

# Identifying Capital Market Gaps: How can we Tell?

SME FDI Workshop  
September 21, 2006

BETTER  
UNDERSTANDING



SME  
FINANCING

SME FINANCING  
DATA INITIATIVE

Dr. Allan Riding  
University of Ottawa



Government of Canada  
Gouvernement du Canada

Canada

# Financial innovations for SME credit and equity Financing



- A financing gap exists if:
  - a) Among loan applicants who appear to be identical some receive credit while others do not;
  - b) There are identifiable groups in the population that are unable to get financing at any price.
- How can we tell?

# Are financial interventions needed? On direct intervention



- Under what conditions is direct intervention warranted?
  - *How can we tell...*
    - **⇒ If conditions justify intervention?**
  - *How can we tell...*
    - **⇒ Where to intervene?**
  - *How can we tell...*
    - **⇒ How to intervene?**
  - *How can we tell...*
    - **⇒ If interventions are effective?**

***Answers are important because ...***

# Brierley (Bank of England, 2001) on intervention:



*“Public sector initiatives to support the financing of ... small firms ... may be justified if market imperfections mean that the private sector does not provide capital to firms on competitive terms... [However] In the absence of market failure, such initiatives may themselves cause distortions by subsidizing, at ... public cost, non-viable firms which are not attracting enough capital because they do not offer good investment opportunities.”*

**Why would I start an entrepreneurial venture if the government is going to subsidize my competition (using my taxes) when my success drives them out of business?**

# On Gaps



- Economic Theory
  - Idea of a gap revolves around the concept of an “imperfection” in the marketplace
    - Some friction that prevents supply and demand from clearing
    - An imperfection that, in theory, may arise from information asymmetry
    - Silly example

# Market Imperfections: Creditworthiness According to Theories of Information Asymmetry



|  | ← LESS INFORMATION ASYMMETRY |   |   |   | MORE INFORMATION ASYMMETRY → |   |   |  |
|--|------------------------------|---|---|---|------------------------------|---|---|--|
| Able to signal worthiness (e.g., through Collateral) | ✓                            | ✓ | ✓ |   | ✓                            |   |   |  |
| Has an established relationship with lender          | ✓                            | ✓ |   | ✓ |                              | ✓ |   |  |
| Management of firm able to communicate worthiness    | ✓                            |   | ✓ | ✓ |                              |   | ✓ |  |

No Gap ←————→ Gap

# What we are told about debt (in Canada)



- Smaller firms face financing gaps/credit rationing
- Knowledge-based firms face financing gaps/credit rationing
- Women-owned firms financing gaps/credit rationing
- Firms owned by visible minorities face financing gaps/credit rationing
- Growth-oriented firms face financing gaps/credit rationing
- etc.

# What we are told about equity (in Canada)



- Women owned firms do not receive proportionate share of equity/venture capital
- Business angels are
  - (a) disappearing
  - (b) focused exclusively on high tech
- Impossible to measure incremental impact of our “innovations”
- etc.

# More specifically (growth firms and debt)...



- Rate of growth of a firm may be a rationing criterion ... high growth firms may be more informationally opaque than low growth businesses and may therefore face a greater degree of difficulty obtaining financing.

Binks and Ennew (1996)

- Small high performing firms face the biggest challenge with bank loans.

CFIB (2003)

# What we are told (women and financing)



- Women business owners' access to debt capital, [is compromised by] “...*lack of experience in dealing with lending institutions, inability to build a credit rating, lack of financial literacy, absence of networks, inherent gender bias and rigid lending policies [and that] [s]ome women entrepreneurs also reported that they feel intimidated by lending institutions*”.

Prime Minister's Task Force on Women Entrepreneurs, 2003: 55).

- “... women-owned and women-led businesses account for approximately 40% of US firms, yet less than 5% of the venture capital investments made in the United States over the past forty years have been to women-led businesses.”

(Brush et al., 2002)

## What we are told ...



- “A risk gap [such that] lenders do not price loans to reflect risk (rather, they reject loan applications if risk exceeds a particular threshold or if insufficient collateral is available). ... A knowledge gap ... that financial institutions do not understand knowledge-based businesses.”

BDC (Canada), 2001.

- With respect to loan guarantee programs: “Measurement of additionality is difficult because of the counterfactual problem and the substitution problem.”

Vogel & Adams (1997)



**How can we tell??  
Separating myths  
and reality**

SME FDI

# The Challenge



- Investors and lenders (should) make decisions based on set of “**acceptable**” criteria.
  - Banks do turn down loan applications and this is a good thing
    - Sometimes for good reason, “5 C’s”.
  - Likewise venture capital & angel investors
- Problems arise when reason for turning down a financing request is “**not acceptable**”
  - Gender, growth, knowledge-based, size, etc., ...
  - Gap: some groups do not get financing at any price!

# How we can tell...



- Dependable data and appropriate analysis
- Canadian innovation: Financing Data Initiative
  - Centerpiece: Survey on Financing SMEs
    - 2000: ~ 10,000 SME respondents
    - 2001: ~ 3,600 SME respondents
    - 2004: ~ 13,000 respondents

# Methodology & Data



- Challenge is to determine empirically the impact of two sets of factors on access to, and terms of, credit.
  1. Factors that are usually considered to be **legitimate** determinants of credit or investment decisions.
    - The “**acceptable**” factors
  2. Factors across which a **gap** has been hypothesized or assumed.
    - The “**unacceptable**” factors

# Context



- Because of FDI Survey on Financing SMEs has:
  - ⇒ High N
  - ⇒ High response rate
    - (~60%, minimizes non-response bias)
  - ⇒ Broad geographic and sectoral coverage
  - ⇒ Imprimatur of Statistics Canada
- High level of reliability and credibility

# Analysis (Canadian Context)



1. Estimate a statistical ‘credit scoring’ model based on “acceptable” factors
2. Test to see if adding “unacceptable” factors (e.g., gender) to credit scoring model improve it’s ability to predict lending outcomes
  - ⇒ If so, *unacceptable* factor may be a rationing criterion and credit rationing may be in effect
    - Gives signal to seek out an “imperfection” related to the criterion
  - ⇒ If not, *unacceptable* factor is irrelevant to lending/investment decisions and credit rationing is not substantiated

## Results (Debt Financing Gaps)



- Knowledge-based firms are no more likely to be turned down for a commercial loan than firms in other sectors
  - Commercial lenders are able to deal with knowledge-based firms
  - Not supportive of a gap related to knowledge-based firms
- Women-owned firms are no more likely to be turned down for a commercial loans than firms owned by men
  - No support for contention of gender gap

# Other Results



- Data has allowed:
  - Development of profiles of various categories of SMEs
    - Exporter SMEs
    - Women-owned SMEs
    - SMEs owned by youth, visible minorities
    - SMEs that have received business angel & love money investment
      - All broken down by sector, region, and other dimensions
- Still much more to come

# Contributions of Government (Canada)



- Helps private sector financial institutions gain yet better and more dependable knowledge of the SME financial marketplace
- Helps governments address “real” problems rather than myths and unfounded assumptions based on stereotypes, anecdotal evidence
- Helps design interventions that address very specific problems (for example, start-ups, women exporters)
- Helps test for and measure impacts of gaps, rationing
- Contribution of Government:
  - Information
    - Good data and analysis