

Investment Trends in Canadian Technology Start-ups

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Executive Summary

Access the interactive dashboards at the end of the [document](#)

This report analyzes investment trends in Canadian technology start-ups, examining key patterns over time, funding stage dynamics, investor behavior, sectoral and regional insights, and the correlation between investment activity and macroeconomic factors such as interest rates and inflation.

Key Findings

1. Investment Trends Over Time:

- Total investment in Canadian tech start-ups aligns with broader economic cycles.
- Smaller investments are more sensitive to macroeconomic shifts, as seen in the significant decline in completed deals between 2021 and 2022.

2. Funding Stage Analysis:

- Seed-stage investments are the most volatile but essential for fostering early-stage innovation.
- Later-stage investments (Series A and beyond) show resilience against economic downturns, suggesting stronger investor confidence in more established start-ups.

3. Investor Demographics and Behavior:

- 74.37% of investors are from Canada and the U.S., with the highest concentration in Toronto, Montreal, and Vancouver.
- BDC Capital is the most active investor across all stages, particularly in later rounds, while Y Combinator and Techstars dominate Pre-Seed and Seed funding.
- Despite a greater number of U.S. investors, Canadian firms are significantly more active on average.

4. Sectoral and Regional Insights:

- FinTech, SaaS, and AI lead in total investment.
- Investment patterns in different cities and provinces align with economic and technological trends, with Toronto and Montreal being the most attractive hubs.
- Sectors with high Sharpe Ratios, such as CleanTech, HealthTech, and BioTech, show consistent investment over time, indicating long-term growth potential.
- Investment patterns appear to follow the public market closely.

5. Macroeconomic Correlations:

- Investment trends negatively correlate with interest rates, particularly for smaller deals in early-stage start-ups.
- Inflation does not exhibit a strong relationship with investment activity, suggesting that investor behavior is more influenced by interest rates and broader economic conditions.

Business Implications:

- **Targeted Fundraising:** Start-ups should approach investors based on their funding stage. Early-stage companies should consider Techstars or Y Combinator, while those in later rounds should seek out BDC Capital.
- **Geographic Considerations:** Canadian start-ups benefit most from staying domestic, as local investors demonstrate higher activity and success rates.
- **Economic Timing:** Entrepreneurs, especially in Pre-Seed and Seed stages, should monitor interest rate trends to optimize fundraising strategies.
- **Sectoral Strategy:** Sectoral investment follows similar trends as the broader market. Entrepreneurs should monitor the stock market to determine the best time of entry.

This report provides insights into navigating the Canadian tech investment landscape, equipping entrepreneurs and investors with data-driven strategies to maximize funding success.

Data Exploration and Methodology

Data Collection and Processing

- Data was filtered and sorted from the runQL platform using SQL queries.
- Erroneous entries and further calculations were performed either in Python or Excel.

Data Exploration

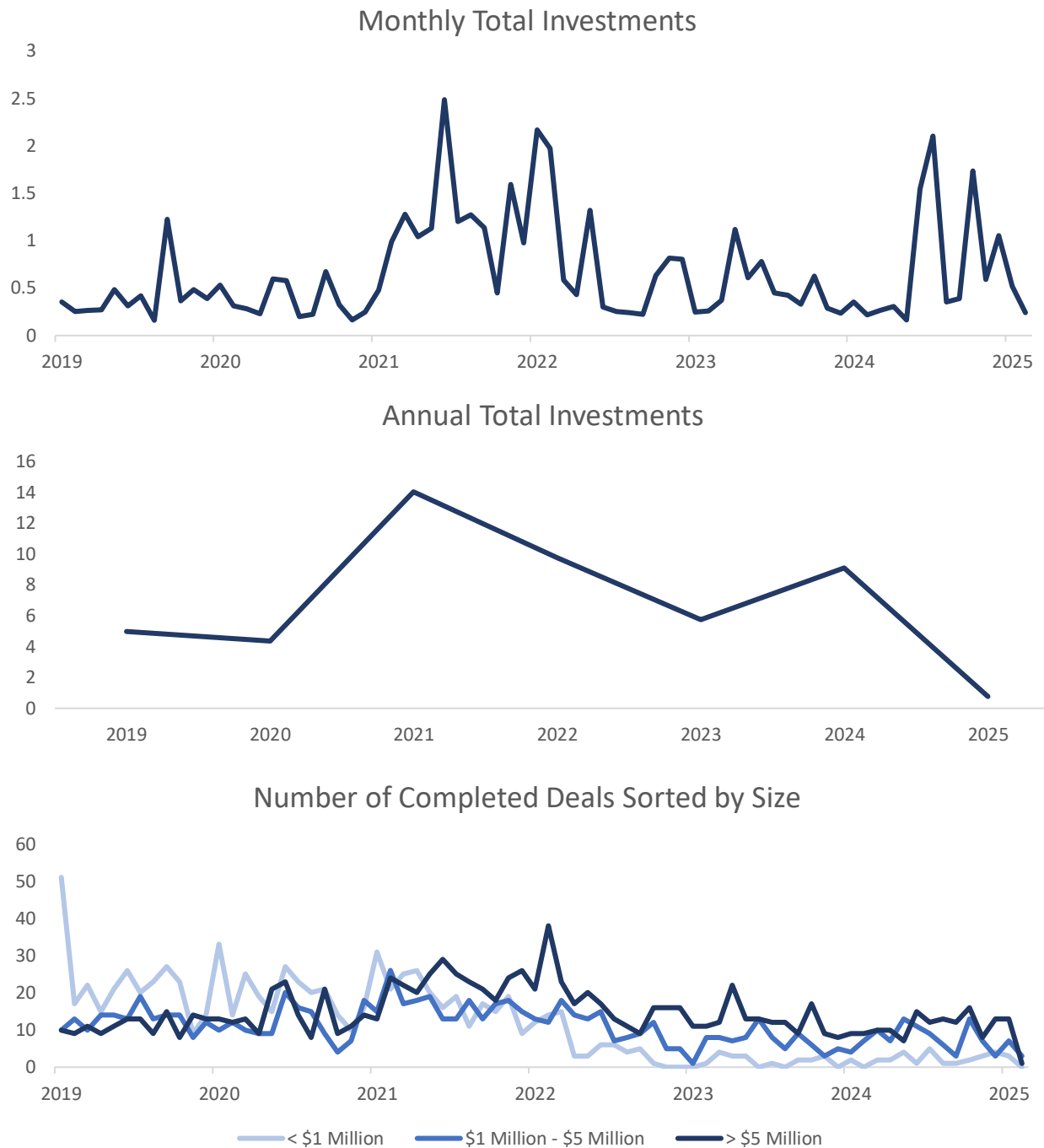
- Data was processed using Python libraries such as Pandas for numerical analysis and Matplotlib for visualization.
- Final visualizations and dashboards were created in Excel.
- Trend analysis was conducted by aggregating investment amounts over time to identify cyclical patterns.
- Sectoral and geographic breakdowns were derived using grouping functions to assess regional and industry-specific investment behavior.

Analytical Framework

- Investment trends were compared against macroeconomic indicators (e.g., interest rates, inflation) to detect correlations.
- Funding stage analysis included statistical assessments of deal sizes, success rates, and investor participation.
- Interactive dashboards in Excel were created to enable dynamic filtering and deeper insights for end users.

I: Investment Trends Over Time

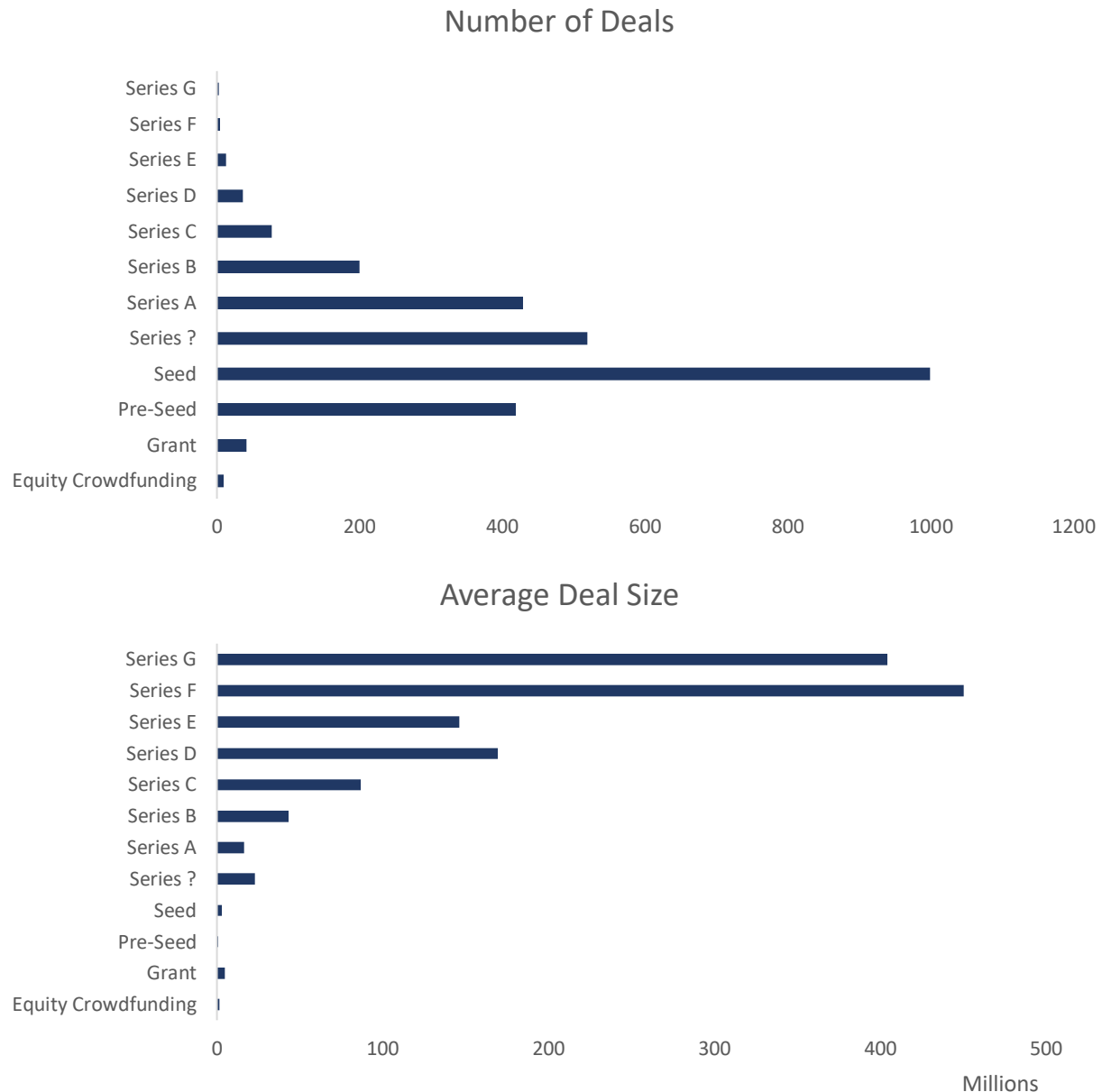
Unless otherwise stated, investment amounts are in billions of \$.



Conclusions:

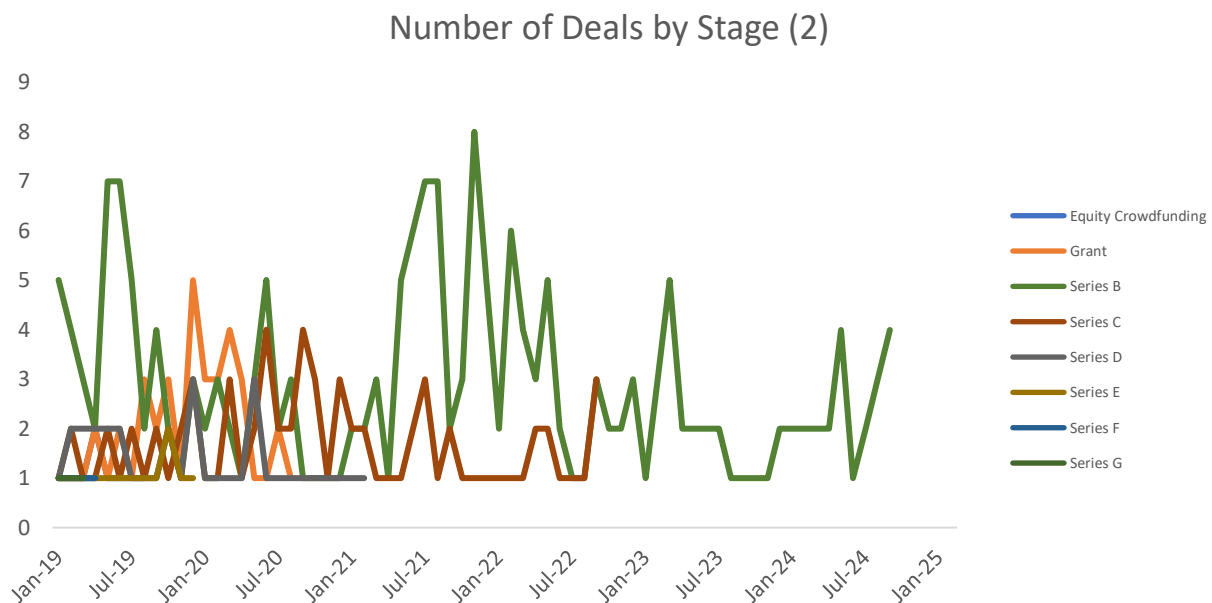
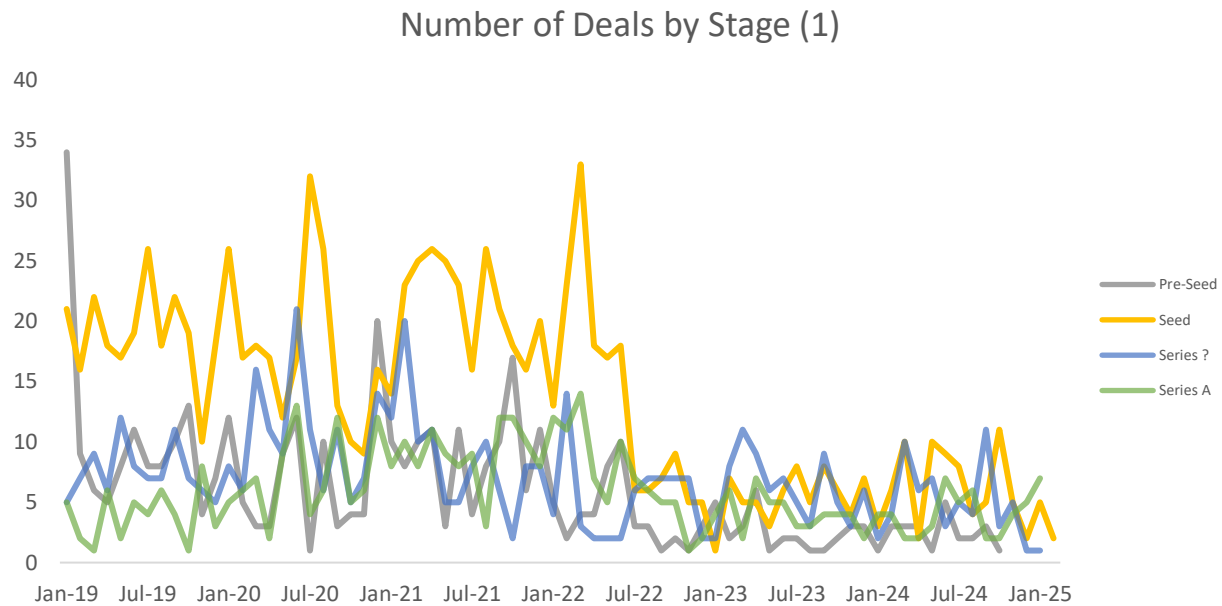
Total Investments appear to follow economic trends, which will be investigated further in Section V. Particularly, smaller investments appear to be much more susceptible to these macroeconomic forces than larger investments as indicated by the steeper decline in completed deals between 2021 and 2022.

II: Funding Stage Analysis



According to Y Combinator, the Seed stage is “the riskiest and most dynamic. They're the youngest and the least established...” This statement falls in line with the data above—there are a tremendous number of deals, but with very little funding compared to investments at other stages.

Average deal size follows the same trend that [Visible](#) has also observed. Logically, this trend makes sense as a more developed business will carry less risk for the investor. None of this data should be particularly surprising for anyone familiar with start-up funding.



Conclusions:

The Pre-Seed and Seed stage investments are worth noting from the two graphs presented above. There is a sharp drop in Seed stage investments in the first half of 2022; Pre-Seed stage deals appear to follow this drop, albeit less extreme.

This trend is also visible in other stages of start-up investment such as the decline in Series B investments and reduction in Series C deals. However, in general, the later stages of funding appear to be resilient to the cause of the reduction in Seed and Pre-Seed funding. Interest rates and the economic situation could be factors and are investigated later.

III: Investor Demographics and Behaviour

Investment Firm Demographics

Full tables are available in the SQL query

Using the interactive dashboard, one can discover that most investors reside in Canada or the United States; specifically, **74.37%** of the investors in this dataset are from Canada or the United States. 220 of the investors have not identified their location. The top ten countries by investor count are listed below.

Country	Number of Investors
USA	1096
Canada	587
United Kingdom	71
China	29
Singapore	28
Germany	26
France	22
Hong Kong	14
Netherlands	13
Australia	12

Canada		USA	
City	Number of Investors	City	Number of Investors
Toronto	204	San Francisco	271
Vancouver	85	New York	188
Montreal	54	Menlo Park	55
Calgary	44	Palo Alto	44
Ottawa	21	Boston	41

It is evident that within North America, most of these investors reside in the Bay area or larger cities.

Average Deal Sizes

Average deal size is not necessarily a good representation of the average investment in the given geography as one can easily skew this metric by investing an amount far above the others (e.g., Investing \$5 Million when the average is \$100k). Nonetheless, there are useful insights to be gathered from reading this data.

Country	Average Deal Size (millions)
Ukraine	385
Sweden	140
Brazil	129
Australia	106
Malaysia	86

It is interesting to note that, except for Australia, the countries with the highest average deal size do not appear at the top when sorted by number of investors. The US and Canada are ranked 11th and 23rd respectively when sorted by average deal size. Having a lower ranking is not necessarily a negative as Seed and Pre-Seed stage investments tend to be much smaller than the deals of more established businesses. One could conclude from the table above that many countries are very conservative when it comes to start-up funding and that geography is crucial as a business looking for funds.

Country	Average Deal Size (millions)	Ranking (X/47)
USA	48	11
Canada	21	23
United Kingdom	70	7
China	29	17
Singapore	41	14
Germany	25	19
France	12	27
Hong Kong	10	28
Netherlands	34	15
Australia	106	4

Investor Activity and Success within Stages

Refer to the queries Top 10 Investors by XXX for full results.

While the States have a significantly larger *number* of investors, Canadian investment firms are much more active, comprising **16** of the top **20** firms sorted by total deals. Most of these firms reside in Quebec (Montreal) and have contributed consistently to start-up funding over the data period. The top 10 most active firms are, not surprisingly, also the ones with the most successful exits. As a start-up, all of these firms would be great investors to pitch to.

Investment Firm	Total Deals	Successful Exits	Success Rate	Firm Location
BDC Capital	179	146	82%	Montreal
Y Combinator	89	73	82%	Mountain View
Inovia Capital	73	56	77%	Montreal
Techstars	66	58	88%	Boulder
Investissement Quebec	64	59	92%	Canada
Real Ventures	60	45	75%	Montreal
Export Development Canada	60	57	95%	Ottawa
Panache Ventures	54	46	85%	Montreal
Golden Ventures	52	41	79%	Toronto
Garage Capital	46	38	83%	Waterloo

A successful exit was defined as a company with a dateAcquisition OR ipoDate OR acquiringCompany. The table below contains the top investors for each stage based on the number of successful exits.

Top Three Investment Firms Based on Successful Exits			
Equity Crowdfunding	Yavar Mirza (2)	Zaeem Shaukat Mirza (1)	-
Grant	FedDev (3)	Innovate BC (3)	Sustainable Development Tech (2)
Pre-Seed	Techstars (40)	NEXT Canada (18)	NextAI (14)
Seed	Y Combinator (72)	Panache Ventures (29)	Real Ventures (28)
Series ?	BDC Capital (48)	Export Development Canada (22)	Investissement Quebec (16)
Series A	BDC Capital (42)	Golden Ventures (18)	Investissement Quebec (17)
Series B	BDC Capital (34)	Inovia Capital (13)	Real Ventures (13)
Series C	BDC Capital (14)	Inovia Capital (7)	Export Development Canada (7)
Series D	BDC Capital (5)	Inovia Capital (5)	Fonds de solidarite FTQ (4)
Series E	BDC Capital (3)	Bezos Expeditions (2)	Temasek Holdings (2)
Series F	-	-	-
Series G	Sequoia Capital (2)	Y Combinator (2)	-

Conclusions:

BDC Capital is an investor to be aware of, especially for start-ups past the Pre-Seed/Seed stages. They are very active and have a fair exit success rate at 82%.

Techstars and Y Combinator are the best investors for businesses that are just starting out—both boasting equal or higher exit success rates than BDC Capital. However, both these investors are based in the States so for any businesses looking for domestic investors, Panache Ventures or NEXT Canada are great options.

IV: Sectoral and Regional Insights

Sectoral Trends

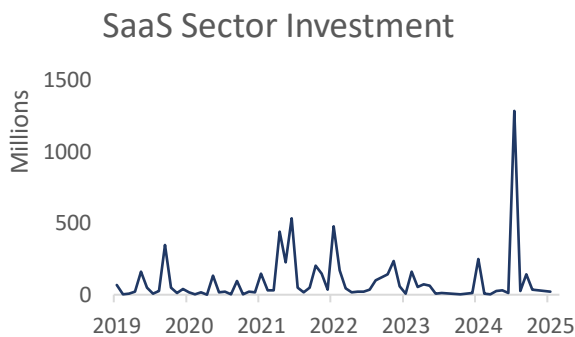
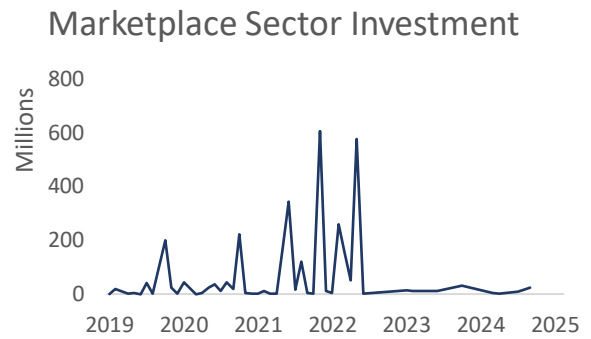
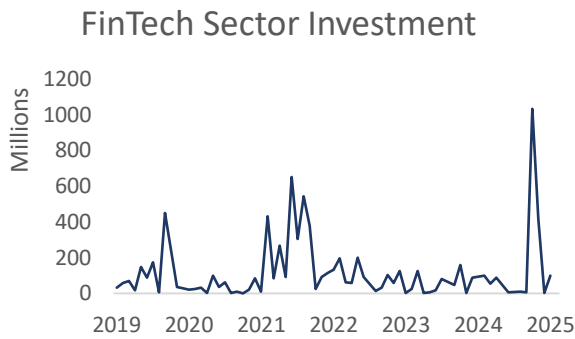
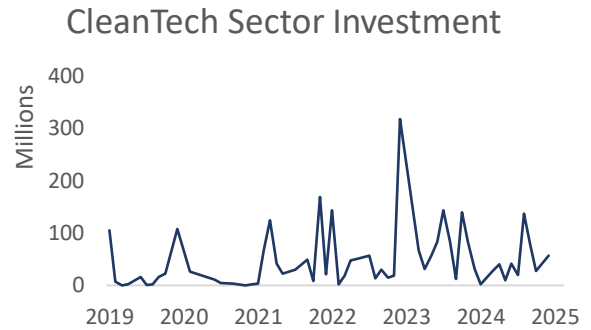
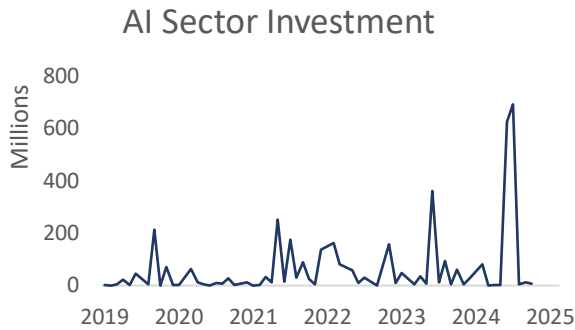
Refer to `runQL—industry(total,sharpe).ipynb` for the full tables

This first table outlines the top ten sectors based on total investment: the sum of all investments in the dataset.

Sector	Total Investment (in billions)
FinTech	7.0597
SaaS	6.5117
AI	4.3284
Marketplace	3.1429
CleanTech	2.7769
BioTech	2.5348
HealthTech	2.3508
CyberSecurity	2.0234
EdTech	1.5528
Blockchain	1.4213

The Sharpe Ratio is a metric of standard deviation/volatility that is traditionally used for investments; however, it can be applied to sectoral analysis to provide a more readable metric of the risk/volatility of investments over time. Generally, a high Sharpe Ratio is preferable. For this dataset, a high Sharpe Ratio implies that the sector has received more consistent investments overtime; a low Sharpe Ratio means there is more variation in investment in the sector.

Sector	Sharpe Ratio
Health Diagnostics	4.2
Consulting	3.2
AudioTech	3.1
Last Mile Transportation	2.9
Technology, Information and Me...	2.4
Biotechnology	2.2
Application Software	2.1
Energy Efficiency	1.9
Maritime Transportation	1.6
Technology, Information and In...	1.5



From the tables and graphs presented above, there is significant evidence that sectoral trends in start-ups is no different than the broader market. Within the public market, healthcare and technology stocks performed very well in this time frame. Additionally, many technology/AI related public companies have stock graphs on par with the graphs showcased above—NVDA, TSM, META, NFLX to name a few.

The following table selected the top ten companies (sorted by total investment amount) that were in the top 100 sorted by both total investment amount and Sharpe Ratio (refer to the Python file for full procedure). In other words, these are sectors that have received consistent high investments across the period.

Sector	Total Investment (in billions)	Sharpe Ratio
CleanTech	2.7769	0.84
BioTech	2.5348	0.69
HealthTech	2.3508	0.76
PropertyTech	0.6534	0.71
Robotics	0.6500	0.77
Software Development	0.3485	0.74
Biotechnology Research	0.3310	0.78
MarTech	0.2531	0.83
Data	0.2194	0.75
SpaceTech	0.1877	0.80

Regional Trends

Note that geography is determined by the location of the investment firm (investor)

The number of deals completed in each of the major cities is presented in the table below.

Calgary	Montreal	Ottawa	Toronto	Vancouver	Waterloo
81	606	140	771	182	59

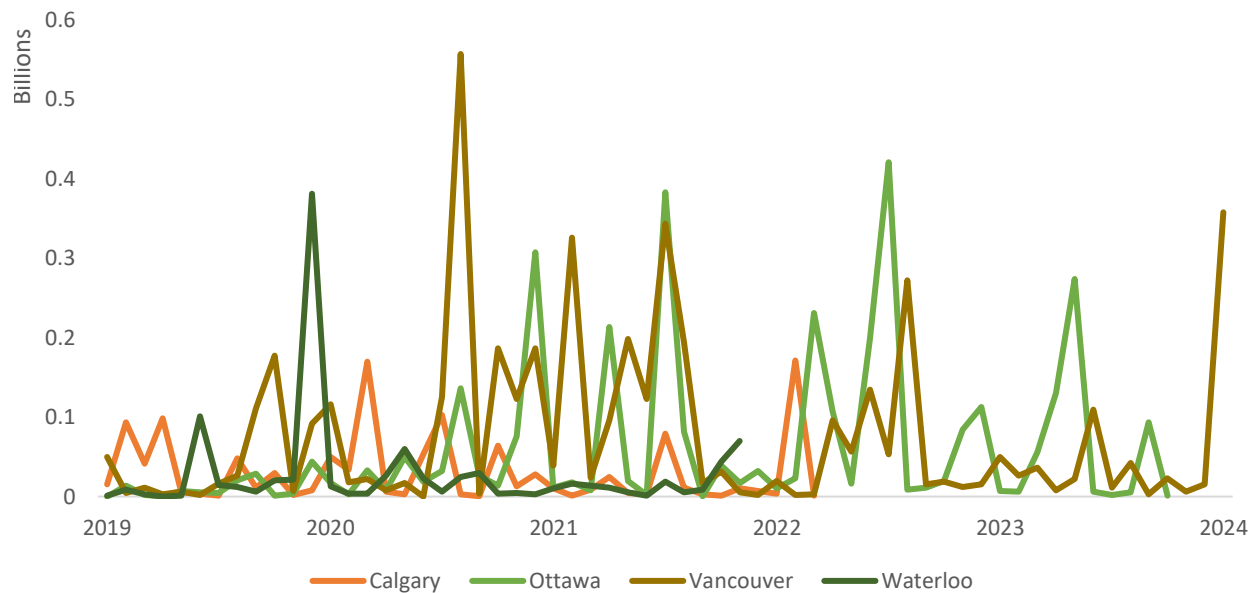
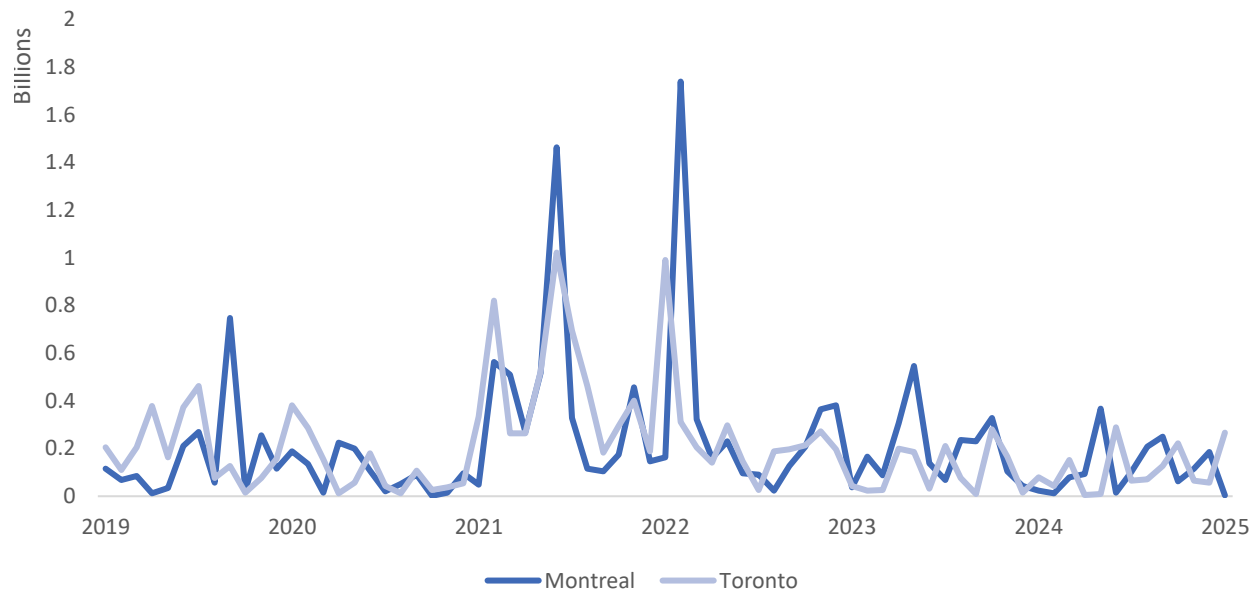
Outlined in the table below are the top sectors in the primary Canadian cities, sorted by the number of completed deals.

Calgary	Montreal	Ottawa	Toronto	Vancouver	Waterloo
FinTech (19)	SaaS (61)	CleanTech (21)	SaaS (116)	SaaS (26)	SaaS (14)
HealthTech (11)	FinTech (57)	SaaS (15)	FinTech (89)	FinTech (19)	FinTech (6)
SaaS (7)	AI (50)	FinTech (13)	HealthTech (79)	HealthTech (18)	DevTech (6)
Marketplace (4)	HealthTech (50)	CyberSecurity (8)	AI (52)	AI (10)	HealthTech (4)
LegalTech (4)	BioTech (41)	Analytics (7)	Marketplace (40)	Marketplace (10)	eCommerce (3)

Expectedly, the popular sectors remain relatively uniform across different Canadian regions. An additional query was performed on Canadian provinces instead of the primary cities, which can be found in topSectorsByProvince.csv, and had similar results.

The table below contains the median deal size in each city (in millions) and the following graphs depict the monthly investment in each Canadian city.

Calgary	Montreal	Ottawa	Toronto	Vancouver	Waterloo
6.850	1.338	0.024	0.341	0.800	0.052



In Montreal and Toronto, the highest sources of funding, the total investment trends in a similar manner to the aggregate dataset. The four smaller cities are much more varied and do not appear to have any significant pattern.

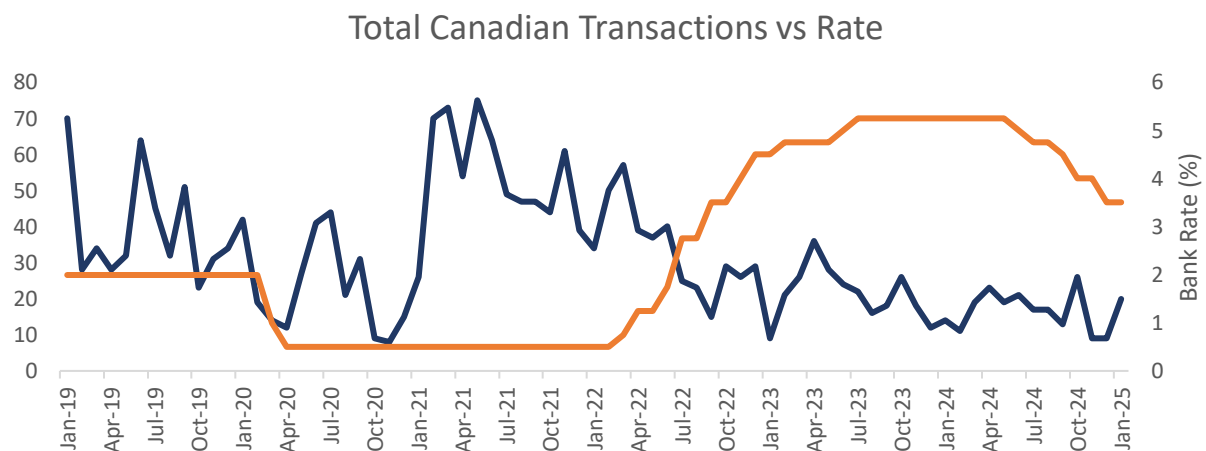
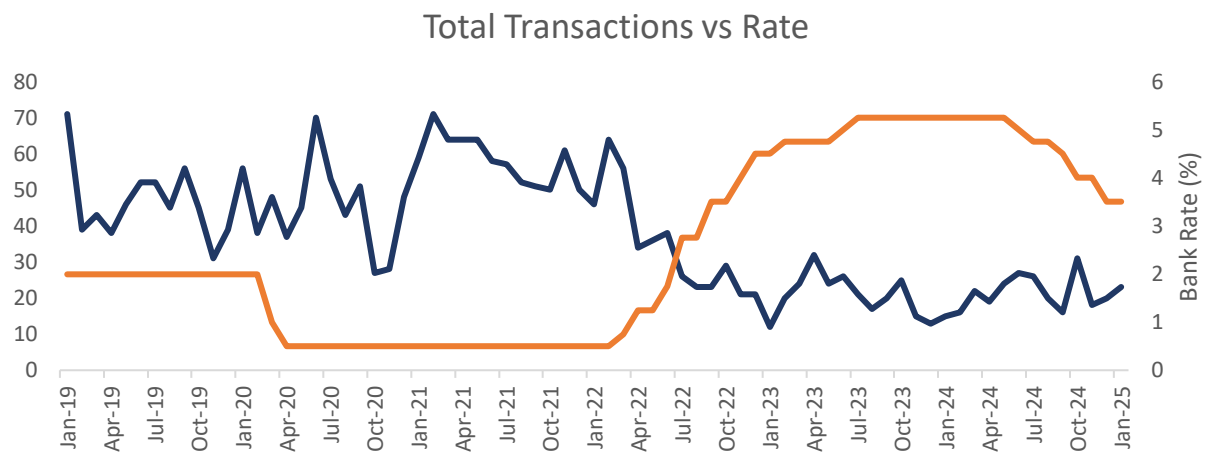
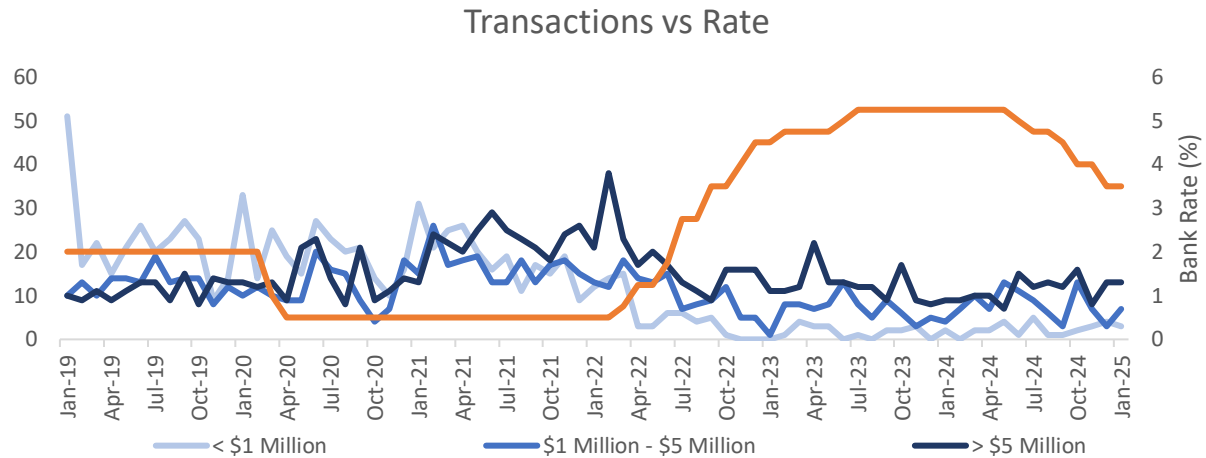
Conclusions:

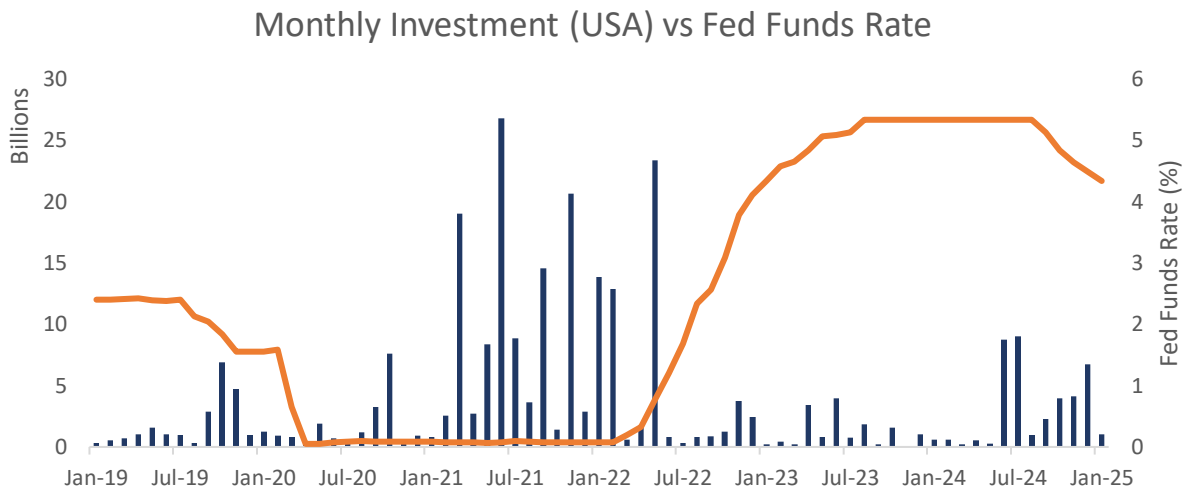
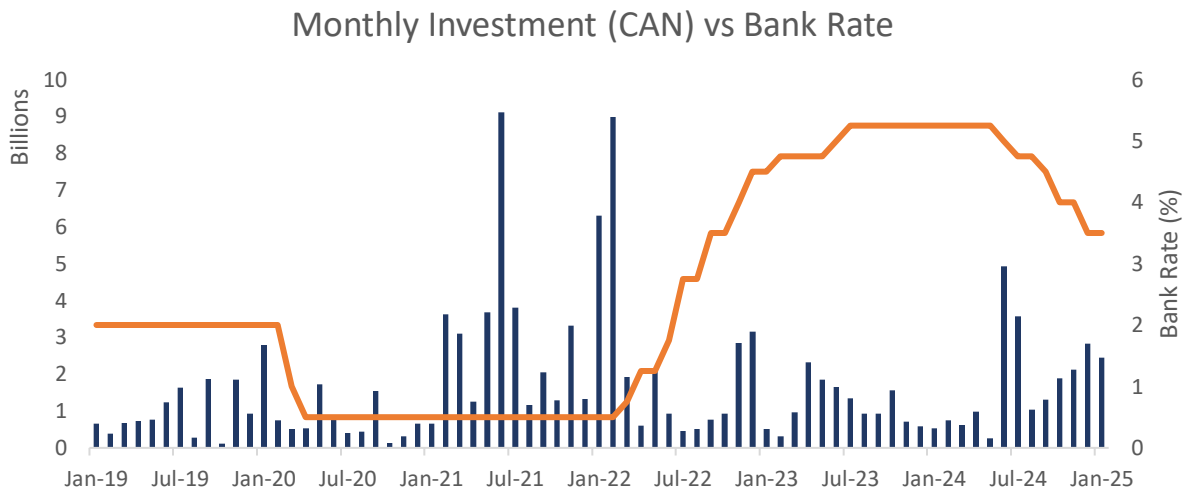
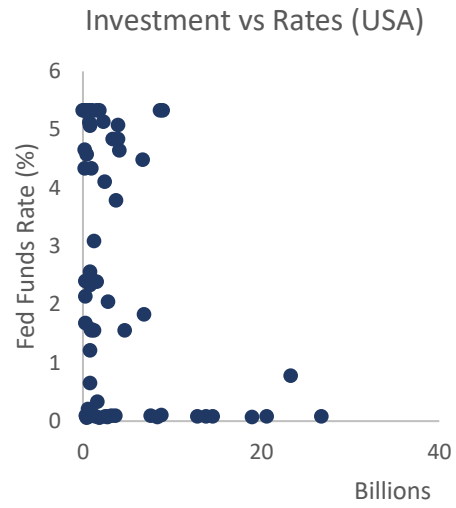
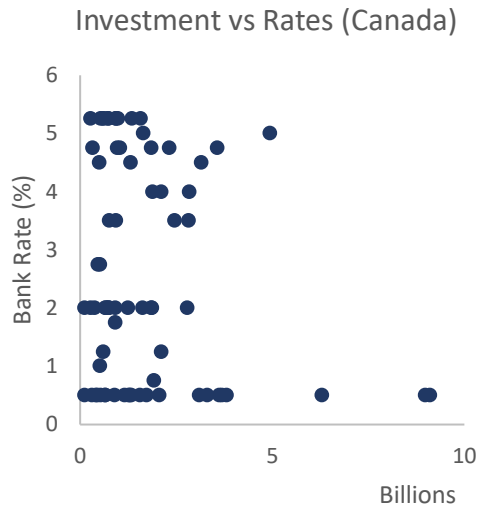
For those familiar with market trends during and post-pandemic, these risk-reward patterns (in the form of total investment and the Sharpe ratio) are eerily reminiscent of the stock market during that time. Hence, I believe there isn't anything particularly unique about Canadian tech start-ups compared to the broader economy; that is, investment patterns will continue to follow broader market trends (with some caveats as we will see later).

These top investments were all fuelled by the pandemic. Some of these sectors have already fallen out of favour, like healthcare, but there are a few that could see increased funding in the coming years, such as AI.

V: Correlation with Interest Rates

The following graphs use the Bank Rate from the Bank of Canada's website and the Federal Funds rate from FRED





Conclusions:

With the given data, there appears to be a negative correlation between investment and interest rates; however, it is hard to be certain given the small dataset. From the first graph, smaller investments appear to be heavily impacted by a higher interest rate whereas the larger investments have continued to flow despite the upwards trend of the rate.

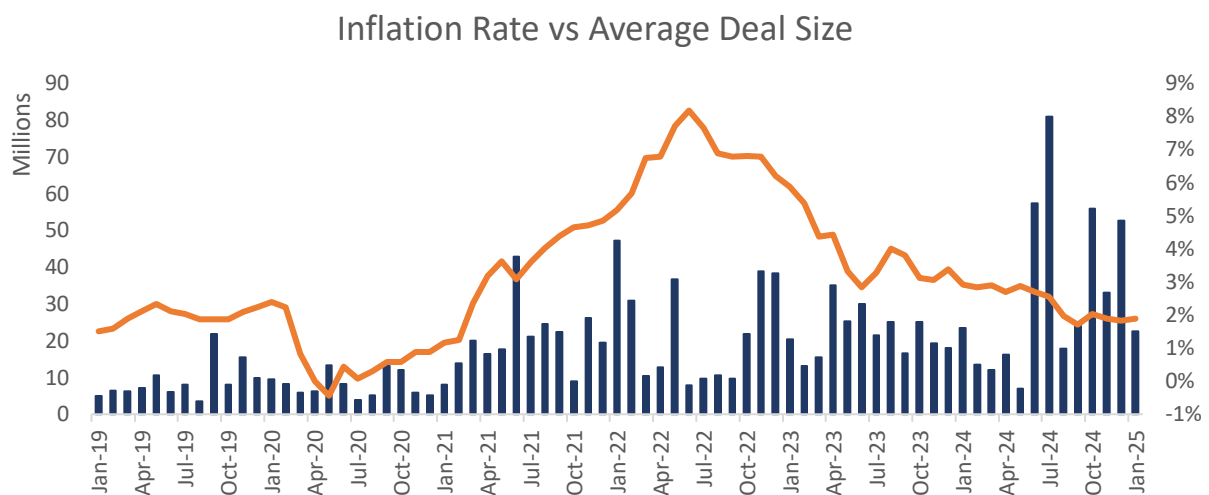
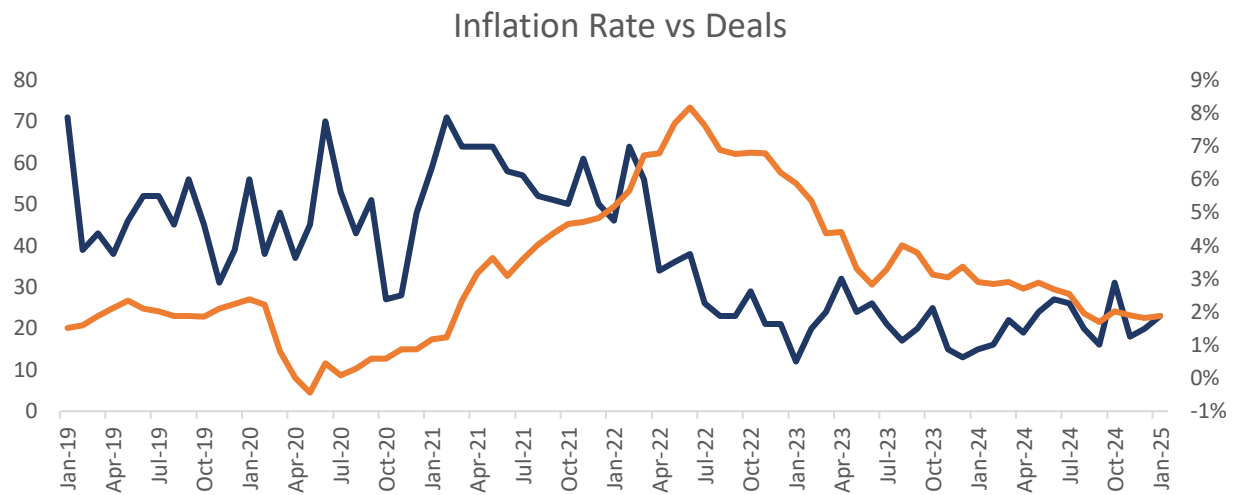
These conclusions fall in line with the data observed in [Section II](#). Pre-Seed and Seed stage funding were most abundant prior to third quarter 2022 and comprised the smallest deal sizes. Conversely, Series investments were much larger in size on average and did not face the same drop in volume that occurred in the Seed and Pre-Seed stages.

From a macroeconomic perspective, these trends are logical because interest rates are typically high when the central bank wants the economy to slow down. Less economic growth induces higher saving, hence less capital for investment. Additionally, the lack of momentum in 2020 in some of graphs could be attributed to the uncertainty at the beginning of the pandemic and the lockdowns that were put in place.

Data can be compared with other macroeconomic factors to verify this correlation.

VI: Investment Trends and Inflation

Inflation Rate is measured as the 12-month % change in CPI



Conclusions:

The hypothesis was that investors would be willing to fund less if inflation is high, due to their decreased purchasing power; however, there does not appear to be any significant correlation between interest rates and the completed deals.

Conclusions and Business Implications

Conclusions

1. Investment is related to macroeconomic environment
2. Deal sizes vary based on the funding stage of the business
 - a. As expected, not a surprise
3. North America is the highest source of investment
 - a. There are more firms in the US but Canadian firms are more active on average
 - b. Investment more plentiful in Bay area, NYC, Toronto, Montreal, Vancouver, and other metropolitan areas
 - i. Based on the data, Montreal, Toronto, or the Bay Area are the best purely based on investment quantity
 - c. Firms invest based on start-up stage; make sure to pick the right investor to target based on current business status
 - i. E.g., Y Combinator for Seed stage, BDC Capital if in Series
 - d. Other than the top countries by number of investors, there really is no point in leaving North America. Many other countries have high average deal sizes likely because they are only willing to fund later-stage start-ups
4. Interest rates have a negative correlation with investment
 - a. Interest rates appear to have a strong correlation with total investment amount whereas investment seems completely resilient to inflation
 - b. The macroeconomic conclusions made in Section V are acceptable but would need more evidence to back the claims
 - i. i.e., Investors will be incentivized to save rather than invest
 - c. Comparisons with more economic metrics can reinforce these claims

Business Implications

1. **Most importantly, know your business.** There is evidence that start-ups are no different than the public market. Knowing what sector the business is/will be allows one to make better decisions on when to enter the market.
2. **Pitch to specific firms based on the current stage of funding.** For any start-up in the Series stages, BDC Capital is highly recommended. Techstar and Y Combinator are the best investors to pitch to during the Pre-Seed and Seeding stages respectively.
3. **Stay domestic.** This is more of a recommendation, but there is significantly more funding for Canadian start-ups in Canada than any other country in the world; even though there are more American investors in this dataset, Canadian investment trumps in every other metric.
4. **Watch the interest rates.** Particularly for those in the Pre-Seed and Seed stages, smaller investments appear to be very susceptible to interest rates, so it is important to determine the best time to enter the market. Mature start-ups in the Series stages are less impacted and could achieve same funding success regardless of the interest rate.

Code Repository and other Sources

Repository

<https://github.com/Lightblitz/cxc-2025/tree/main/RunQLChallenge>

Link to Interactive Dashboards

<https://lightblitz.github.io/home.html>

Other Sources used in Analysis

Canadian interest rates and monetary policy variables: 10-year lookup. Bank of Canada. (n.d.).
<https://www.bankofcanada.ca/rates/interest-rates/canadian-interest-rates/>

Federal Reserve Bank of St. Louis. (n.d.). *Federal Reserve Economic Data.* FRED.
<https://fred.stlouisfed.org/categories/118>

Government of Canada, Statistics Canada. (2025, February 18). *Consumer price index, monthly, seasonally adjusted.* Consumer Price Index, monthly, seasonally adjusted.
<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=181000060> 1