

Estimating Informal Investment in Canada

SME FDI Workshop
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BETTER
UNDERSTANDING



SME
FINANCING

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DATA INITIATIVE

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Objectives of this work (1)



1. To examine the extent to which data collected via the *Survey on Financing of SMEs* contributes to the goal of measuring actual and potential informal investment in Canada.
 - Use data collected from the *Survey on Financing of SMEs* to estimate the **flow** of informal investment from respondents to the survey.
 - Use data collected from the Survey on Financing of SMEs to estimate the potential **stock** of capital available for informal investment from respondents to the survey.
 - Evaluate how these data improve our understanding of the flow and stock of financing beyond the estimates available in the literature.

Objectives of this work (2)



2. To identify what limitations might exist in the interpretation of the data from the Survey on Financing of SMEs.
3. To formulate additional methods that might be employed to estimate the extent of informal investment in Canada.
4. To assess the data from the *Survey on Financing of SMEs* to determine the level of investment that can be solely attributable to “angel” investors, as opposed to the broader category, “informal investors”, which includes friends and family.
5. To compare findings with other research on informal investment and business angels.



Analysis of Data from Survey

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Keep in mind ...



- Respondents to survey are business owners
 - Not all angels are business owners
 - Respondents represent a subset of angels
 - Equinox, 2001, “Practices & Patterns of Informal Investors”, reported that 91% of angels were business owners:
P (Business Owner/Angel) = 0.91
 - Survey results represent only a (so far, unknown) portion of informal investor population

Informal Investment among Survey Respondents



- Question H.7:

“Excluding publicly-traded shares, mutual funds or stocks, did the majority owners of the business make any investments in any other businesses at any point since 1990?”

- *10.8 percent of SME owners in the sampling frame reported making investments since 1990*

P (Informal Investor / Business Owner) = .108

Informal Investment among Survey Respondents



- Question H.8:

“Approximately how many other businesses did the majority owners make new investments in [for each of the time periods: 2001, 2000, and 1990-1999]?”

- *Collectively:*

- ⇒ ***101,574 investments during 2001***
- ⇒ ***96,568 investments during 2000***
- ⇒ ***More than 200,00 investments 1990-1999.***



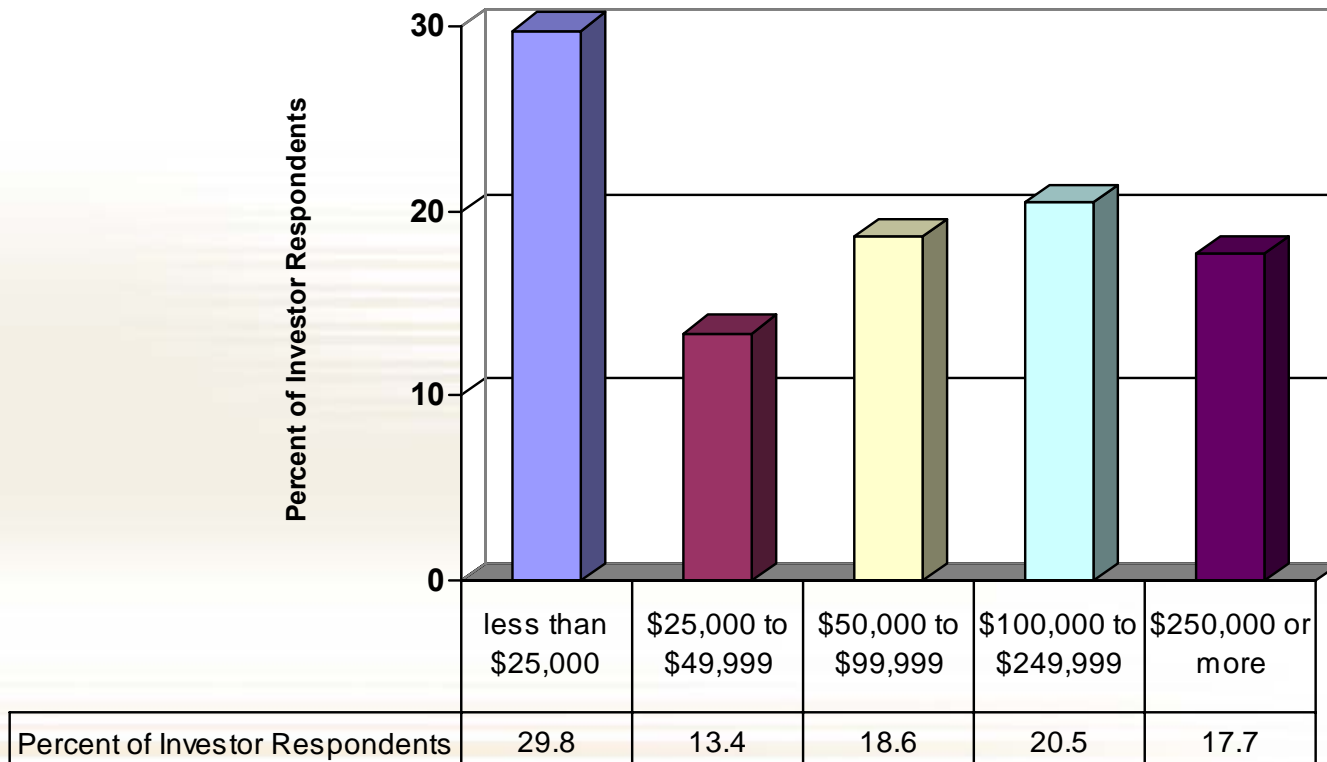
Estimating the Flow of Investments from Survey Respondents

Estimating the Flow of Informal Investments



• Question H.13

“On average, how much did the majority owners invest in these other businesses?”



Estimating the Flow of Informal Investments



- Question H.13

“On average, how much did the majority owners invest in these other businesses?”

- Average investment = c. **\$111,840**

- Note: conforms closely with average size of investments from most studies of angel investors

- 2001:

- 101,547 investments at an average size of \$111,840
= \$11.4 billion

- 2000:

- **= \$10.8 billion**



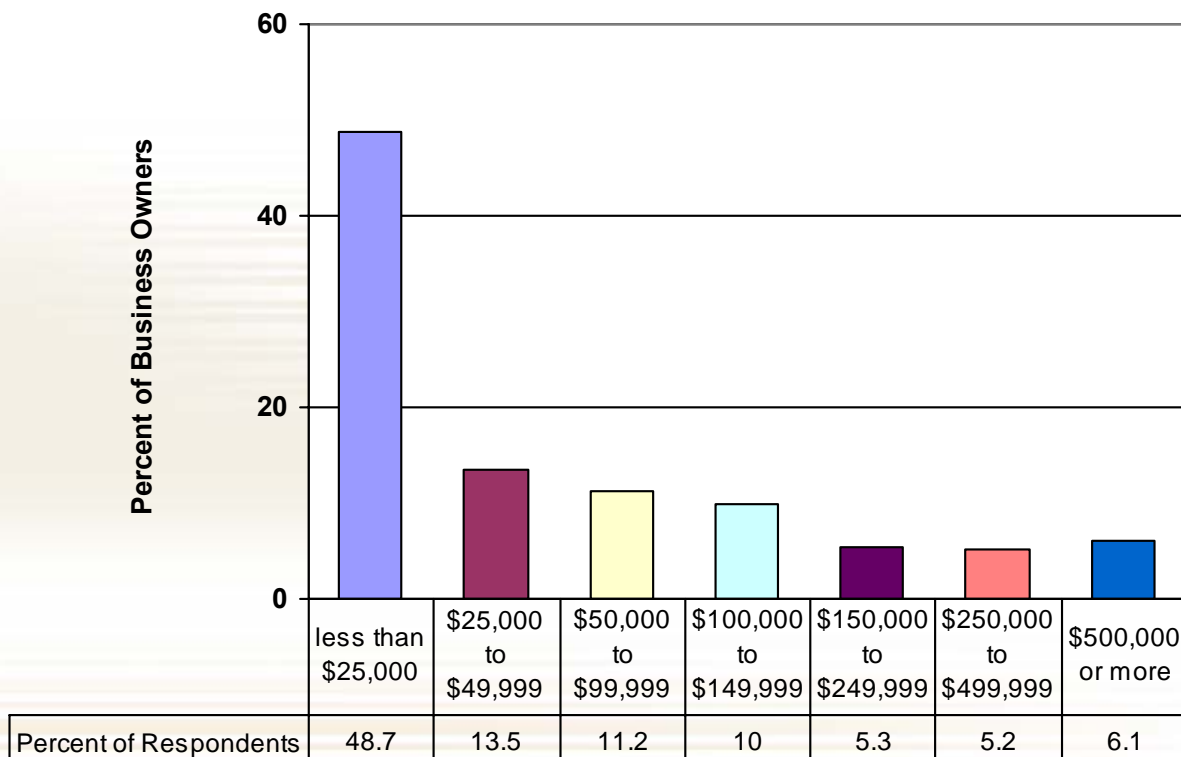
Estimating the Stock of Informal Investment

Estimating the Stock of Informal Investments



• Question H.14

“During 2001, how much did the majority owners have available to invest in other business ventures?”



Estimating the Stock of Informal Investments



- Question H.14

“During 2001, how much did the majority owners have available to invest in other business ventures?”

- Median amount available was in the \$25,000 to \$50,000 range and the average amount available was **\$92,550**.
 - ➔ 10.8 percent of the 1,285,620 business owners in the sampling frame had made investments and average amount available was \$92,550
 - ➔ Estimated stock of capital held by respondents to the survey:

\$12.85 billion

Caveats



- Estimates reflect:
 - Only informal investors who are business owners
 - Omits assessments for informal investors who are not business owners
 - Therefore, estimates provided here understate actual flow and stock
 - Investments by broadly defined informal investors
 - Include “love money”
 - Include investments in own (new?) firms



Breakdowns

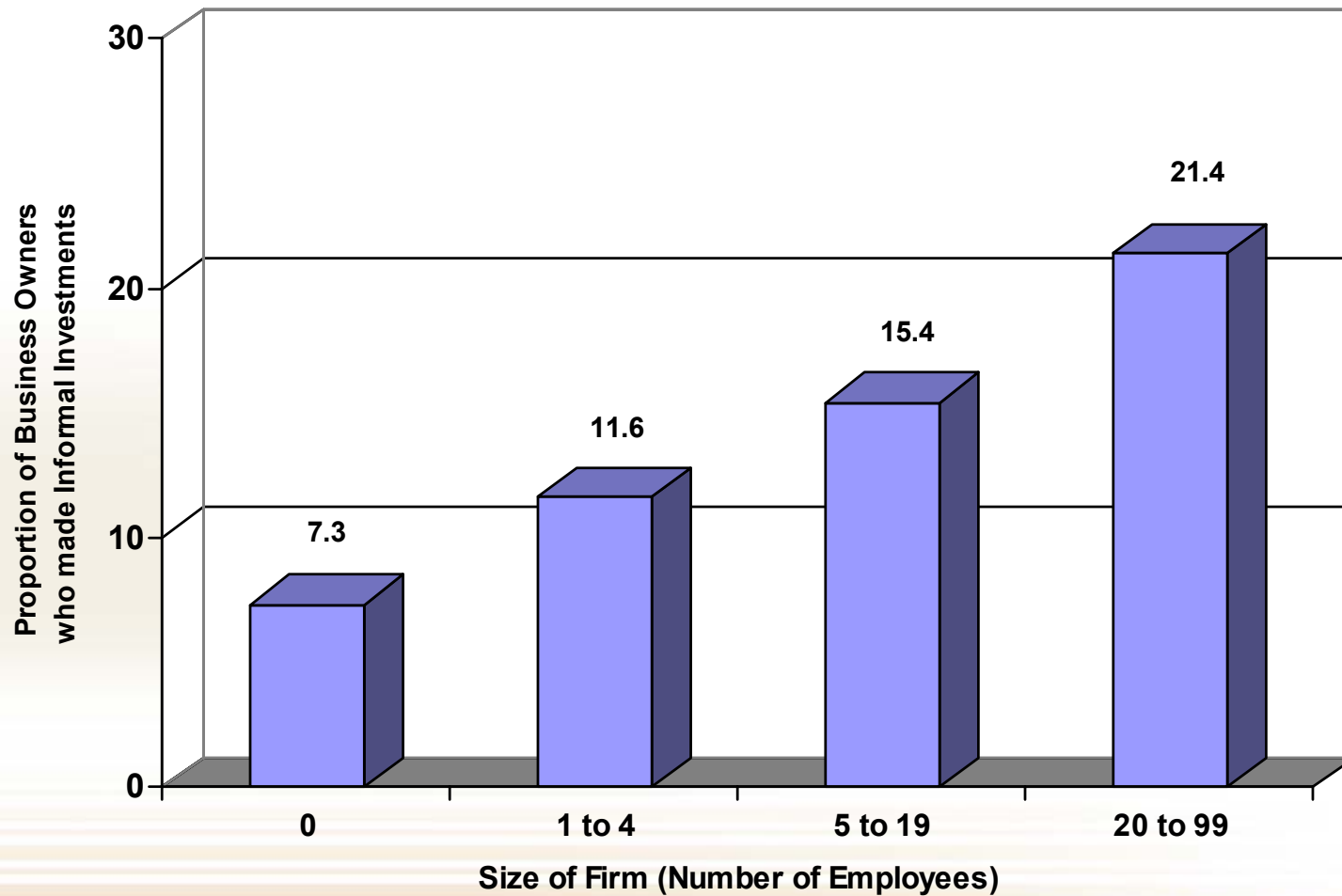
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Breakdowns



- Based on “tombstone data”
 - Table 26 of published Data Tables:
 - Informal investors are associated more with:
 - Younger firms;
 - Larger firms (as shown by Figure 2);
 - » **Therefore with growth-oriented firms**
 - Firms that are majority men owned;
 - Older owners;
 - Firms with relatively high ratios of R&D and technology investments to sales;
 - Exporter firms (however, this may also be a manifestation of the related finding, that the likelihood of investing in another firms varies according to firm size.

Breakdowns



Breakdowns



- Question H.9:
“Did the majority owners act as operators in these other businesses?”
- Question H.12:
“Were these other businesses owned or operated by family or friends?”

Breakdowns



Angels?!

Acted as operators in investee firms?	Invested in businesses owned by family, friends?		Total
	Yes	No	
Yes	34.7%	37.5%	72.2%
No	14.0%	13.9%	27.8%
Total	48.7%	51.4%	100.0%

(N = 539)

Breakdowns



Acted as operators in investee firms?	Invested in businesses owned by family, friends?		Total
	Yes	No	
Yes	34.7%	37.5%	72.2%
No	14.0%	13.9%	27.8%
Total	48.7%	51.4%	100.0%

P (Angel / Informal Investor) \geq 0.139

Breakdowns



Invested in businesses owned by family, friends	Acted as operators	Average Number of investments in 2001	Average Number of investments in 2000	Average investment in other businesses	Average Funds Invested in 2001
No	No	1.33	1.56	\$124,830	\$166,024
Yes	No	0.50	0.33	\$105,135	\$52,568
No	Yes	0.75	0.82	\$105,058	\$78,794
Yes	Yes	0.72	0.60	\$116,710	\$84,031

Angels

Breakdowns



Invested in businesses owned by family, friends	Acted as operators	Average Number of investments in 2001	Number of Investors in 2001	Average investment	Funds Invested (\$billion)
No	No	1.33	18,668	\$124,830	3.09
Yes	No	0.50	18,449	\$105,135	0.97
No	Yes	0.75	50,505	\$105,058	3.98
Yes	Yes	0.72	46,721	\$116,710	3.92

→ Flow of angel investments from owners who fit in the survey sampling frame ≥ 3.09 \$bn.

Moving Beyond the Sampling Frame



- **Recall:**

$$P(\text{Business Owner/Angel}) = 0.91$$

Equinox, 2001

$$P(\text{Informal Investor / Business Owner}) = 0.108$$

Question H.7

$$P(\text{Angel / Informal Investor}) \geq 0.139$$

Questions H.9, H.12

$$\text{Therefore, } P(\text{Angel / Business Owner}) \geq 0.108 \times 0.139$$

$$\geq 0.015$$

From probability theory, $P(A/B)/P(B/A) = P(A)/P(B)$

$$\text{Hence, } P(\text{Angel}) = (0.015) \times P(\text{Business Owner}) / 0.91$$

$$\text{Or, } P(\text{Angel}) \geq 0.0165 \times P(\text{Business Owner})$$

Moving Beyond the Sampling Frame



- Expressed differently, the number of angels in the general population is, based on these data, equal to 1.65 percent of the number of business owners in the population.
- Given:
 - a sampling frame of 1,285,620 businesses,
 - Average annual investment by angels of \$166,000
 - Estimated **minimum** flow of angel capital during 2001 was
\$3.5 billion



Other Findings

Rates of Return



- Farrell (2000, pp. 30-31):
 - there is simply no data about the rates of return informal investors have realized in Canada – or elsewhere.
 - *Survey* includes questions to business owner respondents that potentially add to our knowledge about realized rates of return.

Rates of Return



- *Question H.10:*
 - “[had] the majority owners sold any of these shares in these other businesses obtained since 1990?”
 - 26.7 percent of respondent owners reported having sold shares of the businesses
- *For the subset who responded that they had sold shares, Question H.11 asked:*
 - “What was the average rate of return on these shares that were sold?”

Rates of Return



Rate of Return	Invested at arms length, did not act as operator	Invested in friends, family, did not act as operator	Invested at arms length, acted as operator	Invested in friends, family, acted as operator
Lost money	26.7%	62.4%	50.2%	47.3%
1% to 50%	40.7%	25.8%	38.8%	37.0%
More than 50%	32.6%	11.8%	11.0%	15.7%

*↑
- less likely to lose \$
- more likely to make money*

Rates of Return



- This is important because, as Lerner (1998) argues, it may be counterproductive to the economy “to encourage amateur individual investors.”
 - Start-ups are inherently risky
 - Nothing about family members makes them astute investors, mentors, or managers
 - **Raises a real question about whether policy should be directed towards making non-angels into angels!**



Summary

Reprise: Objectives of the Work



1. Use data collected from the *Survey on Financing of SMEs* to estimate the **flow** and **stock** of informal investment from respondents to the survey.
 - Have done so
 - ➔ Flow of informal investment > **\$11.4 billion**
 - ➔ Stock of informal investment > **\$12.8 billion**
 - ➔ Evaluate how these data improve our understanding
 - Best estimates available anywhere in the world
 - Are **minima**, because survey captures only a portion of the population of informal investors
 - Caveat: very broad definition of informal investment

Reprise: Objectives of the Work



2. To identify what limitations might exist in the interpretation of the data from the Survey on Financing of SMEs.
 - a) Need greater precision in questions to allow for multiple investments
 - b) Need larger sample size because of
 - Low overall incidence on informal investors and angels in the general population
 - Need for greater precision in breakdowns of small N
3. To formulate additional methods that might be employed to estimate the extent of informal investment in Canada.
 - a) Link results to findings from other surveys and external data
 - For example, used probability theory to combine results of *Survey* with previous research findings
 - Potential role for findings from Survey of Financial Security

Reprise: Objectives of the Work



4. To assess the data from the *Survey on Financing of SMEs* to determine the level of investment that can be solely attributable to “angel” investors, as opposed to the broader category, “informal investors”, which includes friends and family.
 - a) Have provided 2 X 2 initial breakdowns of informal investment that represent minima
 - b) Estimated annual flow of angel investment > \$3.5 billion
 - c) Need additional precision with respect to questions that currently confound situations with multiple investments
5. To compare findings with other research on informal investment and business angels.
 - Major contributions with respect to
 - ☞ Estimating flow and stock of investment
 - ☞ Categorization of informal investors across angels, love money, entrepreneurs (still need to fine-tune questions)
 - ☞ Estimating returns on informal investment across categories of investor (still need to fine-tune questions, increase size of sample)



**More Questions, Ideas,
Suggestions?**

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