutional explanations. Part V concludes by summarizing our findings and presenting specific policy recommendations.

II. DATA ON THE VANCOUVER STARTUP ENVIRONMENT

The best means of comparing startup regions is by analyzing empirical data. In this Part II, we use original data to compare Vancouver to other major tech hubs—including US regions such as Silicon Valley and Canadian cities such as Toronto and Montreal²⁰—in terms of startups, venture capital, and technological innovation. For the majority of our analysis, we use business

equally to Ontario, for example (though perhaps less so to Quebec, a civil law jurisdiction).

²⁰ Unless otherwise noted, our analysis is based on metropolitan area rather than municipality. Thus, "Silicon Valley" includes the entire San Francisco-San Jose valley, while "Vancouver" includes the entire lower mainland of British Columbia.

and financial data collected from Crunchbase, a widely used commercial data source.²¹ Other data sources are specifically cited when used.

A. STARTUPS AND VENTURE CAPITAL

Figure 1 shows that over the last decade, more than 2,000 startup companies were founded in Vancouver—more than Montreal, but fewer than Toronto.²² Although Vancouver trails Toronto in total number of startups, it exceeds Toronto on a population basis. Figure 2 shows that Vancouver has an annual average of 8.46 startups per 100,000 residents, while Toronto has had only 7.75 startups per 100,000 residents.

²¹ Crunchbase is a leading source of venture capital and private equity data. According to our research, at least 251 academic journal articles, 921 magazine articles, and 188 industry reports have used Crunchbase data. In Crunchbase’s “Companies” database, we filtered on “Founded Date” and “Headquarters Location” to identify companies established during the period of 2010–2019 in each metropolitan region. In Crunchbase’s “Funding Rounds” database, we filtered on “Organization Location,” “Founded Date,” and “Announced Date” to collect funding data. The definition of each funding type (e.g., “venture capital”) can be found at Crunchbase Product Team “Glossary of Funding Types” (last updated 23 May 2021), online: *Crunchbase* <support.crunchbase.com/hc/en-us/articles/115010458467-Glossary-of-Funding-Types>.

²² Our startup figures are necessarily estimates, as we cannot be certain that Crunchbase includes all startup companies.

Figure 1: Total Number of Startups (est.), 2010–2019

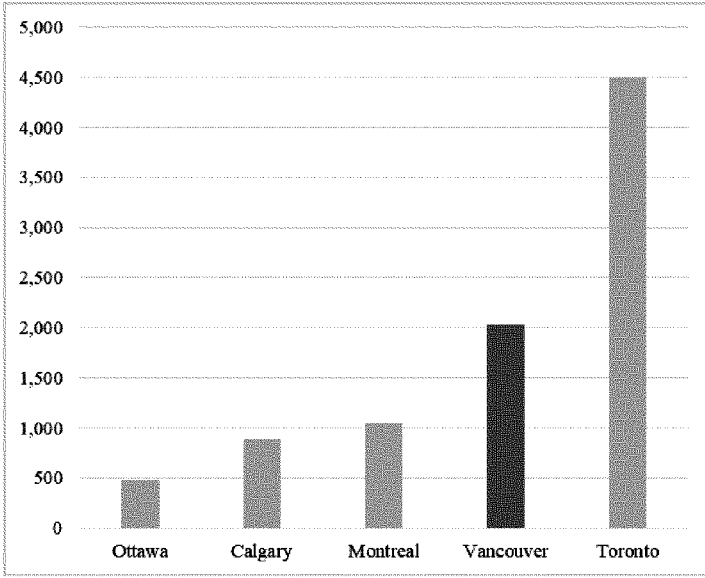
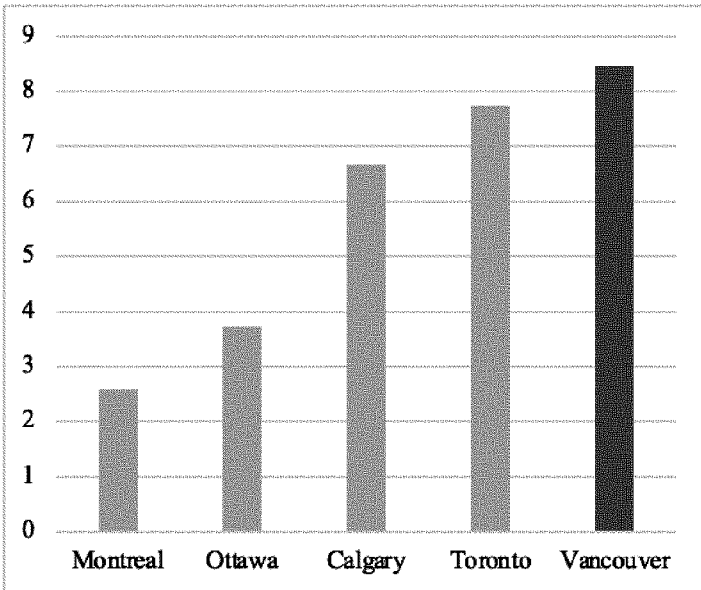
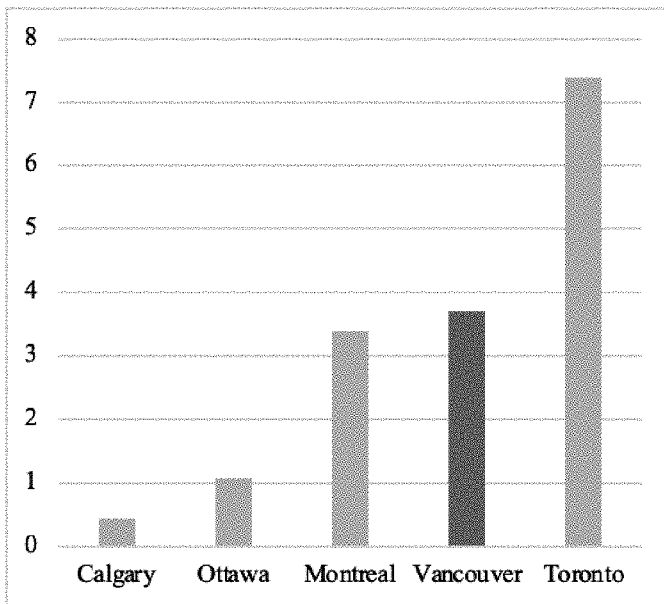


Figure 2: Average Annual Number of Startups Per 100,000 Residents (est.), 2010–2019



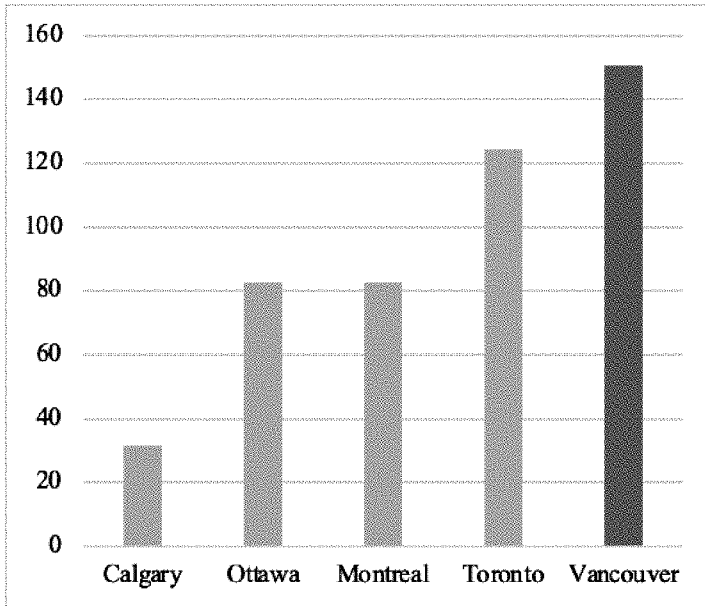
In addition to number of startups, the amount of venture capital investment is another important indicator. Figure 3 shows that from 2010 to 2019, over US\$3.7 billion of venture capital was invested in Vancouver. Again, while this is less than Toronto, Vancouver comes out ahead on a population basis. Figure 4 shows that Vancouver has seen an annual average of US\$150.60 in venture capital investment per capita, the most of any major city in Canada.²³

Figure 3: Total Venture Capital Investment, 2010–2019 (billion US\$)



²³ The Canadian city with the greatest amount of venture capital investment per capita is Waterloo. However, Waterloo is significantly smaller than the other cities in our figures.

Figure 4: Average Annual Venture Capital Investment Per Capita, 2010–2019 (US\$)



Vancouver's record is less impressive compared to cities in the United States. Figure 5 shows that Vancouver's startup creation rate is only 30% Silicon Valley's. This is not necessarily surprising, as Silicon Valley is by far the world's leading startup region. As Figure 5 also shows, however, Vancouver has a lower rate than several US cities. The gap is even wider with respect to venture capital investment. Figure 6 shows that Vancouver's venture capital investment per capita (US\$150.60) is only 39% of Denver's (US\$383), 30% of Seattle's (US\$494), 25% of Austin's (US\$607), and 4% of Silicon Valley's (US\$3,743).

Figure 5: Average Annual Number of Startups Per 100,000 Residents (est.), 2010–2019

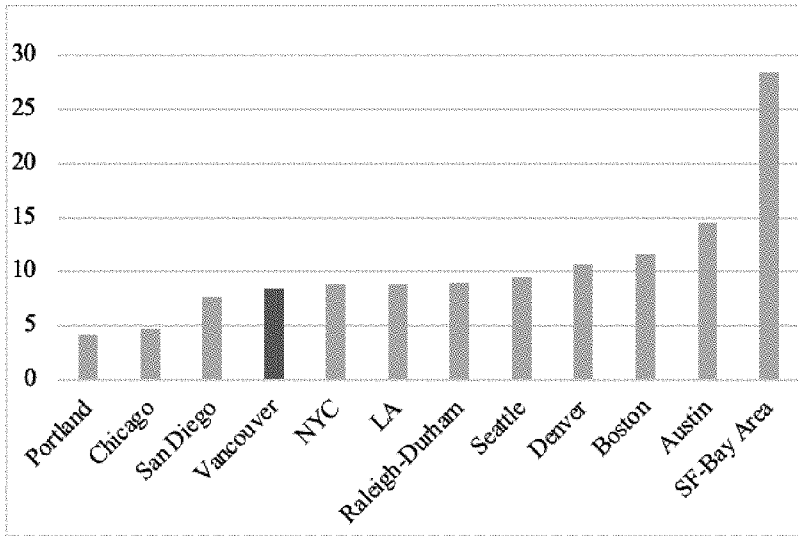
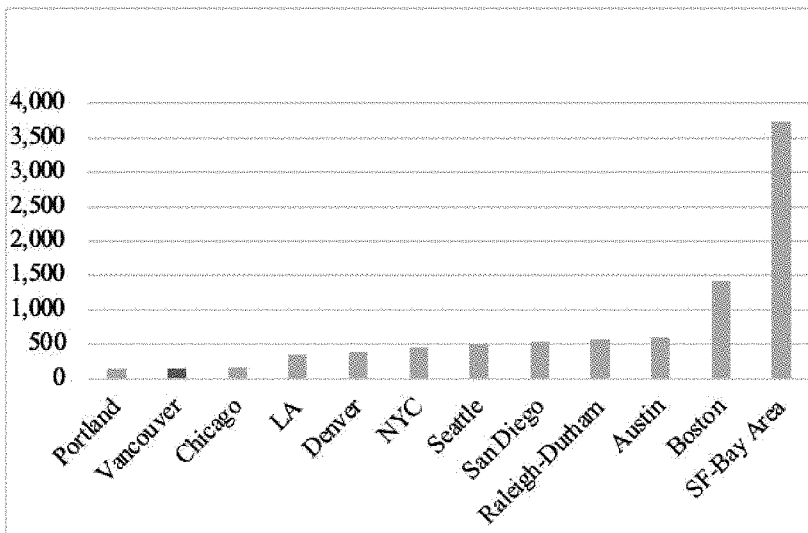


Figure 6: Average Annual Venture Capital Investment Per Capita, 2010–2019 (US\$)



B. INSTITUTIONAL CHARACTERISTICS

Although the number of startups in a given city is an important indicator, it does not necessarily measure entrepreneurial success. In order to contribute to long-term economic growth, startups must “scale” into growing, sustainable businesses. Unfortunately, Vancouver faces challenges in scaling up small tech companies, a problem shared with other Canadian cities. To date, Vancouver has only produced three home-grown “unicorns” (i.e., privately held companies with a valuation of at least one billion dollars), an increasingly common indicator of entrepreneurial success.²⁴ Interestingly, a very high percentage of Vancouver startups go public,²⁵ another common

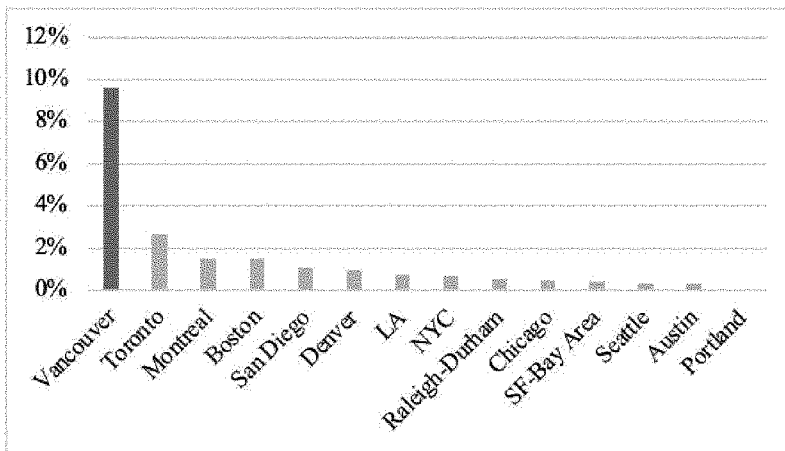
²⁴ Trulioo was recently valued at \$2.1 billion, Clio has been valued at \$1.6 billion, and GeoComply is rumored to be valued at more than \$1 billion. Mary Ann Azevedo, “Canada’s Newest Unicorn: Clio Raises \$110M at a \$1.6B Valuation for Legal Tech”, (27 April 2021), online: *TechCrunch* <<https://techcrunch.com/2021/04/27/canadas-newest-unicorn-clio-raises-110m-at-a-1-6b-valuation-for-legal-tech/>>; William Johnson, “Vancouver has Produced Seven Unicorn Companies in the Past Seven Months”, (7 June 2021), online: *Vancouver Tech Journal* <www.vantechjournal.com/p/vancouver-unicorns>. Several other companies have been (mis)reported as unicorns or relocated to the United States before reaching scale. Hootsuite Inc, a Vancouver-based social media startup, was reported as having a valuation of one billion dollars following a 2014 funding round. However, its valuation was later revealed to be only \$750 million. See Gerrit de Vynck, “Hootsuite Never Really Was a Canadian Unicorn After All”, *The Globe and Mail* (28 February 2017). Kabam Games, Inc, a San Francisco- and Vancouver-based social game developer, was reported as having a valuation of over one billion dollars in 2014, but it was recently purchased by Netmarble Corp for only \$800 million. See Connie Loizos, “Gaming Company Kabam’s Roller Coaster Ride to an \$800 Million Exit” (28 February 2017), online: *TechCrunch* <social.techcrunch.com/2017/02/28/gaming-company-kabams-roller-coaster-ride-to-a-700-million-exit/>. Slack Technologies, Inc was founded in Vancouver in 2009, but relocated to San Francisco following a series of US venture capital investments. After moving to the United States, Slack Technologies, Inc went public in 2019 at a valuation of more than \$20 billion. See Seth Fiegerman, “Slack is Now Worth More than \$20 Billion” (21 June 2019), online: *CNN* <cnn.com/2019/06/20/tech/slack-wall-street-debut/index.html>.

²⁵ To “go public” means to register on a public securities exchange, typically in connection with an initial public offering. In the United States, going public is considered the most significant and climactic stage in a startup company’s growth cycle.

success indicator. Equating Vancouver's initial public offerings (IPOs) with sustainable economic growth would be misleading, however. Our analysis shows that the Vancouver economy is characterized by premature, low-value IPOs, presumably due to a lack of professional venture capital.

Vancouver startups go public at a much higher rate than startup companies in peer cities. Figure 7 shows that 9.64% of Vancouver startups founded between 2010 and 2019 have gone public, compared to only 2.69% for Toronto and 1.53% for Montreal. This rate is even more striking when compared to US cities. Only 0.3%–0.5% of startups founded in Silicon Valley, Seattle, or Austin from 2010 to 2019 have gone public.

Figure 7: Percentage of Startups Founded 2010–2019 that Subsequently Went Public



In addition to going public more often, Vancouver startups go public early in their growth cycles and at low valuations. On average, Vancouver startups that ultimately go public do so only two years after their founding. This is half the time of Silicon Valley, where the regional average is four years. Nearly 70% of Vancouver companies that undergo IPOs have annual revenues of less than \$1 million, and more than 90% have 50 or fewer

employees. It is important to note that many of these startups are in the mining industry, which accounts for 34% of Vancouver IPOs.²⁶ Even with mining startups excluded, however, Vancouver's IPO rate (approximately six percent) is still more than twice Toronto's and more than twenty times Silicon Valley's. As shown in Table 1, most of Vancouver's public companies are listed on the TSX Venture Exchange (TSX-V), a secondary "junior" market for public venture finance. The TSX-V is a direct descendant of the Vancouver Stock Exchange, a global center of "penny stock" investing in the 1980s and 1990s.²⁷

Table 1: Number (Percentage) of Vancouver Startup Listings by Stock Exchange 2010–2019

Stock Exchange	Number (Percentage) of Vancouver Startup Listings
TSX-V	116 (59.2%)
Canadian Securities Exchange	44 (22.4%)
OTC	16 (8.1%)
Toronto Stock Exchange	11 (5.6%)
Frankfurt Stock Exchange	2 (1%)
NASDAQ	2 (1%)
Tallinn Stock Exchange	2 (1%)
London Stock Exchange	1 (0.5%)

²⁶ We struggled with whether to include mining companies in our analysis. British Columbia's extractive industries are distinct from its "technology" industry, but many mining startups themselves employ innovative technologies. Ultimately, we were unable to develop any principled method for discriminating between "technology" and "non-technology" startups, and could only identify mining companies as a group (using industry information provided by Crunchbase). Thus, unless otherwise noted, our statistics include mining startups.

²⁷ In 1999, the Vancouver Stock Exchange merged with the Alberta Stock Exchange to form the Canadian Venture Exchange, which was later purchased by TMX Group Limited and became the TSX-V. The former Vancouver Stock Exchange was notorious for highly speculative—if not outright fraudulent—securities promotions.

Stock Exchange	Number (Percentage) of Vancouver Startup Listings
New York Stock Exchange	1 (0.5%)
Tirana Stock Exchange	1 (0.5%)
Total	196 (100%)

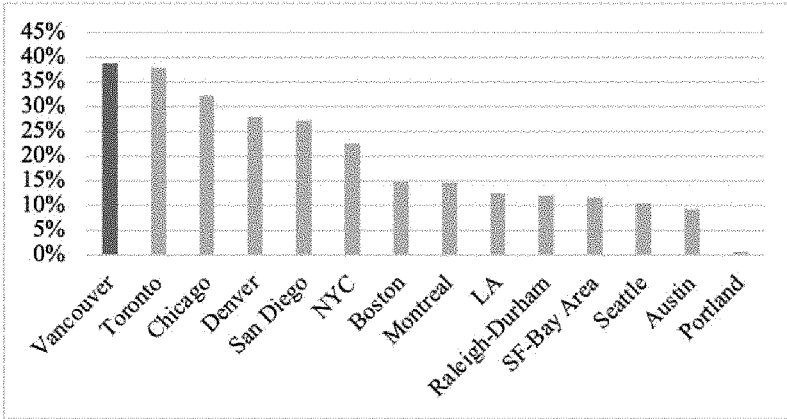
Given their small size, many Vancouver startups need additional growth capital following their IPO. As shown in Figure 8, Vancouver has the highest percentage of post-IPO financing as a percentage of total fundraising.²⁸ From 2010 to 2019, post-IPO financing made up 38.9% of total startup funding in Vancouver. Again, a significant portion of this financing was raised by mining companies.²⁹ Mining startups accounted for 26.4% of post-IPO financing transactions and 43.5% of funds raised. According to Crunchbase, mining startups often raise additional financing from large “senior” mining corporations following an IPO, whereas tech startups receive post-IPO financing from private equity and/or venture capital firms. In Silicon Valley, post-IPO financing was only 11.8% of all startup financing, though the average deal size was approximately 10 times that of Vancouver.³⁰

²⁸ According to Crunchbase’s data categorization, “post-IPO financing” means private capital raised after an IPO.

²⁹ Interestingly, mining companies also account for a significant portion of post-IPO financing in Toronto.

³⁰ According to our data, the average deal size for post-IPO financing was US\$18.7 million in Vancouver and US\$189 million in Silicon Valley.

Figure 8: Post-IPO Financing as Percentage of Total Financing, 2010–2019



C. PROFILE OF INVESTORS

Many of the most active investors in Vancouver are from outside British Columbia. Table 2 shows the top 10 investors by number of deals from 2010 to 2019. Notably, BDC Capital (and affiliates), a Montreal-based development bank owned by the federal government, made more investments than any other investor.³¹ Given that BDC Capital is a government entity with a legislative mandate to invest in Canadian companies, this is not a particularly positive sign for the Vancouver investment market. Vancouver's private venture capital firms are relatively small, with a limited history of investments and exits.³² As measured by *size* of investments (rather than number), US venture capital firms are the leading investors in Vancouver. As shown in Table 3, the largest venture capital investments are dominated by American investors.

³¹ BDC Capital and its affiliates made 87 investments, followed by Yaletown Partners with 33 investments.

³² According to Crunchbase, 81 venture capital firms are based in Vancouver, with a total of 853 investments and 190 exits to date. GrowthWorks Capital is the most active, with a total of 125 investments and 37 exits. The median founding year of Vancouver-based venture capital firms is 2009, illustrating the youth of the local industry.

Table 2: Top 10 Investors by Number of Deals in Vancouver, 2010–2019

Rank	Investor	Headquarters	Type	Number of Deals
1	BDC Capital (and affiliates)	Montreal, QC, Canada	Public Entity	87
2	Yaletown Partners	Vancouver, BC, Canada	Venture Capital	33
3	HIGHLINEvc	Toronto, ON, Canada	Venture Capital Accelerator	31
4	Techstars	Boulder, CO, United States	Venture Capital Accelerator	26
5	Creative Destruction Lab	Toronto, ON, Canada	University Accelerator	23
6	GrowthWorks Capital	Vancouver, BC, Canada	Venture Capital	21
7	Chrysalix Venture Capital	Vancouver, BC, Canada	Venture Capital	20
8	VA Angels	Calgary, AB, Canada	Angel Group	17
9	Rhino Ventures	Vancouver, BC, Canada	Venture Capital	14
10 (tied)	Pallasite Ventures	Chicago, IL, United States	Venture Capital	13
10 (tied)	Sustainable Development Technology Canada	Ottawa, ON, Canada	Public Entity	13

Table 3: Top 10 Venture Capital Deals in Vancouver 2010–2019

Name	Funding Type	Money Raised (US\$)	Year	Industry	Investors (US firms in bold)
Clio	Series D	250,000,000	2019	Legal	JMI Equity, TCV
Hootsuite	Series B	165,000,000	2013	Advertising / Social Media	Accel, Insight Partners, OMERS Ventures
JDS Silver	unknown series	65,000,000	2016	Energy / Mining	Denham Capital

Name	Funding Type	Money Raised (US\$)	Year	Industry	Investors (US firms in bold)
Zymeworks	Series A	61,500,000	2016	Biotech	BDC Healthcare Venture, Brace Pharma , Celgene , CTI Life Sciences Fund, Eli Lilly , Fonds de solidarité FTQ, Lumira Ventures, Merlin Nexus , Northleaf Capital Partners, Teralys Capital
Hootsuite	Series D	60,000,000	2014	Advertising / Social Media	Accel , Cloud Apps Capital Partners , Difference Capital, Fidelity , Insight Partners , OMERS Ventures, Silicon Valley Bank
Sierra Oncology	Series D	59,500,000	2014	Biotech	Apjohn Ventures , Capital Midwest Fund , Frazier Healthcare Partners , Hopen Life Science Ventures , Janus Capital Group , OrbiMed , RA Capital Management , Amherst Fund
Trulioo	Series C	52,860,149	2019	Finance	American Express , BDC Capital, Blumberg Capital , Citi Ventures , Goldman Sachs , Santander InnoVentures

Name	Funding Type	Money Raised (US\$)	Year	Industry	Investors (US firms in bold)
BuildDirect	Series C	50,000,000	2014	E-Commerce	BDC Venture Capital, BMO Capital Markets, Mohr Davidow Ventures , OMERS Ventures
SAXX Underwear	unknown series	50,000,000	2016	E-Commerce	Brentwood Associates
Visier	Series D	45,000,000	2017	Human Resources	Adams Street Partners , BYU Cougar Capital , Foundation Capital , Sorenson Capital , Summit Partners

D. TALENT MARKET

Another important factor for regional economic success is the development and retention of skilled labour. Since 2014, Vancouver has produced more than 2,000 tech graduates each year on average.³³ The University of British Columbia (UBC) is the region's leading educational institution and is recognized internationally for its computer science and engineering programs.³⁴ The talent pool created by UBC and other regional universities is an important source of both entrepreneurs and skilled labour. Many

³³ See CBRE Research, "Scoring Tech Talent" (2020) at 24, online (pdf): *CBRE Group, Inc.* <cbre.vo.llnwd.net/grgservices/secure/US%202020%20Tech%20Talent%20July.pdf?e=1622135897&h=c3f63760cd1ece9382b6126025d02807>.

³⁴ See BC Tech Association, "TechTalentBC Report" (2016) at 19, online (pdf): *BC Tech Association* <workbc.ca/getmedia/8d38ac6f-82d4-4db1-b0bf-ac0f77d78af5/2016_techtalentbc_report.pdf.aspx>. This report finds that UBC produces the highest number of tech graduates in British Columbia. The number of graduates from bachelor's programs in computer science, engineering, and technology in 2014 was as follows: UBC (820), British Columbia Institute of Technology (473), University of Victoria (380), Simon Fraser University (368), University of Northern British Columbia (43) and Thomson Rivers University (20). The total number of graduates from all programs in 2014 was 2,263.

UBC graduates become entrepreneurs; however, only about one-third found their businesses in Vancouver (see Table 4). Notably, more than 21% of UBC alumni founders start their businesses in the United States, most often in California.³⁵ Similarly, a high rate of University of Toronto alumni also start businesses in the United States (more than 23%).³⁶ These figures speak to Canada's larger brain drain problem, discussed in Part IV.³⁷

Table 4: UBC Alumni Founders and Startup Locations (as of April 2020)

Startup Location	Number of Alumni Founders	Percentage
Canada	195	48.4%
<i>Vancouver</i>	138	34.2%
<i>Toronto</i>	22	5.5%
<i>Other Locations in Canada</i>	35	8.7%
United States	85	21.1%
Asia	18	4.5%
Europe	10	2.5%
Other Locations	3	0.7%
Unknown	92	22.8%
Total	403	100%

³⁵ Authors' estimate based on Crunchbase data. Note that 22.8% of all alumni startup locations are not disclosed in the Crunchbase data. These undisclosed startup locations are most likely in Canada and the United States, however (given the distribution of known startup locations).

³⁶ See *ibid.*

³⁷ For an analysis of brain drain in the STEM sector, see Nicole Goodman, Nathan Olmstead & Zachary Spicer, "Reversing the Brain Drain: Where is Canadian STEM Talent Going?" (2018), online (pdf): *Delwina* <brocku.ca/social-sciences/political-science/wp-content/uploads/sites/153/Reversing-the-Brain-Drain.pdf>

The labour market for tech workers in Vancouver has grown rapidly in recent years. Indeed, among 50 North American tech hubs, Vancouver saw the highest tech employment growth from 2014 to 2019 (47.9% cumulatively).³⁸ More than 27,500 tech jobs were added during this 5-year period, for a total of 84,900 tech positions as of 2019.³⁹ The booming job market has provided strong employment opportunities for Vancouver tech graduates. Despite this growth, however, Vancouver offers lower salaries compared to other North American tech hubs. The average salary for Vancouver tech workers is only CA\$81,913 while the average salary in Silicon Valley is US\$136,060, more than twice as much.⁴⁰ Figure 9 displays several cities' average tech salaries as a percentage of Silicon Valley's (the highest in North America). As Figure 9 shows, tech workers in Vancouver, Toronto, and Montreal earn substantially less than tech workers in US cities. Vancouver's average tech salary is only slightly more than Montreal's (a far less expensive city) and barely half Seattle's. Even if the Canadian and US dollars were at parity, Canadian cities would still offer lower salaries than their US counterparts.⁴¹

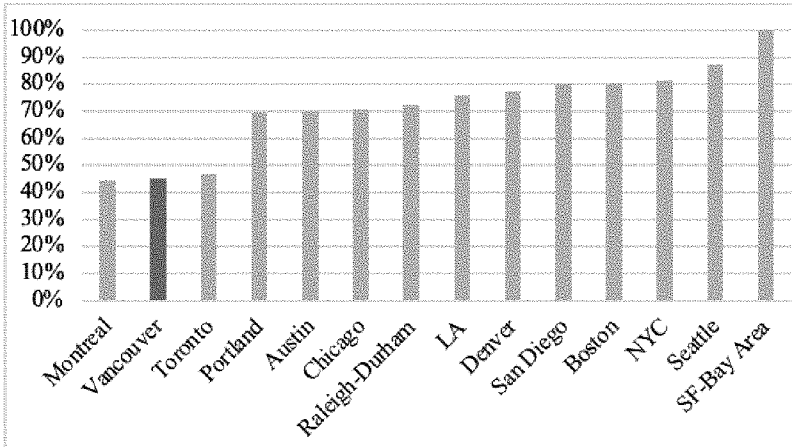
³⁸ CBRE Research, *supra* note 33 at 24.

³⁹ See *ibid.*

⁴⁰ See *ibid.*

⁴¹ See *ibid.* CBRE Group, Inc surveyed tech wages in 50 tech hubs in North America, including 3 in Canada and 47 in the United States. The average tech salaries in the Canadian hubs are: Toronto (CA\$84,989); Vancouver (CA\$81,931); and Montreal (CA\$80,579). The mean salary of the 47 American tech hubs is US\$95,524. Even if the CA\$/US\$ exchange rate were 1:1, tech wages in the 3 Canadian hubs would be below the 25th percentile of the US hubs. Data collected from note 33 and calculated by the authors.

Figure 9: Average Tech Salaries as a Percentage of SF-Bay Area (2019)



The economic effects of these lower salaries are ambiguous. On the one hand, lower salaries may attract tech companies to Vancouver for cheaper labour. On the other hand, lower salaries may disadvantage Vancouver in the international competition for talent, particularly vis-à-vis the United States. As the authors can personally attest, Vancouver is by no means an inexpensive city: It ranks as the world’s second-least affordable housing market⁴² and has a higher rent-to-tech-wage ratio than San Francisco.⁴³

E. RESEARCH AND DEVELOPMENT

Canada trails many developed countries—including the United States—in research and development (R&D) spending.⁴⁴ Although assessing the direct impact of R&D spending is difficult, one proxy measure is number of

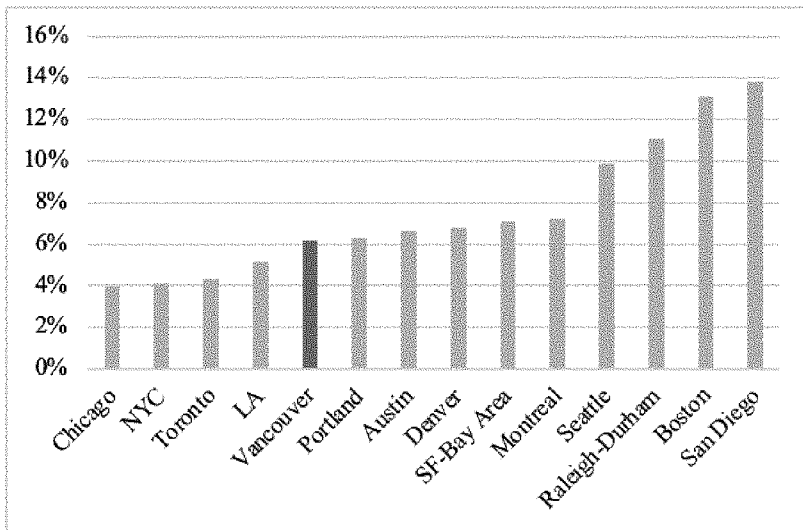
⁴² See Wendell Cox & Hugh Pavletich, “16th Annual Demographia International Housing Affordability Survey” (2020) at 3, 12, 16, online (pdf): *Demographia* <demographia.com/dhi16-intro.pdf>.

⁴³ CBRE Research, *supra* note 33 at 41.

⁴⁴ As measured on a per capita basis. See “Research and Development: Gross Domestic Spending on R&D”, online: *Organization for Economic Cooperation and Development* <data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>.

patents generated. The data in Figure 10 suggest that Vancouver startups generate fewer patents than startups in other leading cities. According to our calculations, only 6.2% of Vancouver startups hold at least one patent.⁴⁵ These patent-generating startups cross a wide range of industries, including biotechnology, information technology, and advanced manufacturing, though none are in British Columbia's traditional mining industry.

Figure 10: Percentage of Startups Founded 2010–2019 with at Least One Patent



⁴⁵ Although patent activity is an important measure of innovation, it is difficult to choose the most meaningful measure of patent activity itself. Many startup companies hold no patents at all, while a small number of outlier companies hold literally thousands of patents of questionable value. Thus, the mean number of patents per firm is significantly distorted by outliers. The median number of patents per firm is similarly uninformative, as the median in most regions is zero. We consider the percentage of startups with at least one patent to be the most useful measure of innovative patent activity.

This patenting gap is also present in regional universities: UBC trails many US universities in both patent applications and patent licensing, as well as number of startups formed by faculty and students.⁴⁶ Although explaining these institutional disparities is beyond the scope of this article, they may be a result of cultural differences in how universities pursue intellectual property. It appears that at least some US universities are more aggressive than Canadian universities with respect to patent creation and monetization, as seen in Table 5.

Table 5: University Patents, Licensing, and Startup Formations (2018)

Institution	Location	New Patent Applications Filed	Patent Licenses Issued	Startups Formed (faculty/students)
University of California	CA, United States (multiple campuses)	1,394	282	91
Massachusetts Institute of Technology	Boston, MA, United States	455	124	32
University of Texas	TX, United States (multiple campuses)	440	235	35
Stanford University	Palo Alto / Stanford, CA, United States	299	143	28
Harvard University	Boston, MA, United States	250	99	21
Columbia University	New York City, NY, United States	204	75	29

⁴⁶ Startups formed by faculty and graduate students often exploit intellectual property developed by university research. Many university patent licenses are granted to the faculty members who conducted the research.

Institution	Location	New Patent Applications Filed	Patent Licenses Issued	Startups Formed (faculty/students)
Duke University	Durham, NC, United States	151	103	16
Northwestern University	Evanston, IL, United States	119	27	8
University of Southern California	Los Angeles, CA, United States	119	50	15
University of Washington	Seattle, WA, United States	118	344	10
University of North Carolina	Chapel Hill, NC, United States	109	76	5
North Carolina State University	Raleigh, NC, United States	98	102	20
University of British Columbia	Vancouver, BC, Canada	81	85	8
University of Toronto (excluding affiliated hospitals)	Toronto, ON, Canada	79	35	23
University of Chicago	Chicago, IL, United States	74	22	8
New York University	New York City, NY, United States	68	46	8
McGill University	Montreal, QC, Canada	64	22	5
Université de Montréal	Montreal, QC, Canada	60	19	4
Simon Fraser University	Vancouver, BC, Canada	23	3	2

Institution	Location	New Patent Applications Filed	Patent Licenses Issued	Startups Formed (faculty/students)
San Diego State University	San Diego, CA, United States	16	9	1
York University	Toronto, ON, Canada	4	0	1
University of Denver	Denver, CO, United States	0	1	0

F. SUMMARY

As discussed in this Part II, Vancouver performs well compared to other Canadian cities, but lags US tech hubs in startup formation, venture capital investment, and technological innovation. One of the most distinctive features of Vancouver's startup ecosystem is the high percentage of firms that obtain public financing. Public offerings play a unique role in Vancouver, which is not seen in any US tech region. This reliance on public financing does not appear beneficial, however, given how few Vancouver startups scale into profitable businesses.⁴⁷

In light of these data, the natural question becomes *why* Vancouver trails American cities. Does Canadian or BC law hinder Vancouver startup companies? Or do economic factors play a larger role? What can policy makers do to improve Vancouver's economic performance? These questions are addressed in Part III and Part IV below.

III. LEGAL FACTORS

The data discussed in Part II show significant economic disparities between Canadian and US cities. This Part III addresses whether these disparities are the result of legal factors. To conduct this inquiry, we focus on seven

⁴⁷ Note, however, that some studies have found that TSX-V companies generally perform well. See e.g. Michele Meoli et al, "Can Spending Time in the Minors Pay Off? An Examination of the Canadian Junior Public Equity Markets" (2018) 56:51 J Small Bus Mgmt 88.

areas of law that are particularly relevant to tech startups: (A) tax policy/stock options; (B) securities regulation; (C) corporate law; (D) labour law; (E) bankruptcy/insolvency; (F) immigration; and (G) trade policy. In the sections below, we summarize each of these legal areas in turn, highlighting differences between Canada and the United States. Although many of these areas are national in scope, we focus on the legal environments in British Columbia and California (each of which are shaped by federal and local laws).⁴⁸ What follows is a general survey, not an exhaustive analysis. Unfortunately, space limitations preclude the detailed, in-depth discussion that many of these areas deserve. That said, even a general overview supports the finding that Canadian law does not impose significant barriers to entrepreneurship.

A. TAX POLICY

One of the most important ways that government can encourage or inhibit entrepreneurship is through tax policy. Other things being equal, greater after-tax returns to entrepreneurship increase the “supply” of entrepreneurial activity. Empirical research suggests that higher corporate and personal income taxation discourages entrepreneurship, whereas lower taxes can attract geographically mobile inventors.⁴⁹ Similarly, lower capital gains taxes may “unlock” equity investment, with high capital gains taxes having the opposite effect.⁵⁰ Subjecting employee stock options to full income taxation can reduce the ability of startups to incentivize skilled

⁴⁸ For most of these areas of law, provincial differences are not significant. Thus, much of our analysis of British Columbia applies to other provinces as well. Among American states, California’s laws are somewhat more unique.

⁴⁹ See Ufuk Akcigit, Salome Baslandze & Stefanie Stantcheva, “Taxation and the International Mobility of Inventors” (2016) 106:10 *Am Econ Rev* 2930; Ufuk Akcigit & Stefanie Stantcheva, “Taxation and Innovation: What Do We Know?” (2020) National Bureau of Economic Research Writing Working Paper No 27109.

⁵⁰ See Vijay Jog, “The Lifetime Capital Gains Exemption: Corporate Financing, Risk-Taking and Allocation Efficiency” (1995) 21:3 *Can Pub Pol’y* 116 at 126–34; James M Poterba, “Venture Capital and Capital Gains Taxation” (1989) 3 *Tax Pol’y Econ* 47 at 56–63.

employees.⁵¹ Finally, specific tax incentives for research and development can help correct the market failure inherent in R&D spending.⁵²

In both Canada and the United States, taxes are levied at both the federal and state/provincial levels. Although it is commonly assumed that taxes are higher in Canada, *total* personal income taxes (i.e., federal and local) are comparable in California and British Columbia, while business taxation is actually lower in British Columbia. The top combined personal rate in British Columbia is 53.5%⁵³—hardly ideal⁵⁴—but the combined rate in California is nearly as high at 50.3%.⁵⁵ Business taxation, especially for small companies, is more favorable in British Columbia. A corporation based in California pays a combined rate of 29.84%,⁵⁶ while a company

⁵¹ See Department of Finance Canada, “The Budget Plan 2000” (28 February 2000) at 230, online (pdf): <budget.gc.ca/pdfarch/budget00/pdf/bpe.pdf>; Ronald Gilson & David Schizer, “Understanding Venture Capital Structure: A Tax Explanation for Convertible Preferred Stock” (2003) 116:3 Harv L Rev 874 at 880–81, 913; Scott Ollivierre, “The Influence of Taxation on Capital Structure in Venture Capital Investments in Canada and the United States” (2010) 68:1 UT Fac L Rev 9.

⁵² Because there are positive externalities to R&D (innovative firms cannot fully capture the social benefits of their innovations), individual firms will underinvest in R&D from a social welfare perspective. Targeted subsidies can help correct this market failure. See Robert Hamilton, “Tax Incentives and Innovation: The Canadian Treatment of R&D” (1993) 19 Can-USLJ 233 at 238–39.

⁵³ For federal and provincial tax rates, see “Canadian Income Tax Rates for Individuals – Current and Previous Years” (last modified 21 January 2020) online: *Government of Canada* <canada.ca/en/revenue-agency/services/tax/individuals/frequently-asked-questions-individuals/canadian-income-tax-rates-individuals-current-previous-years.html>.

⁵⁴ Higher personal income taxes have a negative effect on entrepreneurship. See Ergete Ferede, “Entrepreneurship and Personal Income Tax: Evidence from Canadian Provinces” (2019) 56:4 Small Bus Econ 1 (for evidence from the Canadian context).

⁵⁵ See Katherine Loughhead, “State Individual Income Tax Rates and Brackets for 2020” (4 February 2020), online: *Tax Foundation* <taxfoundation.org/state-individual-income-tax-rates-and-brackets-for-2020/>. Dividend income is also subject to an additional 3.8% net investment income tax.

⁵⁶ See Janelle Cammenga, “State Corporate Income Tax Rates and Brackets for 2020” (28 January 2020), online: *Tax Foundation* <taxfoundation.org/state-corporate-income-tax>.

based in British Columbia pays a combined rate of 27%, which becomes just 11% if the company can claim the Canadian small business deduction.⁵⁷ Double taxation, an inherent issue in taxing corporations,⁵⁸ is treated differently in the two countries. Businesses in the United States can avoid double taxation by organizing as a limited liability company or S corporation,⁵⁹ whereas Canada features an integrated corporate tax system by which shareholders receive a dividend credit for corporate taxes paid.⁶⁰ In practice, most US startups organize as fully taxable C corporations,⁶¹ meaning the Canadian system results in lower taxes overall. Another tax advantage—one particularly important to entrepreneurs—is that Canadian taxation of capital gains is more favorable than in California, especially with respect to startup companies. In California, long-term capital gains are taxed at a maximum combined rate of 33.3%.⁶² In British Columbia, only 50% of capital gains are included in taxable income, meaning capital gains are effectively taxed at 50% of ordinary income rates—thus, a maximum of

rates-brackets-2020/>. Note that state corporate income taxes are based on physical location, not state of incorporation.

⁵⁷ See “Corporation Tax Rates” (last modified 9 April 2021), online: *Government of Canada* <canada.ca/en/revenue-agency/services/tax/businesses/topics/corporations/corporation-tax-rates.html>.

⁵⁸ “Double taxation” refers to taxing business profits once at the corporate level and a second time at the personal level (when distributed to shareholders).

⁵⁹ Dividend income and capital gains are also taxed at preferred rates.

⁶⁰ See Robin Boadway & Jean-François Tremblay, *Corporate Tax Reform: Issues and Prospects for Canada*, (Toronto: Mowat Centre, 2014) at 11.

⁶¹ This preference for C corporations is itself tax driven. Venture capital funds are usually organized as limited partnerships, which under the US tax code, pass through the amounts and characterization of income and losses to their investors. Many tax-exempt investors such as foundations and pension funds wish to avoid unrelated business taxable income, and therefore require strict limits on investments in pass-through entities.

⁶² See Amir El-Sibaie, “2020 Tax Brackets” (14 November 2019), online: *Tax Foundation* <taxfoundation.org/2020-tax-brackets/>. In addition to the capital gains rate, US taxpayers must pay a 3.8% net investment income tax, bringing the total tax on capital gains to 37.1%. Moreover, the federal capital gains rate is likely to increase under the Biden administration, increasing Canada’s advantage.

26.75%.⁶³ Moreover, Canadian investors in qualified “Canadian-controlled private corporations” (CCPCs)⁶⁴ are entitled to a cumulative lifetime capital gains exemption of \$866,912: a tax break designed to encourage small business investment.⁶⁵ The combined effect of these policies is significantly lower taxation of investments in Canadian startups.⁶⁶

Another important issue is tax treatment of stock options. The ability to issue stock options is vital to startup companies, as it allows them to incentivize employees while conserving cash. In general, stock options are taxed similarly in Canada and the United States, with certain advantages for CCPCs. In both countries, stock options are not taxed upon issuance—instead, grantees defer taxation until they exercise their options. Under the Canadian system, the difference upon exercise between an option’s strike price and the current value of the underlying stock is taxed at capital gains rates (i.e., 50% income exclusion), so long as the strike price reflects the “fair market value” of the underlying shares when the option was issued.⁶⁷

⁶³ The tax treatment of capital gains by British Columbia and the federal government is identical.

⁶⁴ As discussed below, CCPCs receive a number of important tax advantages. Note, however, that in order to maintain their tax status, CCPCs may not be controlled, directly or indirectly, by non-Canadian shareholders. This means that many CCPCs lose their tax benefits upon accepting US venture capital investment. Unfortunately, the loss of CCPC Scientific Research and Experimental Development credits can have a major negative impact on a company’s profitability. See “Scientific Research and Experimental Development Tax Incentive—Overview” (31 March 2020), online: *Government of Canada* <canada.ca/en/revenue-agency/services/scientific-research-experimental-development-tax-incentive-program/overview.html>.

⁶⁵ See Kenneth J McKenzie & Aileen J Thompson, “The Impact of the Capital Gains Exemption on Capital Markets” (1995) 21 *Can Pub Pol’y* 100 at 1.

⁶⁶ In our research for this article, we interviewed several Vancouver-based attorneys active in representing startup companies and venture capital investors. Our interviewees were unanimous in their opinion that the lifetime capital gains exemption for CCPCs encourages investments by both founders and angel investors.

⁶⁷ See “Proposed Changes to the Stock Option Benefit Rules to Take Effect on July 1, 2021” (8 March 2021), online: *BDO Canada* <bdo.ca/en-ca/Insights/Tax/Tax-Alerts/Stock-option-taxation-proposed-changes>. The Liberal government recently proposed a \$200,000 annual limit on employee stock options that qualify for capital

Employers have broad latitude to set low strike prices (nominal valuations of 60% of the company's last-round financing are common), thereby maximizing employees' potential returns.⁶⁸ If the issuing company is a CCPC, tax treatment is even more favorable: There is no requirement with respect to CCPCs that the strike price reflect fair market value, and the grantee is not taxed until the options are exercised *and* the underlying stock is sold. Moreover, any increase in value of the underlying shares between exercise and sale is subject to the lifetime capital gains exemption.⁶⁹ Thus, at least for CCPCs, Canadian taxation of stock options is more favorable than in the United States.⁷⁰

Another way in which tax policy can affect innovation is through incentives for research and development spending. In this area, Canada has some of the most generous programs in the world.⁷¹ The federal Scientific Research and Experimental Development credit (SR&ED) provides a refundable tax credit to CCPCs of up to 35% of qualified R&D expenditures (and a 15% non-refundable credit to non-CCPC

gains treatment. This limit will be based on the fair market value of the underlying shares at the time the options are granted. Fortunately, CCPCs and all companies with less than \$500 million of annual revenues will be excluded from the new limit, reducing its impact on startup companies. See Department of Finance Canada, *Supporting Canadians and Fighting COVID-19*, (Ottawa: DOE, 2020) at 113–14.

⁶⁸ Nominal valuations lower than the company's last-round financing reflect the illiquidity and subordination of common versus preferred shares. See "Rewarding Talent" (last visited 3 August 2021), online: *Index Venture* <indexventures.com/rewardingtalent/handbook>.

⁶⁹ See Department of Finance Canada, "Backgrounder: Proposed Changes to the Tax Treatment of Employee Stock Options" (17 June 2019), online: *Government of Canada* <canada.ca/en/departement-finance/news/2019/06/backgrounder-proposed-changes-to-the-tax-treatment-of-employee-stock-options.html>.

⁷⁰ Stock options face additional disadvantages in the United States, including limits on what can be deemed "qualified stock options." The venture capital firm Index Ventures has published a comparison of the tax treatment of incentive stock options across Europe, North America, and Israel. In its report, Index Ventures ranks Canada in the top three most favorable countries, placing it higher than the United States. See "Rewarding Talent", *supra* note 68.

⁷¹ See Hamilton, *supra* note 52 at 233.

businesses).⁷² British Columbia also offers a provincial SR&ED which grants CCPCs a refundable credit of 10% of R&D expenditures up to \$3 million, and grants non-CCPCs (as well as CCPCs that have exhausted their refundable credit) a 10% non-refundable credit.⁷³ Refundable tax credits are an important source of financing for Canadian startups that have not achieved profitability.⁷⁴ For comparison, similar credits in the United States are capped at 20% of R&D expenditures and are generally non-refundable, limiting their benefit to pre-profit startups.⁷⁵

In addition to R&D subsidies, the government of British Columbia provides province-specific tax benefits to venture capital investors. The largest of these is the “small business venture capital tax credit,” a refundable credit equal to 30% of any equity investment in a registered “eligible business corporation” or “venture capital corporation.”⁷⁶ First introduced in the 1980s, the goal of this program is to encourage investment in BC startups and to ameliorate the historical shortage of venture capital in British Columbia.⁷⁷ The benefits of this program are questionable, however.

⁷² See *Government of Canada, supra* note 64. Another widely used federal R&D program is the Industrial Research Assistance Program. This policy provides grants (rather than tax credits) which can be applied to a broad category of business activities. Many companies stack SR&ED and Industrial Research Assistance Program funding together to cover up to 75% of a given project’s investment costs.

⁷³ See Ministry of Finance, “British Columbia Scientific Research and Experimental Development Tax Credit” (last modified 12 April 2021), online: *Government of Canada* <canada.ca/en/revenue-agency/services/tax/businesses/topics/corporations/provincial-territorial-corporation-tax/british-columbia-provincial-corporation-tax/british-columbia-scientific-research-experimental-development-tax-credit.html>

⁷⁴ This point was strongly emphasized by our interviewees. Indeed, many Canadian venture capital firms offer specialized financing of future SR&ED refunds.

⁷⁵ See “R&D Tax Incentives: United States, 2020” (2020), online (pdf): *Organization for Economic Cooperation and Development* <oecd.org/sti/rd-tax-stats-united-states.pdf>

⁷⁶ “Small Business Venture Capital Tax Credit—Province of British Columbia” (18 April 2019), online: <www2.gov.bc.ca/gov/content/taxes/income-taxes/corporate/credits/venture-capital>.

⁷⁷ See Naomi Pope, “Briefing Note” (26 August 2013) at 8–10, online (pdf): *Ministry of Technology, Innovation and Citizens’ Services* <http://docs.openinfo.gov.bc.ca/Response_Package_FIN-2017-71796.pdf>; “Venture Capital Program” (13 March

Although a 30% refundable credit is a generous investment subsidy, the program is subject to a number of limitations that limit its economic value—most importantly, the credit only applies to British Columbia taxpayers, rendering it useless to the out-of-province investors that British Columbia needs to attract.⁷⁸ At a more basic level, directing investment subsidies to specific, government-registered firms may distort market outcomes and reduce the efficiency of the BC economy.⁷⁹

On the whole, tax policy in British Columbia is favorable to startup companies. Although personal income taxes are high, business and investment taxes are lower than many European countries and even certain US states, including California. Given that British Columbia's tax environment is at least as favorable as California's, tax law cannot explain the province's weaker entrepreneurial performance.

B. SECURITIES LAW

Other things being equal, less restrictive securities regulations facilitate access to startup capital. Economic research indicates that fewer restrictions on private offerings increase access to private capital,⁸⁰ while a streamlined public offering process can facilitate IPOs.⁸¹ Thus, it is important to

2020), online: *Province of British Columbia* <www2.gov.bc.ca/gov/content/employment-business/investment-capital/venture-capital-programs>.

⁷⁸ See *Small Business Venture Capital Act*, RSBC 1996, c 429, ss 20(1), 28.1.

⁷⁹ The specific criticism is that directed investment subsidies divert scarce financial resources to underperforming businesses. For empirical research in the Canadian context, see the work of Douglas Cumming and Jeffrey MacIntosh. See e.g. Douglas J Cumming, Sofia Johan & Jeffrey G MacIntosh, "A Drop in an Empty Pond: Canadian Public Policy Towards Venture Capital" (2017) 44 *Econ Polit Ind* 103 at 108–15; Douglas J Cumming & Jeffrey G MacIntosh, "Venture-Capital Exits in Canada and the United States" (2003) 53:2 *UTLJ* 101 at 174–78; Douglas J Cumming & Jeffrey G MacIntosh, "Crowding Out Private Equity: Canadian Evidence" (2006) 21:5 *J Bus Venturing* 569 at 574. See also British Columbia, Ministry of Small Business, Technology and Economic Development, *An Evaluation of the Venture Capital Program in British Columbia*, by Thomas Hellmann & Paul Schure (2010) at 4–7.

⁸⁰ See Ewens & Farre-Mensa, *supra* note 10.

⁸¹ See Michael Dambra, Laura Casares Field & Matthew T Gustafson, "The JOBS Act and IPO Volume: Evidence that Disclosure Costs Affect the IPO Decision" (2015)

consider the efficiency of securities regulations in British Columbia, particularly in comparison with California.⁸² As discussed below, securities regulations do not systematically disadvantage BC firms.

Under both US and BC securities law, companies may not issue securities unless they have been registered under a public offering document or are subject to a specific registration exemption. For startups in the United States, the most common exemption is section 4(a)(2) of the *Securities Act of 1933*, which exempts “transactions by an issuer not involving any public offering.”⁸³ There are two problems with this exemption: (1) “not involving any public offering” is an uncertain concept that has not been defined by statute, and (2) section 4(a)(2) offerings are not exempt from the overlapping patchwork of *state* securities law. To address these issues, the US Securities and Exchange Commission has provided a regulatory safe harbor under Regulation D.⁸⁴ Also, offerings pursuant to Rule 506 (a subsection of Regulation D) are exempt from state registration requirements.⁸⁵ However, Regulation D offerings are limited to “accredited investors” (plus up to 35 sophisticated investors) and require the filing of Form D, a disclosure document that can potentially reveal competitively sensitive financial information.⁸⁶

116:1 J Fin Econ 121; Dhammika Dharmapala & Vikramaditya Khanna, “The Costs and Benefits of Mandatory Securities Regulation: Evidence from Market Reactions to the JOBS Act of 2012” (2016) 1:1 J L Fin & Accounting 139.

⁸² Securities regulations in the United States are primarily a function of federal law, though state law also plays a role in certain circumstances (as discussed below). In Canada, securities regulations are established by provincial law, with only a minor role for the federal government.

⁸³ 15 USC § 77d(a)(2) (2018).

⁸⁴ Regulation D provides safe harbor protections for certain transactions under s 4(a)(2): See 17 CFR §230.500 *et seq.*

⁸⁵ Offerings pursuant to Rule 506 were exempted from state registration requirements by the *Capital Markets Efficiency Act of 1996*, 15 USC § 77r (2018).

⁸⁶ See 17 CFR § 230.501(a), § 239.500. For discussion of why issuers prefer to avoid filing Form D, see Danny Crichton & Arman Tabatabai, “The Disappearing Form D” (7 November 2018), online: *Tech Crunch* <social.techcrunch.com/2018/11/07/the-disappearing-form-d/>.

British Columbia securities law provides a broader array of registration exemptions, including sales to: (1) directors, officers, employees, and consultants; (2) family members of directors, officers, or controlling shareholders; (3) close personal friends or close business associates of directors, officers, or controlling shareholders; (4) “accredited investors”; and (5) *any* non-individual purchaser, so long as the purchase price is at least \$150,000.⁸⁷ These exemptions are more flexible than the exemptions in the US, and often do not require filing public disclosure documents.⁸⁸ Moreover, because Canadian securities law is entirely provincial—with no overlapping layer of *federal* securities law—BC startups face fewer interjurisdictional concerns. Although issuers are subject to the regulations of any province in which they sell securities, provincial regulations are highly integrated in practice, minimizing the “blue sky” issues sometimes faced by US issuers.⁸⁹

With respect to public offerings, the IPO process is similar in Canada and the United States. Like in the US, Canadian firms have multiple options for accessing public markets. In addition to listing on the Toronto Stock Exchange in a traditional IPO (the preferred exit strategy for the highest-value growth companies), smaller and more speculative firms can list on the TSX-V⁹⁰ through a variety of offering structures, including a traditional IPO, a “reverse takeover” by a previously listed shell company, or a public acquisition by a “capital pool company.”⁹¹ Given its focus on smaller emerging companies, the TSX-V imposes less stringent capitalization, governance, and operational history requirements than larger

⁸⁷ See “Private & Early Stage Businesses”, online: *British Columbia Securities Commission* <bcsc.bc.ca/industry/issuer-regulation/raising-capital/private-early-stage-businesses>.

⁸⁸ Certain exempted offerings (including sales to non-individual investors for at least \$150,000) require the filing of Form 45-106F1.

⁸⁹ Note that there are exceptions to this integration. For example, registration exemptions are somewhat narrower in Ontario (an important investor jurisdiction).

⁹⁰ In addition to the TSX-V, the Canadian Securities Exchange is an even smaller venture exchange available to Canadian startups.

⁹¹ These structures are similar to “special purpose acquisition companies” in the US.

exchanges.⁹² Although listing on the TSX-V can provide startups with early access to public capital, this financing strategy has disadvantages, as discussed in Part IV.

Ultimately, the similarities between the United States and Canada outweigh their differences. In fact, Canadian and US securities markets are partially integrated: Under the Multi-jurisdictional Disclosure System, Canadian-listed companies can sell securities in the US, and US-listed companies can sell securities in Canada.⁹³ Moreover, many large Canadian companies are registered and listed in both countries, obligating compliance with both countries' securities laws. The upshot of these similarities is that Canadian companies do not suffer any distinct regulatory disadvantage.

C. CORPORATE LAW

As with securities law, greater flexibility in corporate law can facilitate business investment. Corporate law scholarship is replete with evidence that flexible corporate statutes and predictable judicial decisions have positive effects on incorporation rates and real business activity.⁹⁴ In the United States, businesses may choose to incorporate in any state (regardless of geographical location), and most sophisticated startups choose to incorporate in Delaware, widely regarded as the US's most favorable corporate jurisdiction.⁹⁵ Canadian businesses enjoy similar jurisdictional

⁹² See *Technical Guide to Listing* (Toronto: TMX, 2020).

⁹³ See Division of Corporate Finance "Financial Reporting Manual" (last updated 18 November 2020) at 362–69, online (pdf): *US Securities and Exchange Commission* <[sec.gov/files/cf-frm-nov2020.pdf](https://www.sec.gov/files/cf-frm-nov2020.pdf)>; National Instrument 71-101 The Multi-Jurisdictional Disclosure System, BC Reg 343/98

⁹⁴ See e.g. Raphael Amit et al, "Entrepreneurship and Firm Formation Across Countries" (2007) World Bank Working Paper No 4313 at 28–31; Reiner Braun et al, "Does Charter Competition Foster Entrepreneurship? A Difference-in-Difference Approach to European Company Law Reforms" (2013) 51:3 J Common Market Stud 399 at 400–01, 413–14; Marcel Kahan, "The Demand for Corporate Law: Statutory Flexibility, Judicial Quality, or Takeover Protection?" (2006) 22:2 J Econ & Org 340 at 341, 363–64.

⁹⁵ See "Choosing a Jurisdiction Comparison Chart: C-Corporations" in *Practical Law Corporate and Securities* (Thomson Reuters Practical Law); Brian Broughman, Jesse M Fried & Darian Ibrahim, "Delaware Law as Lingua Franca: Theory and Evidence"

freedom,⁹⁶ though most BC startups incorporate locally under BC law.⁹⁷ Since most California-based startups incorporate in Delaware and most BC startups incorporate in BC, the most useful comparison for present purposes is between Delaware and BC law.

The *Business Corporations Act*⁹⁸ is British Columbia's primary business organizations statute. With respect to flexibility and ease of use, it is neither obviously inferior nor obviously superior to the Delaware *General Corporation Law*.⁹⁹ Originally derived from English law, the *BCA* is hardly an exemplar of clarity and concision, but in this regard, it fares no worse than the similarly abstruse *DGCL*. Although the *BCA* is somewhat less flexible regarding fundamental transactions (requiring a supermajority shareholder vote for amalgamations, for example), these requirements can be easily avoided with a well-drafted shareholders' agreement. A more serious disadvantage of British Columbia is not the statute itself, but rather the province's less developed case law. Although British Columbia's courts

(2014) 57:4 J Law Econ 865; Jaspreet Mann, "Where to Incorporate Your Business: California or Delaware?" online: *DLA Piper* <dlapiperaccelerate.com/knowledge/2017/where-to-incorporate-your-business-california-or-delaware.html>.

⁹⁶ In addition to incorporating under the law of any province, Canadian corporations may also incorporate under the federal *Canada Business Corporations Act*, RSC 1985, c C-44.

⁹⁷ There is less substantive variation in provincial corporate law than there is among American states. Moreover, no single province dominates corporate law in Canada the way that Delaware does in the United States. Most smaller businesses simply incorporate in their home province. For analyses of corporate law competition (or the absence thereof) in Canada, see Douglas J Cumming & Jeffrey G MacIntosh, "The Role of Interjurisdictional Competition in Shaping Canadian Corporate Law" (2000) 20:2 Int'l Rev L & Econ 141; Camden Hutchison, "Corporate Law Federalism in Historical Context: Comparing Canada and the United States" (2018) 64:1 McGill LJ 109; Camden Hutchison, "Pluralism and Convergence: Judicial Standardization in Canadian Corporate Law" (2021) 58:1 Osgoode Hall LJ 163 [Hutchison, "Pluralism and Convergence"].

⁹⁸ *Business Corporations Act*, SBC 2002, c 57 [*BCA*].

⁹⁹ *General Corporation Law*, Del Code Ann tit 8 [*DGCL*].

are competent and reliable,¹⁰⁰ they lack the volume of precedent that can increase the certainty of litigation.¹⁰¹

The *BCA* also provides certain advantages, however. The Act's supermajority voting requirements—although reducing flexibility—are characteristic of Canadian law's strong shareholder protections, which benefit outside investors. The Act's statutory oppression remedy,¹⁰² unknown to American law, is a potent defense against management exploitation.¹⁰³ The plan of arrangement process—similarly absent from American law—is a flexible and effective tool for conducting acquisitions and restructurings.¹⁰⁴ With respect to forming corporations themselves, BC companies can be formed easily and quickly (though not as quickly as in Delaware),¹⁰⁵ are permitted to issue an unlimited number of shares (with or without par value), and are not required to pay franchise taxes.¹⁰⁶ Finally, in comparison with other Canadian corporations acts, the *BCA* has a specific advantage: Unlike certain Canadian statutes, including the Ontario *Business Corporations Act* and the *Canada Business Corporations Act*, the *BCA* imposes no Canadian residency requirements on corporate

¹⁰⁰ This is the general view of BC practitioners, as confirmed by our interviewees.

¹⁰¹ Although the volume of precedent has increased over time, it does not approach that of Delaware. See Hutchison, "Pluralism and Convergence", *supra* note 97.

¹⁰² See *BCA*, *supra* note 98, s 227.

¹⁰³ The Canadian oppression remedy has famously been described as "the broadest, most comprehensive and most open-ended shareholder remedy in the common law world.": SM Beck, "Minority Shareholders' Rights in the 1980s" in *Law Society of Upper Canada, Corporate Law in the '80s* (Don Mills: R De Boo, 1982) 311 at 311–12.

¹⁰⁴ See *BCA*, *supra* note 98, ss 288–99.

¹⁰⁵ In British Columbia, the expedited registration process takes one to two business days. Expedited incorporation in Delaware can take less than an hour.

¹⁰⁶ The time, cost, and complexity of starting a business are important factors in the World Bank's *Doing Business* report. See "Methodology", online: *World Bank* <doingbusiness.org/en/methodology>. Of 190 countries, Canada ranks 3rd on "starting a business" (though only 23rd in the overall ranking).

directors,¹⁰⁷ a welcome source of flexibility for foreign venture capital investors.

Ultimately, there is no significant disadvantage to incorporating under BC law. Looking beyond corporations per se, one shortcoming of BC law is the complete absence of limited liability companies—a disadvantage shared by all Canadian provinces. However, given (1) Canada’s integrated corporate tax system, which mitigates double taxation issues, (2) the availability of “GP-LP” structures that can effectively simulate LLCs,¹⁰⁸ and (3) venture capitalists’ strong preference for investing in corporations even in the United States,¹⁰⁹ it is doubtful the absence of LLCs has a significant impact on BC startups. Thus, even compared to Delaware law, the *BCA* is perfectly adequate for most investors and entrepreneurs.

D. LABOUR LAW

Labour law is particularly important to startup companies, as the most valuable asset of many startups is the knowledge of their employees. Whether startups benefit or lose from strong labour laws is ambiguous, however. On the one hand, startups require legal flexibility in hiring, firing, and compensation in order to respond to changing market conditions.¹¹⁰ It is crucially important that startups are free to set hours and pay, performance expectations, and conditions of employment with their workers. On the other hand, many scholars have argued that *limiting* employers’ freedom to enforce non-competition agreements (“non-

¹⁰⁷ See *BCA*, *supra* note 98, s 124. The other provinces that do not impose director residency requirements are New Brunswick, Nova Scotia, Prince Edward Island, and Quebec. As of this writing, the Ontario Legislative Assembly has introduced legislation (Bill 213) to eliminate the director residency requirements from the *Business Corporations Act*.

¹⁰⁸ By GP-LP structures, we mean limited partnerships in which the general partner is a corporation. Investors can make capital contributions as limited partners while sharing management rights through the corporate GP. If properly designed, these structures can provide many of the advantages of LLCs.

¹⁰⁹ *Supra* note 61.

¹¹⁰ See Magnus Henrekson, “Entrepreneurship: A Weak Link in the Welfare State?” (2005) 14:3 *Ind Corp Change* 437 at 454–55 [Henrekson, “Entrepreneurship”].

competes”) can provide spillover benefits for the surrounding economic region.¹¹¹ Most famously, Ronald Gilson has argued that California’s unusual blanket prohibition of non-competes¹¹²—and the resulting economic culture of competition, labour mobility, and interfirm knowledge transfer—was a key factor in the development of Silicon Valley.¹¹³

Like all Canadian provinces, courts in British Columbia are reluctant to enforce non-competes, a policy inherited from English common law.¹¹⁴ Unlike California, however, non-competes are not statutorily prohibited, and Canadian courts *will* enforce “reasonable” non-competition agreements.¹¹⁵ According to the Supreme Court of Canada, covenants in restraint of trade (including non-competes) are enforceable if the challenged covenant is reasonable between the parties and with reference to the public interest.¹¹⁶ This reasonability hinges on whether (1) the employer has a proprietary right entitled to protection (e.g., trade secrets or specific intellectual property),¹¹⁷ (2) the covenant is reasonable in terms of duration and geographical scope,¹¹⁸ and (3) the employer could protect its interest by relying on a narrower contractual remedy (such as a limited non-solicitation covenant).¹¹⁹ While many non-competes have failed this test,

¹¹¹ See e.g. On Amir & Orly Lobel, “How Noncompetes Stifle Performance” (Jan/Feb 2014) 92:1/2 Harv Bus Rev 26; Gilson, “The Legal Infrastructure”, *supra* note 11; Orly Lobel, *Talent Wants to Be Free: Why We Should Learn to Love Leaks, Raids, and Free Riding* (New Haven: Yale University Press, 2013) at 49–75; Sampsa Samila & Olav Sorenson, “Noncompete Covenants: Incentives to Innovate or Impediments to Growth” (2011) 57:3 Mgmt Sci 425 at 428–29, 436.

¹¹² Cal Civ Code § 16600 (1872).

¹¹³ See Gilson, “The Legal Infrastructure”, *supra* note 11.

¹¹⁴ See e.g. *Valley First Financial Services Ltd v Trach*, 2004 BCCA 312 at para 44 [Valley First].

¹¹⁵ *Ibid.*

¹¹⁶ See *JG Collins Insurance Agencies Ltd v Elsley*, [1978] 2 SCR 916 at 923–29, 83 DLR (3d) 1.

¹¹⁷ *Ibid* at para 19.

¹¹⁸ See *Terra Engineering Ltd v Stewart*, 1994 Carswell BC 1761 at paras 18–23, 1994 CanLII 590.

¹¹⁹ See *Valley First*, *supra* note 114 at para 50.

many have been upheld.¹²⁰ Thus, despite being judicially disfavored, non-competes are more enforceable in British Columbia than California.

Gilson's study of Silicon Valley implies the enforceability of non-competes may be harmful to the BC tech economy. We question whether this legal difference has a meaningful effect on startup activity, however, for two reasons. First, in all jurisdictions—including California—there are powerful non-legal¹²¹ mechanisms to retain employees and prevent competition. The most common such mechanism is granting incentive equity such in the form of stock options or restricted stock. Although incentive equity does not provide the legal security of a binding contract, by aligning the economic interests of the company and the employee, it can serve as a powerful retention mechanism—particularly if subject to a “clawback” provision triggered by the employee's departure.¹²² Second, even in jurisdictions where non-competes are enforceable, firms are subject to market forces that discourage their enforcement. As Robert Gomulkiewicz argues, firms are reluctant to enforce non-competes for a variety of economic reasons, including (1) the cost and risks of litigation (including disclosure of trade secrets in discovery), (2) reputational harm, (3) the possibility of wayward employees returning to the fold (perhaps with new knowledge and skills), (4) a desire to avoid antagonizing competitors, and (5) a strong cultural norm against enforcement of non-competes.¹²³ This

¹²⁰ Some non-competes that have survived legal challenge have been very broad. See e.g. *ACS Public Sector Solutions Inc v Courthouse Technologies Ltd*, 2005 BCCA 605 (where a 12-month non-compete covering the entirety of North America was upheld as reasonable).

¹²¹ By “non-legal” we simply mean other than by enforcement of contractual covenants.

¹²² Diana Hembree, “Startup Employee Alert: Can Your Company Take Back Your Vested Shares?” (10 January 2018), online: *Forbes* <forbes.com/sites/dianahembree/2018/01/10/startup-employee-alert-can-your-company-take-back-your-vested-stock-options/>.

¹²³ See Robert Gomulkiewicz, “Leaky Covenants-not-to-Compete as the Legal Infrastructure for Innovation” (2015) 49:1 UC Davis L Rev 251 at 280–86.

last factor may be the most significant. Silicon Valley's cultural norms of knowledge sharing and labour mobility¹²⁴ appear to have spread globally.

Our interviews with practitioners confirm that these market norms are present in Vancouver, notwithstanding the legal enforceability of non-competes. Vesting equity is common,¹²⁵ and employers face the same market constraints on enforcing non-competes as identified by Gomulkiewicz. Given the small size of the Vancouver labour market, the reputational risks of suing former employees are significant. Conversely, non-competes may be less valuable due to the size of the market itself: Compared to Silicon Valley, a smaller number of tech companies means less demand for skilled labour, which translates into less "poaching" of competitors' employees, reduced labour mobility, and ultimately lower salaries. As Vancouver's tech economy grows and the labour market becomes more competitive, non-competes may eventually become a more consequential legal issue. For now, however, differences in legal enforceability are less important than market practices.

Apart from non-competes, the only other significant difference between California and BC law is that British Columbia—like all Canadian provinces—is not an "at will" employment jurisdiction. This often comes as an unpleasant surprise to US venture capital investors, but the consequences of BC's employment protections are not prohibitively onerous, so long as appropriately drafted employment agreements are put in place. Under BC law, employees are entitled to a contractual minimum of one week's prior notice of termination without cause (or payment in lieu thereof), up to a maximum of eight weeks' notice for employees who have worked eight

¹²⁴ See generally AnnaLee Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*, 2nd ed (Cambridge: Harvard University Press, 1996); Gilson, "The Legal Infrastructure", *supra* note 11. In studying Silicon Valley, Gilson and Saxenian observe the same phenomena regarding collaboration and competition. While Saxenian ascribes these phenomena to regional economic culture, Gilson suggests that legal differences influence culture itself.

¹²⁵ See Scott McLeod "Why Successful Emerging Tech Companies Offer Employee Stock Option Incentives" (16 September 2019), online: *Clark Wilson LLP* <cwilson.com/why-successful-emerging-tech-companies-offer-employee-stock-option-incentives/>.

years or more.¹²⁶ Most workers are entitled to only a few weeks' notice/severance—a minor financial obligation that is more than offset by Vancouver's low wages.¹²⁷ In almost every other respect, British Columbia is much closer to the flexible American labour market than the highly protective labour systems characteristic of European countries, which often serve as an obstacle to both hiring and entrepreneurship.¹²⁸

E. BANKRUPTCY/INSOLVENCY

Several studies have examined the relationship between bankruptcy law and entrepreneurship.¹²⁹ In general, these studies have found that more

¹²⁶ See *Employment Standards Act*, RSBC 1996, c 113, s 63. The notice/severance scale is roughly one week's notice/severance per year of employment.

¹²⁷ Note, however, that if no specific notice/severance provision is included in an employment agreement (or if the notice/severance provision contains legal defects), courts may award common law severance, which can be much greater than the statutory minimums. For this reason, it is important that each employee sign a valid employment agreement upon commencement of employment.

¹²⁸ See e.g. Ant Bozkaya & William R Kerr, "Labor Regulations and European Venture Capital" (2014) 23:4 J Econ & Mgmt Strategy 776 at 780–81, 803–04; Federico Cingano et al, "The Effects of Employment Protection Legislation and Financial Market Imperfections on Investment: Evidence From a Firm-level Panel of EU Countries" (2010) 25:61 Econ Pol'y 117 at 138–40; Henrekson, "Entrepreneurship", *supra* note 110 at 454–55; Magnus Henrekson & Mikael Stenkula, "Entrepreneurship and Public Policy" in Zoltan J Acs & David B Audretsch, eds, *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction*, 2nd ed (New York: Springer, 2010) 595 at 613–15; David B Audretsch et al, "An Eclectic Theory of Entrepreneurship: Policies, Institutions and Culture" in David B Audretsch et al, eds, *Entrepreneurship: Determinants and Policy in a European-US Comparison*, vol 27 (Kluwer Academic Publishers, 2002) 11 at 47; André van Stel, David J Storey & A Roy Thurik, "The Effect of Business Regulations on Nascent and Young Business Entrepreneurship" (2007) 28:2/3 Small Bus Econ 171 at 180–83.

¹²⁹ See e.g. John Armour & Douglas J Cumming, "Bankruptcy Law and Entrepreneurship" (2008) 10:2 Am L & Econ Rev 303 [Armour & Cumming "Bankruptcy"]; Jay Barney et al, "How Do Bankruptcy Laws Affect Entrepreneurship Development Around the World?" (2011) 26:5 J Bus Venturing 505; Geraldo Cerqueiro & Maria Penas, "How Does Personal Bankruptcy Law Affect Start-Ups?" (2016) 30:7 Rev Fin Stud; Cumming, *supra* note 9; Wei Fan & Michelle White, "Personal Bankruptcy and the Level of Entrepreneurial Activity" (2003) 46:2 J Law Econ 543.

forgiving bankruptcy rules encourage entrepreneurial activity.¹³⁰ A specific finding is that greater protection of debtors' assets in bankruptcy increases the rate of new business formation.¹³¹ The economic logic is intuitive—the greater the extent to which debtors can protect their assets, the greater their willingness to take financing risks.¹³²

Although Canadian and US bankruptcy laws are similar, there are important legal differences with respect to *personal* bankruptcy. One difference is that US jurisdictions provide greater homestead exemptions.¹³³ These exemptions shield a debtor's equity in their primary residence, up to a specified dollar amount. The literature suggests that higher homestead exemptions encourage entrepreneurship, particularly in geographic regions with high real estate values.¹³⁴ If home equity is protected in the bankruptcy process, then individuals whose personal wealth is tied to homeownership face reduced financial risk when starting a business.

California's homestead exemption is relatively generous, allowing homeowners to shield US\$75,000 (for individuals) or US\$100,000 (for

¹³⁰ See Armour & Cumming, "The Legislative Road", *supra* note 9 at 601–28; Armour & Cumming, "Bankruptcy", *supra* note 129; Barney et al, *supra* note 129; Fan & White, *supra* note 129. See also Cumming & Li, *supra* note 9 at 357–64; Cerqueiro & Penas, *supra* note 129.

¹³¹ See Barney et al, *supra* note 129 at 513–17; Fan & White, *supra* note 129 at 563–64.

¹³² Although entrepreneurs can protect their assets by organizing their businesses as limited liability entities, many first-time entrepreneurs are forced to use personal credit and/or personal guaranties to finance initial startup costs. This is particularly true in Vancouver, which has an underdeveloped venture capital market.

¹³³ In both the United States and Canada, bankruptcy legislation is national. However, the bankruptcy laws of both countries delegate exemption rules to the individual states and provinces.

¹³⁴ Several studies have found a positive relationship between real estate values and entrepreneurship. See e.g. Stefano Corradin & Alexander Popov, "House Prices, Home Equity Borrowing, and Entrepreneurship" (2015) 28:8 Rev Fin Stud 2399; John Harding & Stuart Rosenthal, "Homeownership, Housing Capital Gains and Self-Employment" (2017) 99 J Urb Fin 120; Martin C Schmalz, David A Sraer & David Thesmar, "Housing Collateral and Entrepreneurship" (2017) 72:1 J Fin 99.

family units) from creditors in bankruptcy.¹³⁵ Washington's exemption is even higher at US\$125,000.¹³⁶ Like most Canadian provinces, British Columbia offers meagre exemptions, protecting CAN\$12,000 for debtors in Vancouver and Victoria, and even less for debtors elsewhere in British Columbia.¹³⁷ Given the importance of homestead exemptions in high-priced real estate markets (such as Vancouver), British Columbia's low bankruptcy exemptions may discourage entrepreneurship.

Homestead exemptions are not the only area in which Canadian law is less forgiving. Other features of Canadian law can impose onerous requirements on insolvent debtors. Rather than receiving an immediate discharge, Canadian debtors can face "surplus income" payments for up to 21 months following bankruptcy.¹³⁸ Debtors also face reporting, counseling, and other legal obligations for a minimum of nine months.¹³⁹ This is in contrast with the United States, where debtors receive a fresh start (i.e., discharge of all financial obligations) within 60 days of the court-supervised meeting of creditors.¹⁴⁰ In terms of debt recovery (i.e., how much debtors actually repay), studies show that Canadian creditors recover more than their US counterparts in *commercial* bankruptcies.¹⁴¹ Although we are unaware of similar evidence regarding *personal* bankruptcies, it is at

¹³⁵ See California Code of Civil Procedure §704.730. The exemption is as high as US\$175,000 for certain vulnerable debtors. See *ibid.*

¹³⁶ See RCW § 6.13.030.

¹³⁷ See BC Reg 216/2019, s 3.

¹³⁸ *Bankruptcy and Insolvency Act*, RSC 1985, c B-3, ss 68, 168.1. These payments can continue for up to 36 months if the debtor has previously filed for bankruptcy.

¹³⁹ See *ibid.*, s 158.

¹⁴⁰ See Fed R Bankr P 4004(a). Debtors liquidate their nonexempt assets to repay creditors under Chapter 7 of the *Bankruptcy Code*. Debtors can also propose a repayment plan under Chapter 13 of the *Bankruptcy Code*. In addition to liquidation, Canadian debtors can make a repayment "proposal" analogous to Chapter 13. The availability of this proposal process mitigates the severity of the Canadian liquidation regime. See 11 US Code § 701–84, 1301–30.

¹⁴¹ See Seung-Hyun Lee, Mike W Peng & Yasuhiro Yamakawa, "Bankruptcy Laws and Entrepreneur-Friendliness" (2010) 34:3 *Entrepreneurship Theory Prac* 517 at 521.

least plausible that this advantage applies to personal bankruptcies as well, particularly in light of the harsh rules faced by individual Canadian debtors.

The real question is whether these harsher bankruptcy rules inhibit entrepreneurship. Although the risk of bankruptcy is a serious issue for entrepreneurs, there are reasons to doubt bankruptcy law's influence on high-technology startup companies. One reason is that many sophisticated startups can access specialized equity financing (e.g., angel financing and venture capital) and are less reliant on traditional debt financing. Even when venture capitalists invest in convertible or secured notes, they rarely demand rights to recover against founders personally. That said, many entrepreneurs nevertheless take on personal debt when first starting a business.¹⁴² Ultimately, while we do not argue that bankruptcy law has a decisive effect on Canadian startups (an argument best reserved for future empirical research), we would encourage Canadian legislators to consider potential bankruptcy reforms. We return to this issue in our conclusion.

F. IMMIGRATION

Immigrants play a key role in innovation and entrepreneurship. Not only do immigrants have high rates of entrepreneurship, they also fill an important need as technology workers for existing firms. Immigrants to Canada are more likely to start businesses than the native-born population¹⁴³ and

¹⁴² See *supra* note 132. Janis Sarra finds that many Canadian entrepreneurs commingle business and personal debt, and that “business failure, use of personal line of credit for business” is a major cause of insolvency proposals. See Janis P Sarra, *Micro, Small and Medium Enterprise (MSME) Insolvency in Canada* (Vancouver: Allard Research Commons, 2016) at 4–7, 29, 46. In the United States, Sergey Brin and Lawrence Page founded Google using “all of our credit cards and our friends’ credit cards and our parents credit cards.”: Robert M Lawless, “Striking Out on Their Own: The Self-Employed in Bankruptcy” in Katherine Porter, ed, *Broke: How Debt Bankrupts the Middle Class* (Palo Alto: Stanford University Press, 2012) at 101.

¹⁴³ See *Immigrant Entrepreneurship: Barriers and Facilitators to Growth* (Toronto: Diversity Institute, Ted Rogers School of Management, 2019) at 7. Even refugees to Canada are more likely to start businesses than native-born Canadians. Garnett Picot & Yuri Ostrovsky, “Research Blog: Immigrant Entrepreneurs in Canada” (28 August 2018), online: *Statistics Canada* <statcan.gc.ca/eng/blog/cs/immigrant-entrepreneurs>.

immigrant-founded companies create jobs at a faster rate than their native-founded counterparts.¹⁴⁴ In the United States, approximately 25% of startup companies (and more than 40% of startups companies based in California) are founded or co-founded by first-generation immigrants,¹⁴⁵ despite the fact that immigrants represent approximately 15% of the national population.¹⁴⁶ More than half of all “unicorns” have at least one immigrant founder,¹⁴⁷ and more than 40% of Fortune 500 companies were founded by first- or second-generation immigrants.¹⁴⁸ Anecdotally, many of the most valuable and celebrated companies in both countries—including Google, Tesla, and Shopify—were founded or co-founded by immigrants.

Although Canada and the United States are both high-immigration countries with liberal immigration policies,¹⁴⁹ Canada is more aggressive in targeting and recruiting highly skilled immigrants. The centerpiece of Canadian immigration policy is the Express Entry program, a points-based intake system that selects immigrants on the basis of language skills, education, professional experience, and other merit and integration criteria.¹⁵⁰ High-scoring applicants quickly become eligible for permanent

¹⁴⁴ See *Immigrant Entrepreneurs as Job Creators: The Case of Canadian Private Incorporated Companies*, by Garnett Picot & Anne-Marie Rollin, in *Analytical Studies Branch Research Paper Series*, Catalogue No 11F0019M no 423 (Ottawa: Statistics Canada, 2019).

¹⁴⁵ See Sari Pekkala Kerr & William Kerr, “Immigrant Entrepreneurship in America: Evidence from the Survey of Business Owners 2007 & 2012” (2020) 49:3 *Research Policy* 103918 at 1, 6.

¹⁴⁶ See “International Migrant Stock 2019: Graphs”, online: *United Nations Population Division* <un.org/en/development/desa/population/migration/data/estimates2/estimatesgraphs.asp?2g2>.

¹⁴⁷ See Stuart Anderson, *Immigrants and Billion-Dollar Companies* (Arlington: National Foundation for American Policy, 2016) at 1.

¹⁴⁸ See “New American Fortune 500 in 2019: Top American Companies and Their Immigrant Roots” (22 July 2019), online: *New American Economy* <data.newamericaneconomy.org/en/fortune500-2019/>.

¹⁴⁹ At least relative to most countries in the world.

¹⁵⁰ For a thorough description and critical analysis of the Express Entry system, see Asha Kaushal, “Do the Means Change the Ends? Express Entry and Economic Immigration in Canada” (2019) 42:1 *Dal LJ* 83.

residence. Indeed, given the system's generous point cutoffs, Canada's immigration rate, as a percentage of its population, is among the highest in the world.¹⁵¹ In comparison, while the green card system in the United States features many pathways to immigration (including family reunification, employer sponsorship, and the diversity lottery system), none are directly tied to merit.¹⁵² Waiting times under the green card system are notoriously long, as the number of applicants far exceeds annual quotas for most categories.¹⁵³ Compounding these difficulties, the Trump administration imposed several new barriers to immigration, including a moratorium on newly issued green cards in 2020.¹⁵⁴

¹⁵¹ Canada's annual immigration target is more than one percent of its total population. See Immigration, Refugees and Citizenship Canada, "Notice – Supplementary Information for the 2021-2023 Immigration Levels Plan" (last modified 18 June 2021), online: <canada.ca/en/immigration-refugees-citizenship/news/notices/supplementary-immigration-levels-2021-2023.html>. In the United States, annual legal immigration (although much higher in absolute terms) is less than 0.3% of the total population. See Abby Budiman, "Key Findings about U.S. Immigrants" (20 August 2020), online <pewresearch.org/fact-tank/2020/08/20/key-findings-about-u-s-immigrants/>.

¹⁵² The complexity of the US immigration system defies any concise explanation. An overview of the various green card eligibility criteria is available at "Green Cards and Permanent Residence in the U.S." (last updated 10 June 2020), online: *USAGov* <usa.gov/green-cards>.

¹⁵³ See David J Bier, "Immigration Wait Times from Quotas Have Doubled: Green Card Backlogs Are Long, Growing, and Inequitable" (18 June 2019), online: *Cato Institute* <cato.org/publications/policy-analysis/immigration-wait-times-quotas-have-doubled-green-card-backlogs-are-long>.

One issue with the US system is that each source country is assigned its own immigration quota. This means skilled immigrants from high-emigration countries such as India and China can face very high wait times. Since the Canadian system does not discriminate on the basis of national origin (i.e., immigrants do not face country-specific quotas), it can better accommodate differing immigration flows among countries. This is particularly advantageous given the very high rate of entrepreneurship among Indian and Chinese immigrants.

¹⁵⁴ See "Proclamation Suspending Entry of Aliens who Present a Risk to the U.S. Labor Market Following the Coronavirus Outbreak" (22 June 2020), online: *Trump White House* <trumpwhitehouse.archives.gov/presidential-actions/proclamation-suspending-entry-aliens-present-risk-u-s-labor-market-following-coronavirus-outbreak/>. These

In addition to the Express Entry system, Canada offers several programs specifically for entrepreneurs. Under the federal Start-up Visa Program, for example, foreign entrepreneurs can obtain permanent residence in Canada by successfully applying to a recognized business incubator or by receiving financial sponsorship from a recognized angel network or venture capital firm.¹⁵⁵ At the provincial level,¹⁵⁶ British Columbia's Provincial Nominee Program—which targets specific categories of immigrants for settlement in British Columbia—also offers an entrepreneurship pathway.¹⁵⁷ Under the BC program, foreign investors willing to commit at least CA\$200,000 under a registered business plan can obtain a temporary visa and eventually apply for permanent residence.¹⁵⁸ Although the US offers various immigration pathways to skilled workers, it currently lacks a permanent “startup visa” equivalent to Canada's.¹⁵⁹ The US's International

measures include a number of important exemptions—most notably, they do not apply to individuals already present in the United States.

¹⁵⁵ “Start-up Visa Program” (28 March 2013), online: *Immigration, Refugees and Citizenship Canada* <canada.ca/en/immigration-refugees-citizenship/services/immigrate-canada/start-visa.html>. For angel networks, the minimum investment amount is \$75,000. For venture capital firms, the minimum investment amount is \$200,000. The structure of this program minimizes the abuses associated with “pay to immigrate” programs, in that the immigrant entrepreneur must be endorsed by an independent third party with skin in the game.

¹⁵⁶ Although the Canadian immigration system is governed by federal law, provinces may nominate applicants under the Express Entry system.

¹⁵⁷ See “BC PNP—Entrepreneur Immigration”, online: *WelcomeBC* <welcomebc.ca/Immigrate-to-B-C/BC-PNP-Entrepreneur-Immigration>.

¹⁵⁸ See “Entrepreneur Immigration – Base Category Process”, online: *WelcomeBC* <welcomebc.ca/Immigrate-to-B-C/BC-PNP-Entrepreneur-Immigration/Process#anchor4>.

¹⁵⁹ Note that the US's EB-5 immigrant investor visa targets high-net-worth individuals (not necessarily entrepreneurs) by requiring a minimum investment of \$900,000 in the United States. The program has primarily drawn investment in real estate, and has been criticized for allowing wealthy investors to “buy” permanent-resident status by making low-return investments. See Ron Nixon, “Program that Lets Foreigners Write a Check, and Get a Visa, Draws Scrutiny” (15 March 2016), online: *The New York Times* <nytimes.com/2016/03/16/us/politics/program-that-lets-foreigners-write-a-check-and-get-a-visa-draws-scrutiny.html#:~:text=

Entrepreneur Rule—similar in purpose to the Canadian Start-up Visa Program—was effectively rescinded by the Trump administration in 2018.¹⁶⁰

Beyond immigrants per se,¹⁶¹ Canadian law is even more flexible regarding temporary foreign workers (many of whom in fact become permanent residents). There are two primary avenues for nonimmigrants to work in Canada: the Post-Graduation Work Permit Program (PGWPP) and the Canadian Temporary Foreign Workers program (CTFW).¹⁶² The PGWPP allows foreign students to work full-time for up to three years following graduation from a Canadian post-secondary institution, regardless of area of study.¹⁶³ Work experience gained under the PGWPP

The%20program%2C%20called%20EB%2D5,path%20to%20United%20States%20citizenship.>. This program differs from the Canadian Startup Visa Program, which requires entrepreneurs to obtain financing from professional investors, but does *not* require immigrants to invest their own capital.

¹⁶⁰ As of this writing, the International Entrepreneur Rule is in a state of limbo. Although the Trump administration gave formal notice of its intention to rescind the rule, no final order was ever issued. See 83 FR 24415. Anecdotal evidence suggests that uncertainty over the program's legal status has deterred applications, and that at least some entrepreneurs waiting to immigrate to the United States have immigrated to Canada instead. See Olivia Carville, "Trump Booted Foreign Startup Founders. Other Countries Embraced Them" (1 October 2018), online: *Bloomberg* <bloomberg.com/news/articles/2018-10-01/trump-booted-foreign-startup-founders-other-countries-embraced-them>. The Biden administration intends to revitalize the program. See Michelle Hackman, "Foreign Entrepreneurs to Gain More Access to Immigration Program", *Wall Street Journal* (10 May 2021).

¹⁶¹ That is, permanent migrants.

¹⁶² Canada also offers the International Mobility Program, which grants work permits within a number of specific categories, including "working holiday" participants (generally young people without dependents), film and television workers, and professional athletes.

¹⁶³ The length of a work permit under the PGWPP depends on the length of the study program. The work permit is valid for three years if the study program is two years or more. In other words, most international undergraduate students and many graduate students are eligible for a three-year work permit. See "Work in Canada After You Graduate: About the Process" (last modified 28 September 2020) online: *Government of Canada* <canada.ca/en/immigration-refugees-citizenship/services/study-canada/work/after-graduation/about.html>.

may be applied towards permanent residence under the Express Entry program. The most comparable program in the United States—the Optional Practical Training program (OPT)—allows only 12 months of post-graduation employment, or 24 months for certain STEM fields.¹⁶⁴ Rather than gaining permanent residence eligibility, OPT holders must apply for regular work visas (H-1B) before their OPT authorization expires in order to continue working in the US.¹⁶⁵

Unlike in the United States, where the H-1B visa program is characterized by long waiting times, random selection, and increasingly high rejection rates,¹⁶⁶ the CTFW program offers a faster and more accommodating process for foreign workers. Specifically, the Global Talent Stream program (which exists within the larger CTFW program) expedites work permits for specified high-skill occupations, as well as any other positions at participating companies requiring “unique and specialized talent.”¹⁶⁷ As part of the government’s broader Global Skills Strategy, Global Talent Stream work permits can be granted in less than two weeks.¹⁶⁸ In our background interviews, multiple practitioners stated

¹⁶⁴ “Optional Practical Training for F-1 Students” (last modified 29 February 2021), online: *US Citizenship and Immigration Services* <uscis.gov/working-in-the-united-states/students-and-exchange-visitors/optional-practical-training-opt-for-f-1-students>.

¹⁶⁵ OPT holders receive a 60-day grace period, but their H-1B application must be approved by the end of that period.

¹⁶⁶ H-1B rejection rates, as low as five percent in 2012, have risen to thirty percent under the Trump administration. See Niall McCarthy, “H-1B Visa Denials Have Been Rising Steadily Under Trump” (23 June 2020), online: *Forbes* <forbes.com/sites/niallmccarthy/2020/06/23/h-1b-visa-denials-have-been-rising-steadily-under-trump-infographic/>.

¹⁶⁷ “Program Requirements for the Global Talent Stream” (last modified 27 May 2021), online: *Government of Canada* <canada.ca/en/employment-social-development/services/foreign-workers/global-talent/requirements.html>. To participate in the program, companies must be referred by one of several designated referral partners, most of which are economic and technological development organizations.

¹⁶⁸ “Priority Processing (14 days) of Work Permits Under the Global Skills Strategy” (last modified 16 September 2019), online: *Immigration, Refugees and Citizenship Canada* <canada.ca/en/immigration-refugees-citizenship/>

Canada's robust foreign worker policies provide an important advantage to Canadian firms, allowing them to easily source specialized employees from around the world. Many US tech companies, including Amazon, Google, and Facebook, have opened or expanded Canadian offices to take advantage of these policies.¹⁶⁹

Many of Canada's advantages in attracting and retaining immigrants are related to political developments in the United States. The Trump administration has reduced immigration through substantive policy changes as well as nativist political rhetoric that has deterred potential immigrants. Prior to COVID-19, legal immigration had decreased by more than 11% during the Trump administration due to stricter intake policies and fewer applications.¹⁷⁰ As US immigration decreased, Canadian immigration *increased*,¹⁷¹ signifying the United States' loss in standing as an immigration destination.¹⁷² Globally, international migration has decreased

corporate/publications-manuals/operational-bulletins-manuals/tempora
ry-residents/foreign-workers/two-week-processing.html>.

¹⁶⁹ See e.g. Bryan Borzykowski, "Nixing Silicon Valley, US Companies are now Tapping Canada for Tech Talent", *CNBC* (17 August 2019), online: <cnbc.com/2019/08/17/nixing-silicon-valley-us-companies-now-tapping-canada-for-tech-talent.html>; Rani Molla, "Canada is Becoming a Tech Hub. Thanks, Donald Trump!" (19 March 2019), online: *Vox* <vox.com/2019/3/19/18264391/us-tech-jobs-canada-immigration-policies-trump>; Joel Rose, "Canada Wins, U.S. Loses in Global Fight for High-Tech Workers" (27 January 2020), online: *NPR* <npr.org/2020/01/27/799402801/canada-wins-u-s-loses-in-global-fight-for-high-tech-workers>. Each of Amazon, Facebook, and Microsoft have large offices in Vancouver.

¹⁷⁰ See Zolan Kanno-Youngs, "As Trump Barricades the Border, Legal Immigration is Starting to Plunge", *The New York Times* (24 February 2020), online: <nytimes.com/2020/02/24/us/politics/trump-border-legal-immigration.html>.

¹⁷¹ See Stuart Anderson, "Immigrants Flock to Canada, While U.S. Declines" (18 February 2020), online: *Forbes* <forbes.com/sites/stuartanderson/2020/02/18/immigrants-flock-to-canada-while-us-declines/>.

¹⁷² Emigrants from Hong Kong, for example, now prefer immigration to Canada and Australia over the United States. See Shawna Kwan, Ben Steverman & Natalie Wong, "As Wealthy Flee Hong Kong, They Bypass U.S. to Find Other Havens", *BNN*

dramatically due to COVID-19, while Joe Biden has replaced Donald Trump as President of the United States. Whether US immigration will return to historical levels during the Biden administration remains to be seen.

As governments around the world have recognized, immigration is an important factor for economic growth. For decades, the United States has attracted the best and the brightest immigrants, many of whom have contributed to American technological dominance.¹⁷³ Canada has historically attracted fewer immigrant entrepreneurs, but this is largely due to the economic factors discussed in Part IV below, not to barriers imposed by immigration law. Indeed, as we have argued, Canadian immigration policy is more favorable than that of the United States. In the years to come, we expect the Canadian immigration system—characterized simultaneously by generosity and selectivity—will be a significant advantage for the Vancouver startup environment.

G. TRADE POLICY

Although trade agreements transcend domestic law,¹⁷⁴ the importance of Canada's trade relationships merits specific attention. Briefly stated, Canada's trade policies—particularly its free trade relationship with the United States and Mexico—are a major economic advantage for Canadian technology companies, allowing them privileged access to the world's wealthiest free trade area. Under the recent Canada-United States-Mexico Agreement (CUSMA, or “new NAFTA”), Canadian startups enjoy tariff-free access to a market of nearly 500 million people, an advantage heightened by Canada's geographic proximity and transportation links to the United States. The US is far and away Canada's largest export market, with Canada exporting \$318.8 billion in goods and \$35.9 billion in services to the United States in 2018 (representing increases from pre-NAFTA

Bloomberg (8 October 2019), online: *Bloomberg* <bnnbloomberg.ca/as-wealthy-flee-hong-kong-they-bypass-u-s-to-find-other-havens-1.1328417>.

¹⁷³ See AnnaLee Saxenian, *Silicon Valley's New Immigrant Entrepreneurs* (San Francisco: Public Policy Institute of California, 1999) at 9–26.

¹⁷⁴ Canadian trade agreements are, of course, ratified as acts of Parliament.

levels of 187% and 294%, respectively).¹⁷⁵ Canadian technology companies are major beneficiaries of this relationship—more than half of Canadian tech firms earn more than 40% of their revenues from the United States.¹⁷⁶

Certain commentators have criticized CUSMA for weakening protections for particular industries (particularly agriculture).¹⁷⁷ The reality, however, is that the agreement leaves most of NAFTA unchanged. Many of the amendments to NAFTA are sensible modernizations that stand to benefit Canadian tech companies. These amendments include the prohibition of discriminatory duties on electronic goods and services¹⁷⁸ and restrictions on imposing platform liability on social media companies and other internet service providers.¹⁷⁹ Protections against platform liability under US law are often cited as an important factor in the success of US internet companies.¹⁸⁰ Extending these protections to Canada may have a positive effect on Canadian internet firms.¹⁸¹

¹⁷⁵ See “Canada”, online: *Office of the United States Trade Representative* <ustr.gov/countries-regions/americas/canada>.

¹⁷⁶ See Stefanie Marotta, “Tech Stocks are Killing it in Canada—and not Just Shopify”, *BNN Bloomberg* (27 June 2018), online: <bnnbloomberg.ca/tech-stocks-are-killing-it-in-canada-and-not-just-shopify-1.1099404>.

¹⁷⁷ See e.g. “USMCA Costs Canada Sovereignty in Ag Policy, Critics Warn”, (30 November 2018), online: *AGCanada* <agcanada.com/daily/usmca-costs-canada-sovereignty-in-ag-policy-critics-warn> (for an example of this criticism).

¹⁷⁸ See CUSMA, c 19.

¹⁷⁹ See CUSMA, art 19.17. In the United States, protections against intermediary platform liability exist which protect online service providers from civil liability for third-party content shared or published using their services. See *Communications Decency Act*, § 230(c)(1). Although there is little effort in Canada to enact similar legislation, CUSMA prohibits laws specifically imposing platform liability.

¹⁸⁰ See e.g. Chander Anupam, “How Law Made Silicon Valley” (2014) 63:3 *Emory LJ* 639 at 650–57.

¹⁸¹ These changes to NAFTA/CUSMA were strongly supported by the Information Technology Association of Canada. See Janet Gibson-Eichner, “National Tech Industry Association Supports CUSMA Agreement” (16 December 2019), online: *Information Technology Association of Canada* <itac.ca/blog/national-tech-industry-association-supports-cusma-agreement/>.

Although the United States is Canada's largest export market, Canadian access to other global markets is nearly as important. Canada is one of the world's leading trading nations, and is a party to several multilateral and bilateral free trade agreements. Notably, Canada is a party to the Comprehensive Economic and Trade Agreement with the European Union, as well as the Comprehensive and Progressive Trans-Pacific Partnership with six Pacific countries, including Japan.¹⁸² The political logic of these trade agreements (and their popularity with Canadian voters) is grounded in Canada's unique status as a large commodity exporter with a small domestic market. And while Canada's trade-friendly politics have historically been based on commodities, the higher tech sectors of the Canadian economy have been collateral beneficiaries. If lawmakers wish to maximize these benefits, they should continue to expand Canada's relationships with additional trading partners.

H. SUMMARY

Each of these areas of law—tax, securities, corporate, labour, bankruptcy, immigration, and trade—have important implications for entrepreneurship. They are not the only legal areas relevant to entrepreneurship, however. Other areas of law are equally important but feature even fewer differences between Canada and United States. One example is intellectual property: Although patenting innovations is crucial for many tech companies, patent law is essentially the same for Canadian and US firms. This is *not* because the law itself is identical in the two countries,¹⁸³ but rather because

¹⁸² Four additional countries have signed, but not yet ratified, the Comprehensive and Progressive Trans-Pacific Partnership. Canada also has bilateral free trade agreements with Chile, Columbia, Costa Rica, Honduras, Israel, Jordan, Panama, Peru, South Korea, and Ukraine. See "Trade and Investment Agreements" (last modified 19 July 2021), online: *Government of Canada* <international.gc.ca/trade-commerce/trade-agreements-accord-s-commerciaux/agr-acc/index.aspx?lang=eng>.

¹⁸³ For a memorandum on the similarities and differences between US and Canadian IP law, see Bob Sotiriadis, "Differences Between U.S. and Canadian Law Regarding Intellectual Property" (1 January 2006), online (pdf): *Robic* <robic.ca/wp-content/uploads/2017/05/345E-BHS-2006.pdf>.

Canadian firms opt into the US patent system by filing US patents. Given the significance of the US market and the effectiveness of US patent enforcement, Canadian firms often prioritize US patent registration, with Canadian registration being a secondary priority.¹⁸⁴

Beyond legal issues, the broader policy context is also important to startup companies. For example, Vancouver's high cost of living—exacerbated by low salaries¹⁸⁵—makes it difficult for companies to recruit talent.¹⁸⁶ This affordability issue is influenced by Vancouver's zoning policies, which have historically favored single-family homes.¹⁸⁷ Looking further afield, even Canadian healthcare policy may influence entrepreneurship: By divorcing access to health insurance from traditional salaried employment, Canada's publicly funded healthcare system may reduce the risks of starting a business.¹⁸⁸ All of this is to say that the full

¹⁸⁴ In practice, Canadian firms often file through the Patent Cooperation Treaty system with the intention of securing a US patent. Since the Canadian Intellectual Property Office is not geared to the global market, "Canadian patents are an afterthought, even for Canadian innovators.": James Hinton & Peter Cowan, "Canada Needs an Innovative Intellectual Property Strategy", *The Globe and Mail* (19 May 2017), online: <theglobeandmail.com/report-on-business/rob-commentary/canada-needs-an-innovative-intellectual-property-strategy/article35065156/#:~:text=By%20announcing%20a%20national%20intellectual,in%20a%2021st%2Dcentury%20economy>.

¹⁸⁵ See Tyler Orton, "Vancouver Salaries Trail All but One Tech Hub in North America" (16 July 2020), online: *Business in Vancouver* <biv.com/article/2020/07/vancouver-salaries-trail-all-one-tech-hub-north-america-cbre>.

¹⁸⁶ See Peter Mitham, "Housing Costs too High to Attract Tech Talent: Study" *Business in Vancouver* (5 December 2018).

¹⁸⁷ As in many cities, efforts to de-zone Vancouver and increase housing flexibility have faced considerable political opposition from incumbent homeowners. A modest pilot program to increase housing density was recently defeated by city council. See Kenneth Chan, "Vancouver Mayor's Housing Ownership Affordability Plan Hamstrung by City Council" (30 September 2020), online: *Daily Hive* <dailyhive.com/vancouver/making-home-vancouver-rejected-kennedy-stewart>.

¹⁸⁸ For examples of this argument in the American context, see Raj Aggarwal, Krisztina Holly & Vivek Wadhwa, "Health Insurance Availability and Entrepreneurship" (2013) 18:4 *J Developmental Entrepreneurship* 1350025-1; Robert W Fairlie, Susan Gates & Kanika Kapur, "Is Employer-Based Health Insurance a Barrier to Entrepreneurship?"

effects of social policy on entrepreneurship are complex, such that it is unlikely any single area of law has a decisive economic impact.

Our discussion in this Part III illustrates this very point. Although many areas of law influence entrepreneurship, they cannot explain—either independently or in combination—the empirical outcomes discussed in Part II. In other words, we find no *legal* disadvantage facing Canadian firms. Although bankruptcy and labour law are more favorable in the United States, this is balanced by Canada’s favorable business taxation, securities regulations, and immigration policy. To be clear, our conclusion is *not* that Canadian business law is ideal in any abstract sense or superior to that of the United States, but simply that it does not impose systematic disadvantages. Vancouver’s weaker entrepreneurial performance compared to leading US cities must be explained by broader economic factors. It is to these factors—including their origins, consequences, and potential policy responses—that this article now turns.

IV. INSTITUTIONAL FACTORS

As discussed, the legal environment in British Columbia is not an impediment to startup companies. Nevertheless, Vancouver trails not only Silicon Valley but a number of US regions in terms of business formation, venture capital investment, and technological innovation. If law is not the cause of these disparities, what is? Based on our research, we offer three (related) explanations: (1) absence of scale, (2) lack of venture capital, and (3) brain drain to the United States. We discuss each of these explanations in turn.

A. ABSENCE OF SCALE

By “absence of scale”, we mean the absence of a dense, interconnected network of entrepreneurial firms. This problem is one of “scale” in that even though individual tech companies have succeeded in Vancouver, they have

(2011) 30:1 J Health Econ 146; Noah Smith, “National Health Insurance Might Be Good for Capitalism” (23 September 2019), online: *Bloomberg* <[bloomberg.com/opinion/articles/2019-09-23/employer-based-health-insurance-holds-back-u-s-economy](https://www.bloomberg.com/opinion/articles/2019-09-23/employer-based-health-insurance-holds-back-u-s-economy)>.

not developed the shared infrastructure that characterizes larger tech hubs. As many scholars have argued, successful entrepreneurial regions share a common developmental model: Typically, as high-tech firms begin to cluster in a given region (often due to contingent historical factors), they share with each other common resources, including customers, suppliers, financing, skilled labour, and—most importantly—ideas. Over time, these shared resources create economies of scale for the region as a whole, providing local firms a distinct advantage over geographically distant competitors. The more successful this “agglomeration” process becomes, the more it attracts additional firms, creating a virtuous cycle of regional economic development (and making it increasingly difficult for “follower” regions to compete).¹⁸⁹ This process of agglomeration is exemplified by Silicon Valley, which emerged from humble beginnings to become a dominant technological center.¹⁹⁰

¹⁸⁹ The concept of agglomeration economies was first developed in the seminal work of Alfred Marshall. See generally Alfred Marshall, *Industry and Trade* (London: Macmillan, 1919).

¹⁹⁰ See e.g. Michel Ferrary & Mark Granovetter, “The Role of Venture Capital Firms in Silicon Valley’s Complex Innovation Network” (2009) 38:2 *Econ & Soc’y* 326 at 337–39; Martin Kenney & Urs von Burg, “Technology, Entrepreneurship, and Path Dependence: Industrial Clustering in Silicon Valley and Route 128” (1999) 8:1 *Ind Corp Change* 67; Martin Kenney & Urs von Burg, “Institutions and Economies: Creating Silicon Valley” in Martin Kenney, ed, *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region* (Stanford: Stanford University Press, 2000); Martin Kenney, *Explaining the Growth and Globalization of Silicon Valley: The Past and Today* (Berkeley Roundtable on the International Economy, 2017); Michael E Porter, “Competitive Advantage, Agglomeration Economies, and Regional Policy” (1996) 19 *Int’l Regional Sci Rev* 85 at 85–88; Michael E Porter, “Clusters and the New Economics of Competition” *Harvard Business Review* (1 November 1998) 77; Michael E Porter, “Location, Clusters, and Company Strategy” in Gordon Clark, Maryann Feldman & Meric Gertler, eds, *The Oxford Handbook of Economic Geography* (Oxford: Oxford University Press, 2000); Michael E Porter, “Location, Competition, and Economic Development: Local Clusters in a Global Economy” (2000) 14:1 *Economic Development Quarterly* 15 at 21–25; Saxenian, *supra* note 124; AnnaLee Saxenian, “The Origins and Dynamics of Production Networks in Silicon Valley” (1991) 20:5 *Research Poly* 423; Timothy Sturgeon, “What Really Goes on in Silicon Valley? Spatial Clustering and Dispersal in Modular Production Networks” (2003) 3:2 *J Econ Geography* 199 at 217–20.

Insufficient scale can be a major regional disadvantage. Given its geographic location, Vancouver competes with US cities such as Seattle, Portland, and San Francisco for skilled labour and investment capital. Attracting these inputs is difficult without a dense network of local tech companies. Unfortunately, the local market is limited by the size of the Canadian economy, which is less than one-tenth the size of that of the United States. A larger national economy would support more and larger startup companies, which would in turn lead to greater opportunities for workers and entrepreneurs. Starting from behind—both historically and economically—makes it difficult to achieve momentum.

This lack of scale at the regional level is mirrored within individual firms. Although Vancouver produces a significant number of startups, few of them scale into large, sustainable businesses. This “scale up” problem is widely acknowledged within the Vancouver startup community and across Canada.¹⁹¹ Many Vancouver startups either fail early in their growth cycle or are taken out in acquisitions by larger US tech companies.¹⁹² Without a

¹⁹¹ For discussions of the Canadian scale-up problem, see Benjamin Bergen, “Canada Has a Scale-up Problem, Not a Start-up Problem” (25 April 2017), online: *Centre for International Governance Innovation* <cigionline.org/articles/canada-has-scale-problem-not-start-problem/>; Gerry Remers, “Canada’s Startup Problem Isn’t Lack of Talent, but Expertise in Scaling Up” (31 August 2016), online: *The Globe and Mail* <theglobeandmail.com/report-on-business/rob-commentary/canadas-startup-problem-isnt-lack-of-talent-but-expertise-in-scaling-up/article31611569/>; Nick Rockel, “Q&A: Silicon Valley Entrepreneur and Investor Michael Wee Sizes up B.C.’s Tech Ecosystem” (19 May 2020), online: *BCBusiness* <bcbusiness.ca/QA-Silicon-Valley-entrepreneur-and-investor-Michael-Wee-sizes-up-BCs-tech-ecosystem>; *Scaling Success: Tackling the Management Gap in Canada’s Technology Sector* (Waterloo: Lazaridis Institute, 2016) [*Scaling Success*]. The Digital Technology Supercluster’s strategic plan specifically addresses this scale-up issue. See *Strategic Plan: 2018–2023* (Digital Technology Supercluster, 2019) at 20, 35.

¹⁹² Notwithstanding successful IPOs such as Shopify Inc and Real Matters Inc, many Canadian startups are acquired prematurely. See Dax Dasilva, “Too Many Canadian Startups are Bought Out. Here’s How to Change That” (6 January 2016), online: *The Globe and Mail* <theglobeandmail.com/report-on-business/rob-commentary/too-many-canadian-startups-are-bought-out-heres-how-to-change-that/article28024596/>. Indeed, of the top 10 highest value Canadian exits, 7 have been acquisitions by foreign companies. See Brian Kobus, “Canadian Tech Exit

developed ecosystem of successful anchor companies, it is difficult to generate the externalities that characterize tech hubs such as Silicon Valley. A specific example of this problem is that while Vancouver has a growing pool of programmers and engineers, it has relatively few experienced professionals in areas such as sales, finance, and management—functions that become increasingly important as companies scale.¹⁹³ Similarly, Vancouver lacks an established generation of successful entrepreneurs to mentor younger founders in their transition to profitability.¹⁹⁴ According to PricewaterhouseCoopers LLP this lack of mentorship means that “founders may feel that they don’t have the knowledge, experience—or inclination—to run a business for the long haul.”¹⁹⁵

Unfortunately, this problem of scale has no simple solution. Government cannot simply create successful businesses, nor can it legislatively increase the size of the Canadian economy. Certain policy measures may ameliorate the situation, however. The federal Innovation Superclusters Initiative is a promising example.¹⁹⁶ The Vancouver-based Digital Technology Supercluster—one of five supercluster projects across

Leaderboard” (1 June 2018), online: *Noteworthy* <blog.usejournal.com/canadian-tech-exit-leaderboard-f4ef1374a5ac>. Nearly two-thirds of Canadian founders see acquisition by another company as their most likely exit strategy. See “A Nation of Innovators: 2015 Canadian Emerging Technology Companies’ Survey” (2015) at 20, online (pdf): *PricewaterhouseCoopers LLP* <pw.com/ca/en/emerging-company/connecting-vision-to-reality/publications/pwc-ceo-report-emerging-companies-2015-06-en.pdf> [*A Nation of Innovators*].

¹⁹³ See Rockel, *supra* note 191; *supra* note 34 at 5, 7, 24; *supra* note 191 at 11–15, 19–25.

¹⁹⁴ See Glen Edwards, “Startup Fever: B.C. Becomes Hot Spot for Entrepreneurs” (3 April 2018), online: *Business in Vancouver* <biv.com/article/2018/04/startup-fever-bc-becomes-hot-spot-entrepreneurs>; Rockel, *supra* note 191; *Scaling Success*, *supra* note 191 at 13–14. Startup Genome’s latest Global Startup Ecosystem Report rates Vancouver low on “local connectedness,” which includes local community, relationships, and collisions between founders, investors, and experts: *Global Startup Ecosystem Report*, *supra* note 2 at 27, 40.

¹⁹⁵ *A Nation of Innovators*, *supra* note 192 at 20.

¹⁹⁶ See “Digital Technology Supercluster”, *supra* note 3.

Canada—seeks to build a regional network of high-tech research and development infrastructure, exactly what Vancouver lacks.¹⁹⁷ Beyond this targeted support, the best steps that government can take to foster increasing scale are to (1) continue to ensure a business-friendly legal environment and (2) encourage integration with the US economy. Each of these recommendations are discussed in our Conclusion.

B. LACK OF DOMESTIC VENTURE CAPITAL

In addition to scaling challenges, Vancouver also lacks sufficient venture capital. The local venture capital industry is incapable of meeting local demand. Startup Genome—a startup data and ranking firm—awards Vancouver a dismal “1 out of 10” for funding availability.¹⁹⁸ Given the small size of the market, local venture capital financing is often provided on unfavorable terms (compared to the United States) and, beyond a certain investment size, is simply not available at all.¹⁹⁹ The consequence is that most venture capital invested in Vancouver comes from outside British Columbia, particularly from the United States. The deep network of venture capital firms in Silicon Valley—and the massive amounts of investment capital they can attract from institutional investors—are simply not present in western Canada. Once Vancouver startups grow beyond a certain size, they are forced to look beyond Canada for funding.²⁰⁰

This lack of local venture capital poses several disadvantages. First, venture capitalists prefer to invest in geographically local companies. Other

¹⁹⁷ Each of the five supercluster projects is jointly financed by private industry and the federal government. See *Strategic Plan: 2018–2023*, *supra* note 191 (for a full description of the Digital Technology Supercluster and its financing and operations).

¹⁹⁸ *Global Startup Ecosystem Report*, *supra* note 2 at 27.

¹⁹⁹ For Vancouver-based venture capital firms, the median early stage investment size (series A or series B) is approximately \$5.7 million, while the median late stage investment size (series C or later) is \$20 million. This compares to \$10.5 million and \$30 million in Silicon Valley, respectively. Authors' calculations based on Crunchbase data.

²⁰⁰ Since Canadian venture capital firms are smaller than their US counterparts, they are less capable of making the larger investments associated with later stage funding rounds. See *Canada's Venture Capital Landscape: Challenges and Opportunities* (BDC Capital, 2017) at 12–16.

things being equal, venture capital firms are less likely to invest in startups outside their home region. This can make it difficult for Vancouver startups to attract capital. Second, a major benefit of receiving venture capital is hands-on involvement on the part of venture capital investors in the strategy and management of the company. Startups receiving venture capital from geographically distant investors may receive less in the way of guidance, monitoring, and regular face-to-face interactions. Finally, if Vancouver startups are funded by firms based in Silicon Valley, they may eventually relocate to California.²⁰¹

Vancouver's lack of venture capital is partially offset by public financing. As discussed in Part II, Vancouver startups undergo IPOs at an unusually high rate—more than 20 times that of Silicon Valley. These IPOs, which typically occur on junior markets such as the TSX-V and the Canadian Stock Exchange, are much different from the high-value IPOs of the United States. Whereas US startups often go public *after* having achieved scale, Vancouver startups tend to go public very early in their life cycle, as a means of raising early growth capital. Many Canadian startups undergo IPOs at the same stage at which US companies raise Series A financing. This pattern of early, speculative IPOs may be related to the Canadian tradition of junior market financing—traceable to the mining industry and the “wild west” days of the Vancouver Stock Exchange²⁰²—as well as a lack of private investment. Given the lack of alternative financing, Vancouver startups use IPOs as a substitute for venture capital.²⁰³

Unfortunately, IPOs are an inferior substitute. In addition to financing, venture capitalists provide value in the form of experience, mentoring, and networking opportunities. As repeat players, venture capitalists can guide inexperienced founders through the development of their companies and eventual liquidity. Association with a reputable venture capital firm alone

²⁰¹ This phenomenon is discussed in Part IV(C), *below*.

²⁰² Indeed, junior mining companies continue to represent a significant portion of Vancouver IPOs.

²⁰³ See Ari Pandes & Michael J Robinson, “The Canadian Junior IPO Market and the Capital Pool Company Program” in Mario Levis & Silvio Vismara, eds, *Handbook of Research on IPOs* (Cheltenham: Edward Elgar Publishing, 2013) 124.

can enhance a startup's profile and likelihood of success. Anonymous public financing—especially on junior markets—provides none of these benefits. Investors on the TSX-V, Canadian Stock Exchange, and other junior markets are often retail speculators or specialized high-risk investors. They rarely have any long-term interest in the business and provide nothing in the way of strategy or monitoring.

Another disadvantage of public financing is high transaction costs. Given economies of scale, underwriting expenses for small public offerings are often higher—as a percentage of total proceeds—than for larger public offerings. In a comparative study of US and Canadian securities offerings, Maher Cooli and Jean-Marc Suret found that while transaction costs are not higher in Canada overall, underwriting expenses are significantly higher for smaller IPOs in both countries.²⁰⁴ Once firms go public, moreover, they face continuing regulatory costs in the form of compliance and disclosure requirements. These costs can put serious financial pressure on smaller companies with limited revenue. Unfortunately, once a firm goes public, it becomes very difficult to go back. Founders often experience significant dilution in an IPO and find themselves beholden to uncooperative shareholders. Absent the intervention of a third-party acquirer, buying back the company's shares is practically impossible, leaving the company trapped under burdensome public securities regulations. In light of these disadvantages, Vancouver firms would benefit from greater access to private capital.

As with absence of scale, the ability of government to solve this problem is limited. Government intervention in venture capital markets has a poor track record, both in Canada and elsewhere. Research has found that subsidized venture capital programs produce suboptimal returns and low levels of innovation, and may even crowd out higher quality private capital.²⁰⁵ If government does choose to finance venture capital, however,

²⁰⁴ Maher Kooli & Jean-Marc Suret, *How Cost-Effective are Canadian IPO Markets?*, (Montréal: Centre Interuniversitaire de Recherche en Analyse des Organisations, 2002).

²⁰⁵ For Canadian evidence, see e.g. James A Brander, Edward Egan & Thomas F Hellmann, "Government Sponsored Versus Private Venture Capital: Canadian Evidence" in Josh Lerner & Antoinette Schoar, eds, *International Differences in Entrepreneurship* (University of Chicago Press, 2010) 275 at 315–18; Massimo G Colombo, Douglas J

the empirical evidence suggests that private market involvement—either through granting investment decisions to independent investment managers or securing co-investments from private investors—can help ensure economic discipline. The recently launched BC Tech Fund—a \$100 million publicly funded, privately managed fund of funds—may be an example of an effectively designed program, though the results of the fund remain to be seen.²⁰⁶ Even if the BC Tech Fund is successful, however, \$100 million is probably not enough to fundamentally improve BC’s capital environment. The BC government has recently announced a larger \$500 million “InBC” fund, though details regarding its operations have yet to be announced.²⁰⁷ In the longer term, the most important task of government is ensuring an attractive investment environment. If economic and legal conditions are sufficiently favorable, private capital will arrive.

Cumming & Silvio Vismara, “Governmental Venture Capital for Innovative Young Firms” (2014) 41:1 *J Tech Transfer* 10 at 14–16; Cumming & MacIntosh, *supra* note 79; Cumming, Johan & MacIntosh, *supra* note 79. In China, massive government investment in venture capital led to a wave of costly business failures in 2019. See Ryan McMorrow, “China Tech Startups Go Bust in 2019 ‘Capital Winter’” (6 January 2020), online: *The Financial Times* <ft.com/content/b74394c8-2d57-11ea-a126-99756bd8f45e>.

²⁰⁶ Perhaps inauspiciously, one of BC Tech Fund’s first major portfolio companies, Mojoio, relocated to Silicon Valley shortly following the fund’s investment. See Tyler Orton, “BC Tech Fund’s First Investment Goes South” (27 February 2019), online: *Business in Vancouver* <biv.com/article/2019/02/bc-tech-funds-first-investment-goes-south>.

²⁰⁷ See “InBC Investment Corp.,” online: *InBC Investment Corp* <inbcinvestment.ca/>. The limited information currently available does not necessarily inspire confidence. The fund’s webpage highlights its “triple bottom line” approach to achieving “the values and needs of British Columbians,” which may be code for pursuing the current government’s political objectives. Making investment decisions based on political criteria heightens the risk of allocating public funds to suboptimal companies. To ensure proper financial discipline, it will be important for the fund’s investments to be controlled by an independent investment manager or leverage private co-investors.

C. BRAIN DRAIN

The third issue facing Vancouver (and Canada more broadly) is brain drain to the United States.²⁰⁸ Because this issue is primarily driven by the size of the US economy, it is perhaps the issue Canadian policy makers are least able to control. The problem of brain drain is pervasive across Canada, affecting all major cities and all aspects of the tech economy, including skilled workers, entrepreneurs, and even entire companies.

Brain drain is an unavoidable result of the strength of the US tech industry. For a variety of economic reasons, tech salaries in the United States are substantially higher than in Canada. American tech firms recruit heavily from Canadian universities, offering higher salaries and more prestigious experiences than their Canadian counterparts. Consequently, succeeding in Silicon Valley is a major career ambition for Canadian engineering students.²⁰⁹ Not even faculty are immune—several of Canada's leading researchers in artificial intelligence and robotics have left their university positions to work for US tech companies.²¹⁰ Notwithstanding the benefits of CUSMA,²¹¹ Canada's free trade arrangement with the United States may exacerbate brain drain, as it provides Canadians privileged access to the US labour market.²¹² Mobility of labour is felt particularly acutely in BC—when tech salaries in Seattle are double those in

²⁰⁸ See Goodman, Olmstead & Spicer, *supra* note 37 at 24 (for discussion of the severe nature of the brain drain problem in information-technology fields). An astonishingly high 66% of Canadian software engineering graduates leave Canada to work in other countries. See *ibid.*

²⁰⁹ See e.g. *ibid* at 26–28.

²¹⁰ Although Canada has been a world leader in artificial intelligence research, many Canadian professors, researchers, and graduate students have been lured to private-sector opportunities in the United States. See Jack Clark & Gerrit de Vynck, “Canada Risks Losing its Lead in Artificial Intelligence to Silicon Valley” (17 December 2015), online: *The Globe and Mail* <theglobeandmail.com/technology/tech-news/canada-risks-losing-its-lead-in-artificial-intelligence-to-silicon-valley/article27810747/>. In the last decade, the UBC computer science department has lost at least six full-time faculty members to US-based tech companies.

²¹¹ Discussed in Part III(G), *above*.

²¹² See CUSMA, c 16, s D.

Vancouver, moving south is a tempting proposition for many engineering graduates.

This brain drain is a major economic loss for Canada. Not only do Canadian employers lose access to skilled workers, but some of these workers go on to start companies in the United States. As discussed in Part II, many Canadian graduates form startups in the US, either directly following graduation or after working for a US tech firm. Roughly a quarter of all UBC, University of Toronto, and University of Waterloo alumni who start companies do so in the United States. Moreover, given the competitiveness of the US market and the personal characteristics of many immigrants (ambition, risk tolerance, etc.), expatriate Canadians may be positively selected, such that the most promising entrepreneurs are the most likely to leave Canada. This loss of talent is partially offset by Canadian immigration, but stemming the flow of out-migration would clearly be in Canada's interests.

The most extreme example of brain drain is the relocation of entire businesses. This occasionally occurs when startups are either purchased by US tech firms or receive significant US financing.²¹³ Canadian startups are often purchased by foreign buyers—of 164 acquisitions of Canadian technology companies between 2004 and 2012, in only a single transaction was the buyer a Canadian company.²¹⁴ Firms that relocate to the United States often maintain a Canadian presence, but even the migration of a company's management—and the resulting shift in personal networks—represents a loss to the Canadian economy. A notable example is Slack Technologies, Inc, which was founded in Vancouver in 2009 and relocated to Silicon Valley following investments by US venture capital firms. Since relocating to the United States, Slack has become a Silicon Valley success story, going public in 2019 at a valuation of more than \$20 billion.

²¹³ Acquisition by a US tech firm is often the explicit exit strategy for Canadian entrepreneurs.

²¹⁴ See *The Issue: Building Stronger Tech Companies in Canada* (Information Technology Association of Canada, 2013) at 5–8.

Although Slack maintains a significant Vancouver office, its center of gravity has shifted to the United States.²¹⁵

Obviously, there is little that government can do to prevent individuals from leaving Canada. More entrepreneurs might stay if Canada had a stronger venture capital industry, but again, creating such an industry is beyond the powers of federal or provincial government. Fortunately, given the high quality of Canadian startups and the favorable regulatory environment, it has become increasingly possible for Canadian firms to successfully attract US capital,²¹⁶ and there is growing evidence that more of these firms are choosing to remain in Canada.²¹⁷ At the same time, many US tech firms are *entering* the Canadian market, training, and employing thousands of Canadian workers.²¹⁸ Again, as long as government maintains a welcoming regulatory environment, the networks to support large-scale businesses will organically emerge.

V. CONCLUSION

To return to the question posed at the outset of this article: To what extent is Vancouver a successful innovation hub? The answer depends on one's frame of reference. On the one hand, Vancouver performs well compared to other Canadian cities, leading the country in number of startups and

²¹⁵ Slack was recently acquired by Salesforce.com, Inc, a US customer relationship management company. Ron Miller & Alex Wilhelm, "Salesforce Buys Slack in a \$27.7B Megadeal" (1 December 2020), online: *TechCrunch* <social.techcrunch.com/2020/12/01/salesforce-buys-slack/>.

²¹⁶ According to our calculations, during the period of 2010 to 2019, US venture capital investment in Canada increased as much as 1,400%.

²¹⁷ In Vancouver, successful startups such as Clio, Bench, Hootsuite, Trulioo, and Visier have received major US investments but remained headquartered in Canada.

²¹⁸ Each of Amazon, Facebook, and Microsoft have large and expanding offices in Vancouver. Even in the midst of COVID-19, Amazon is increasing its presence by opening a new branch office in the city, one of the company's largest. It is poised to become Vancouver's largest corporate leaseholder, potentially adding thousands of high-paying engineering and management jobs. See "Amazon Poised to be Largest Corporate Office Tenant in Downtown Vancouver" (23 June 2020), online: *UrbanYVR* <urbanyvr.com/amazon-vancouver-offices/>.

venture capital invested per capita.²¹⁹ On the other hand, Vancouver's record is less impressive than many cities in the United States. Even putting aside Silicon Valley, Vancouver produces fewer startups, receives less investment, and generates fewer patents than most US tech hubs.

This article has argued Vancouver's performance is *not* the result of legal factors. Indeed, across a range of specific legal areas—tax, securities, corporate law, labour, bankruptcy, immigration, and trade—the legal environment in British Columbia is at least as favorable as California.²²⁰ Although certain areas could be improved, Vancouver's primary challenges are not legal in nature. This is an important finding in and of itself, as law can potentially have a major impact on entrepreneurship.²²¹

Rather than legal obstacles, Vancouver's primary challenges are economic. The city's startup environment has shown impressive growth but continues to lack a critical mass of companies operating at scale. This illustrates the chicken-or-egg dilemma of agglomeration development: Lack of venture capital has prevented exponentially successful companies, which has in turn prevented the equity returns which attract and fuel venture capital.²²² Given these constraints, many potential entrepreneurs have relocated to the United States, taking their economic contributions with them.

Given these challenges, what can policy makers do? As British Columbia's legal environment is already favorable, we do not recommend major reforms. Two policy areas could be modified to encourage startup activity, however. First, lawmakers should consider bankruptcy reforms to reduce the risks faced by individual debtors. A promising step would be to increase provincial bankruptcy exemptions, allowing debtors to keep a greater portion of the value of their homes. This would reduce the risk of

²¹⁹ Although not discussed in this article, Vancouver also performs favorably compared to Asian and European cities.

²²⁰ Note, however, that California is by no means a particularly business-friendly jurisdiction.

²²¹ Douglas J Cumming, Daniel Schmidt & Uwe Wälz, "Legality and Venture Capital Governance Around the World" (2010) 25:1 J Bus Venturing 54 at 71.

²²² In Silicon Valley, many prominent investors were themselves successful entrepreneurs. Large equity returns thus fuel additional equity investment.

starting a business and free up capital for new ventures. Second, we recommend that all levels of government (including local and municipal authorities) pursue legal reforms to reduce Vancouver's housing costs, which are a significant obstacle to attracting skilled workers and entrepreneurs. Although regional and municipal governments have attempted various tax and subsidy schemes to increase housing affordability, the results to date have been mixed. A more promising approach would be to thoroughly reform Vancouver's urban zoning restrictions, which strongly favor detached homes and inhibit urban density.

Beyond these reforms, existing policy programs such as the Innovation Superclusters Initiative, the BC Tech Fund, and the various existing tax incentives for entrepreneurship likely exhaust the range of effective government intervention. In the longer term, the best way for Vancouver to develop as an innovation hub may be to increase its integration with the United States, a process driven by private actors rather than government policy. Fortunately, this process is already underway. The infusion of US venture capital and growing presence of US tech companies are both positive developments for the Vancouver economy. The jobs created by these investments will contribute to the agglomeration networks which have proven so important in larger tech regions. The more developers, engineers, and business professionals in Vancouver, the stronger the environment for emerging startup companies.

For this reason, local, provincial, and federal policy makers should welcome foreign investment, particularly from the United States.²²³ In the immediate term, investment by foreign tech companies and the expansion of local firms remains complicated by COVID-19, which—in addition to its human costs—presents both challenges and opportunities from a

²²³ Another source of potential investment capital is China. Worsening diplomatic relations between China and Canada may be permanently damaging the two countries' economic ties, however. Chinese investment in Canada has declined in the context of anti-Canadian rhetoric by Chinese diplomatic officials and increased Canadian scrutiny of Chinese acquisitions in Canada. See Jesse Snyder, "As Geopolitical Tensions Rise, Chinese Investment into Canada Continues to Fall, Data Show" (15 July 2020), online: *National Post* <nationalpost.com/news/as-geopolitical-tensions-rise-chinese-investment-into-canada-continues-to-fall-data-show>

business and employment perspective. As the pandemic drags on, the rise of remote work policies and the decentralization of labour has reduced the importance for tech companies of maintaining anchor offices in large cities. Different companies are responding to the changed environment in different ways—as of this writing, Shopify’s plans for expanding its Vancouver office are in doubt, whereas Amazon is continuing to build a large Vancouver anchor office.²²⁴ It is even possible remote work policies may *increase* hiring in Vancouver, which shares the same time zone as San Francisco and Seattle but has much lower salaries. While the long-term effects of COVID-19 are difficult to predict, they may entail convergence in hiring and salaries across cities, a trend that could benefit Vancouver.

Brain drain will remain an issue, however, and further integration with the United States could exacerbate the problem. This is particularly true given the election of President Biden and the end of the Trump administration, which had served as a hostile deterrent to US immigration. Among Canadian STEM graduates, a major reservation about working in the United States has been “the American political climate and approach to social policy.”²²⁵ If this climate improves under President Biden, Canadian graduates might become even more likely to relocate. Despite Canada’s many attractions—including low crime, tolerant politics, and competent government administration—tech professionals are primarily motivated by economic opportunity, which is simply greater in the United States. As this will remain the case for the foreseeable future, talented Canadians will continue to be drawn south. Rather than fighting the inevitable, we recommend that the federal government maintain its liberal immigration policies, which allow Canada to import talent globally. In time, as the domestic tech economy develops, Canada will be better positioned to retain domestic talent.

²²⁴ See Kenneth Chan, “It’s Official: Amazon Will Employ 6,000 People in Vancouver’s The Post Redevelopment” (28 September 2020), online: *Daily Hive* <dailyhive.com/vancouver/amazon-the-post-office-redevelopment-lease>; Tyler Orton, “Office Rethink Could Retool Vancouver’s Tech Status” (29 May 2020), online: *Business in Vancouver* <biv.com/article/2020/05/office-rethink-could-retool-vancouvers-tech-status>.

²²⁵ Goodman, Olmstead & Spicer, *supra* note 37 at 33.

To conclude, law is not an obstacle to Vancouver's economic growth. Institutional factors beyond the control of lawmakers play a larger role. The limited scale of the economy, the lack of domestic venture capital, and the problem of brain drain all pose challenges to Vancouver's economic development. Since these problems are largely unrelated to legal policy, the most realistic goal for lawmakers—at least in the short term—may be to avoid making things worse.²²⁶ Looking to the future, Vancouver startups are well positioned to strengthen ties with the United States, the world's leading capital and technology market. This integrative process may accelerate under the Biden administration, which has turned away from the antagonisms of the Trump era. We strongly recommend that government—both federal and provincial—welcome this integration. Efforts to make Canada economically self-sufficient, or to reduce the role of US investment in Canadian business development, are unlikely to contribute to Canadian prosperity. Fortunately, Canada has a strong tradition of openness and liberalism, which has contributed to the tech economy's already impressive growth. Given Canada's favorable legal environment, increasing US investment, and a culture of receptiveness to new people and ideas, there are many reasons for optimism regarding Vancouver's economic future.

²²⁶ Or, to paraphrase President Barack Obama, “don’t do stupid [stuff].”: Mike Allen, “Don’t Do Stupid Sh-- (stuff)” (1 June 2014), online: *Politico* <politico.com/story/2014/06/dont-do-stupid-shit-president-obama-white-house-107293>.