

# SEWA Bank's Expansion

Using Geographic Information on Neighborhoods in  
Ahmedabad to Examine Expansion of Credit Access  
Among the Urban Poor

CMF-SEWA research team

# Overview

- Working with SEWA Bank since summer 2005
- Three projects
  - Randomized evaluation of business training
  - SEWA Bank computerized database
    - Helping in cleaning existing database
    - Computerizing loan application forms
    - Constructing unique client IDs
  - Use data from SEWA Bank expansion across Ahmedabad to examine impact on poor households of access to collection officers, and of access to credit

# Overview

- Today:
  - Basic facts about SEWA Bank
  - Review of SEWA Bank expansion
  - Using expansion to study credit access
    - Problems in evaluation
    - Outline of strategy
    - Challenges

# SEWA Bank

- MFI serving poor women in Ahmedabad
- Established 1974
- Number of accounts useful for project, representing large percentage of overall accounts (through May 2006):
  - 85,000 savings accounts
  - 7,200 unsecured loans
  - 3,500 secured loans

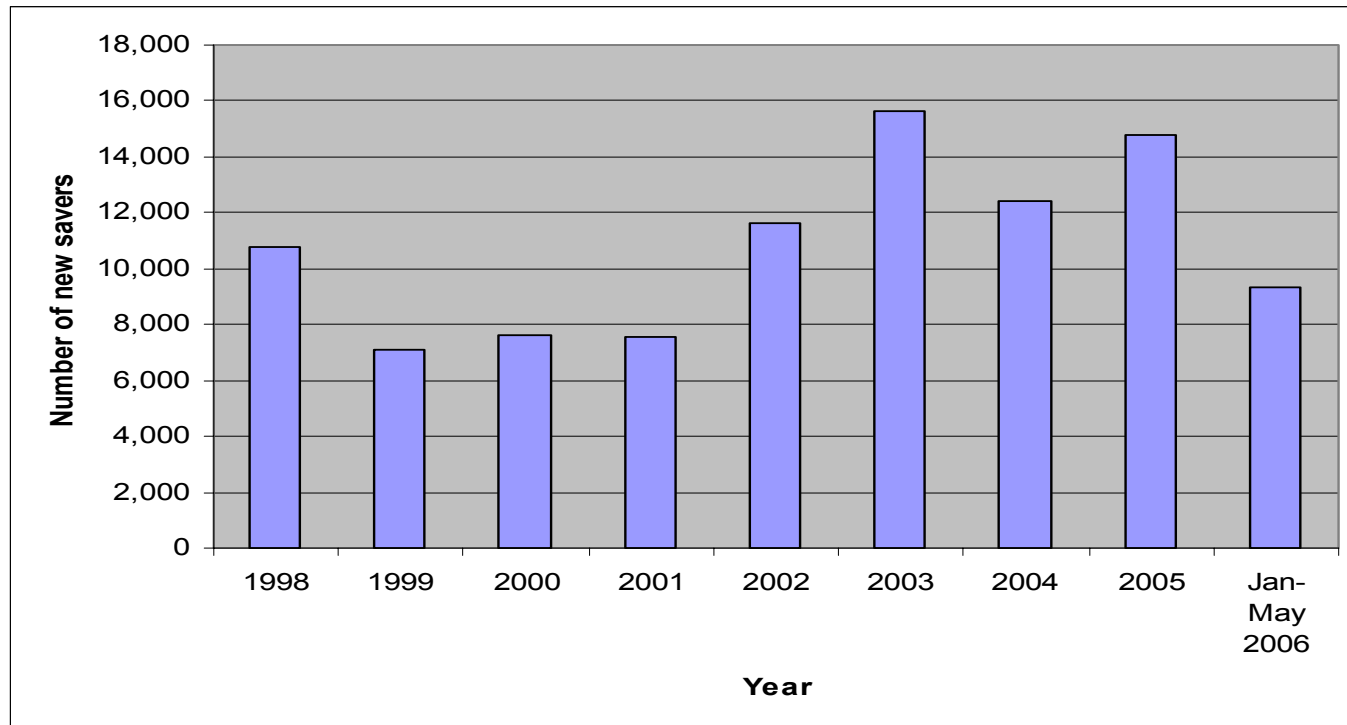
# SEWA Bank

- Computerized database
  - Basic information on all accounts opened since 1998, and many accounts opened earlier
    - E.g., amount, interest rate, etc.
  - Data on individual transactions
    - Date, time, amount, type of transaction (cash, transfer), if collection officer was involved, etc.
  - Detailed household data from loan application forms (currently being computerized)

# SEWA Bank expansion

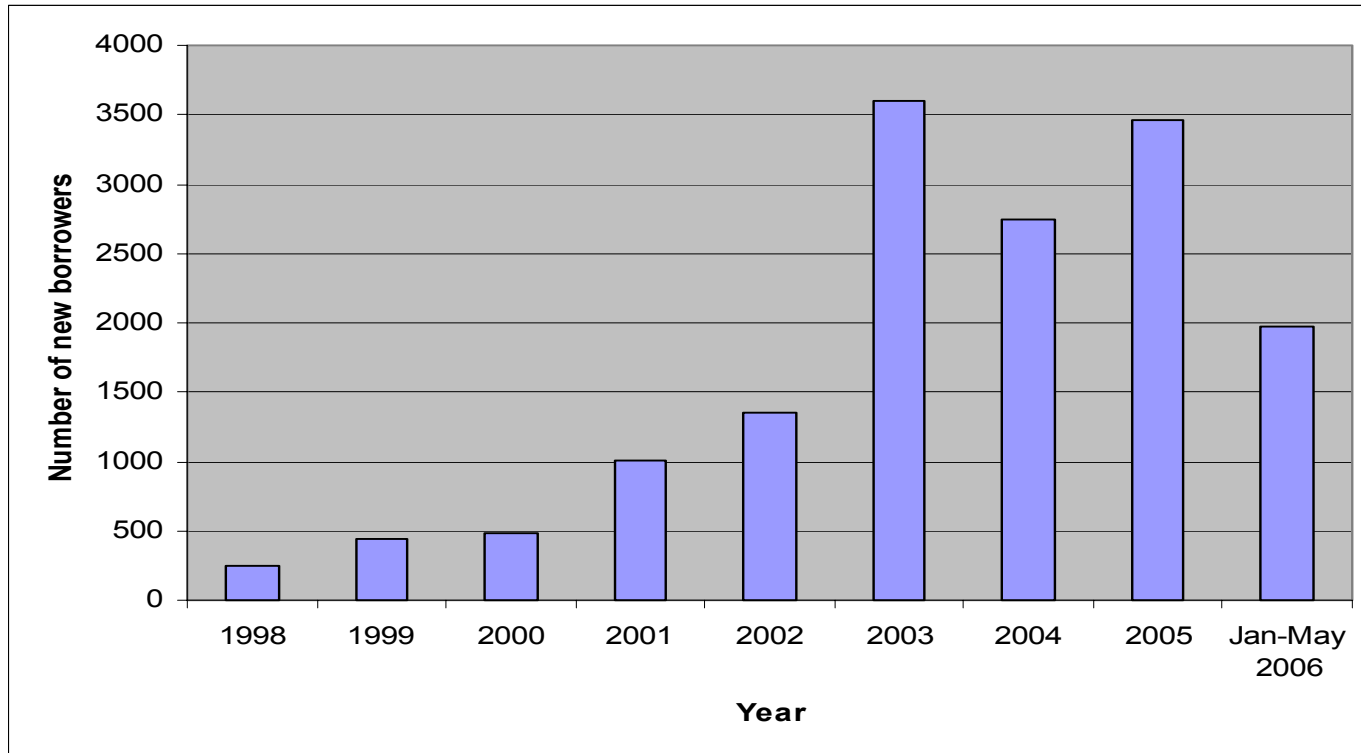
- 2000-2006: dramatic expansion in client base
- Expanded borrowing among existing clients in addition to welcoming new clients
- 2002, 2003: sharp increase in first-time borrowing among long-time clients (clients who had started saving more than two years before)
- Coincided with introduction of two technologies: collection officers (*banksaathin*) and daily loans (formally introduced 2000 and 2001, respectively)

# SEWA Bank expansion



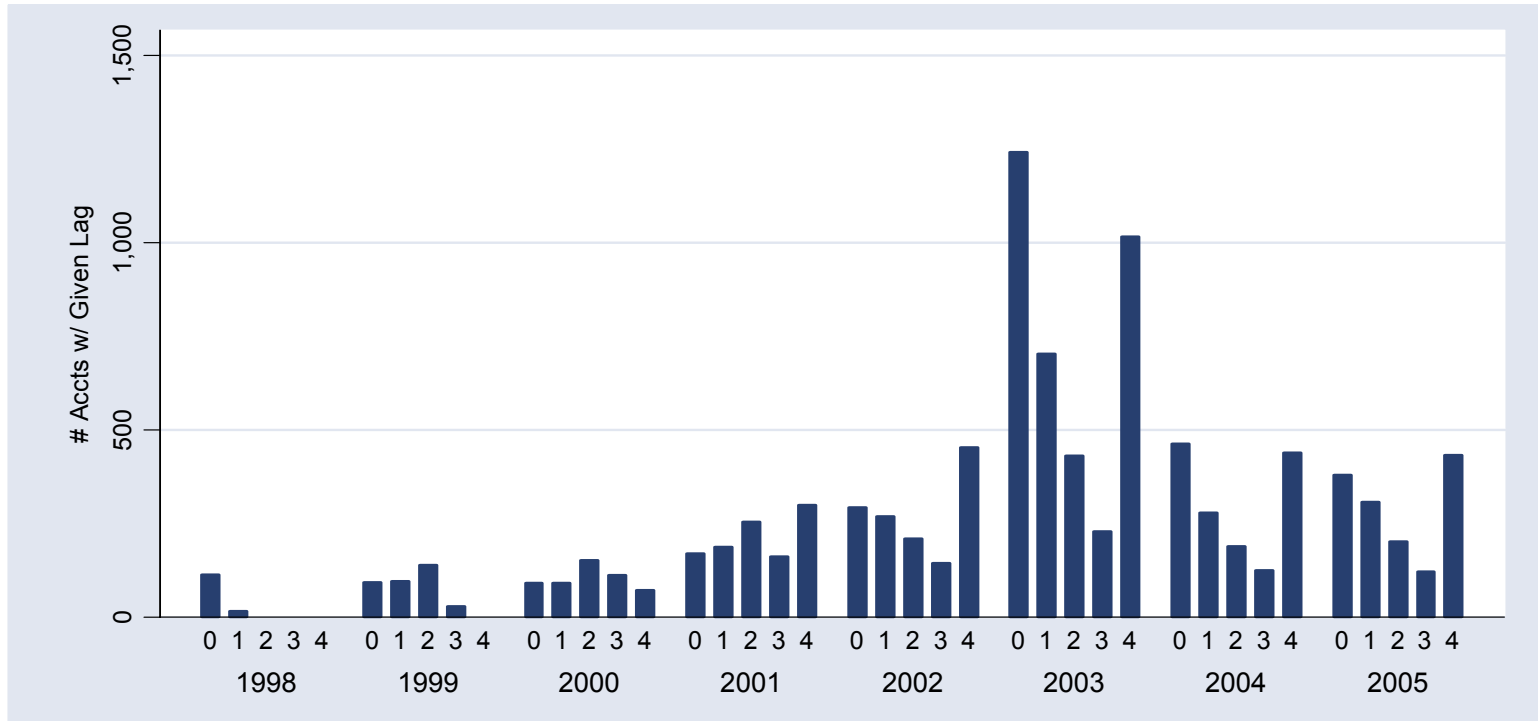
- Number of new clients (first-time savings accounts) per calendar year
- Roughly 12000-13000 new clients a year; greater increase in 2003 and 2005

# SEWA Bank expansion



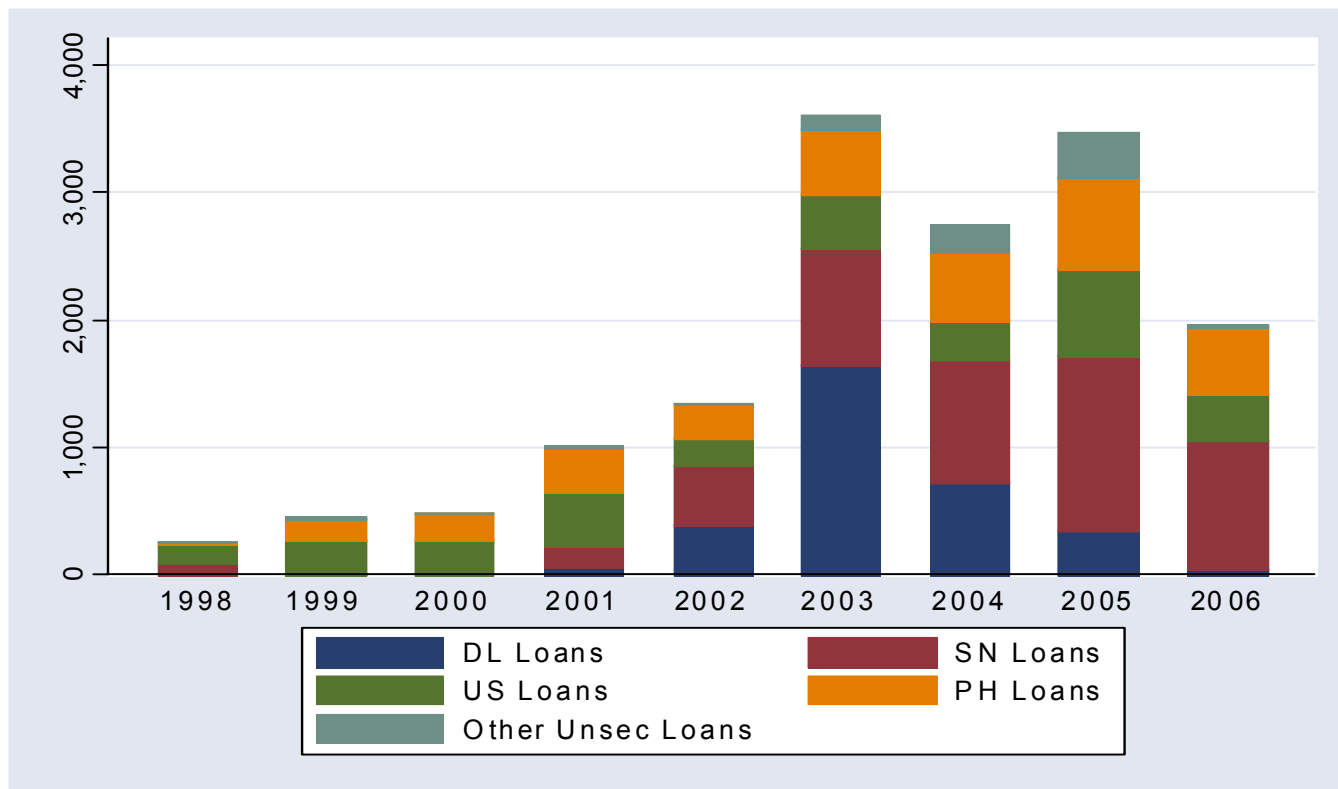
- Bars represent number of first-time borrowers, by year
- Sharp increase in number of first time borrowers in 2003
- Does not appear to be simply because more clients joined.

# SEWA Bank expansion



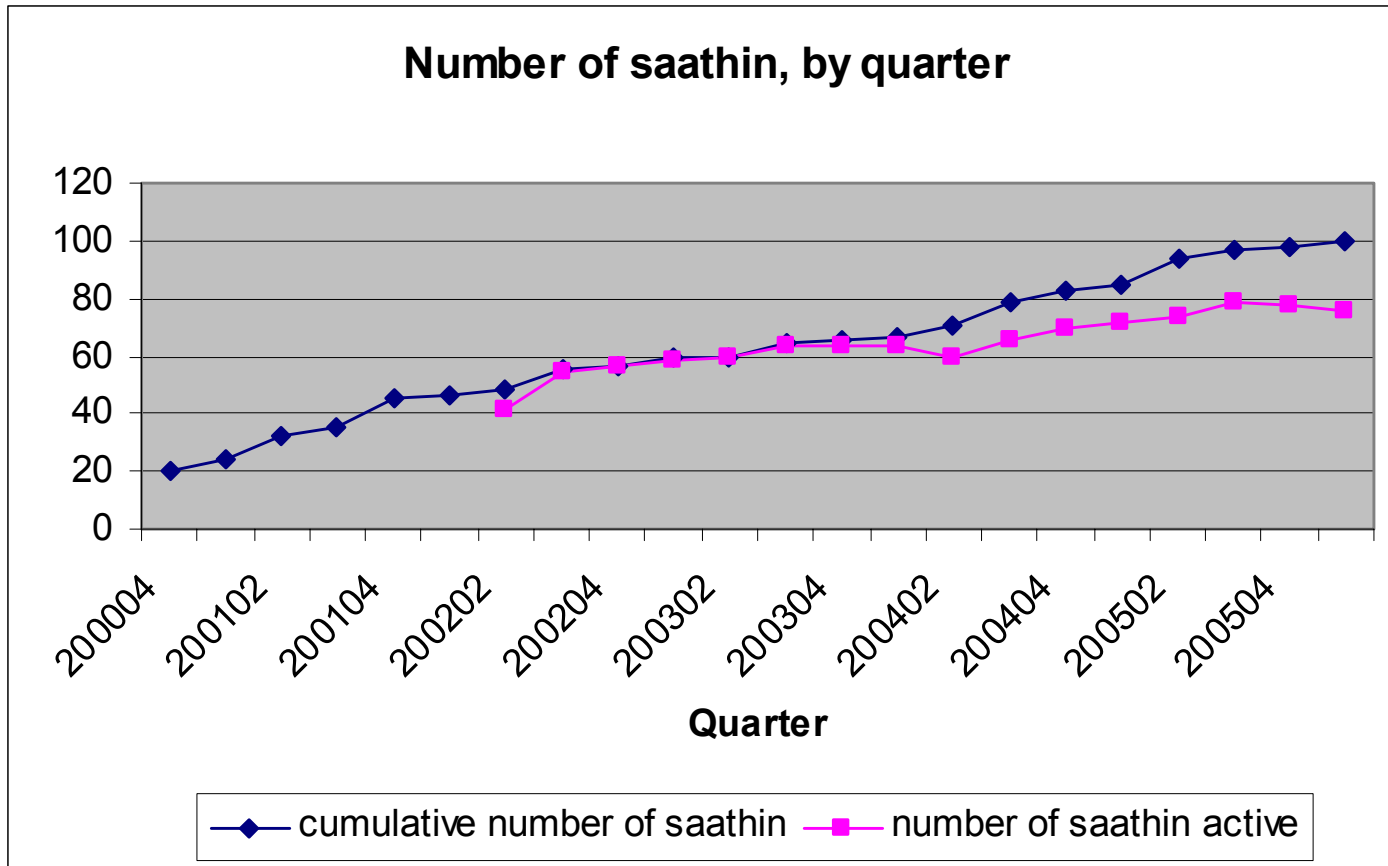
- Each bin represents number of first-time loan accounts by year and client's tenure
  - Examples
    - 0=client had been saving for less than 6 months before taking loan
    - 1=client had been saving for 6-12 months when took loan
    - 4=client had been saving for two years or more before took loan
- 2002-2003: sharp increase in first-time borrowing among long-time clients

# SEWA Bank expansion



- Depicts number of unsecured loans of each type
- Expansion for all unsecured loan types in 2003
- Particularly large increase in DL (“daily”) loans

# Growth of saathi pool



# Explaining SEWA expansion

- Our conjecture: expansion partly due to introduction of daily loans and banksaathin
- Banksaathin are women from community (not Bank employees) who recruit clients and collect payments; earn commission on collections
- Expanding team of collection officers, giving small loans, may give access to larger set of population in urban areas
  - For example, clients with no secure place to keep money day-to-day

# Explaining SEWA expansion

- Expanding team of collection officers may be more cost-effective than new branches
- But giving discretion to collection officers may influence selection of clients
  - Saathi may focus activity in own neighborhood, among own religion, caste, or occupation
  - May influence who gets loans even conditional on credit-worthiness

# Impact of credit access

- Research Question: how did introduction of collection officers alter credit access for SEWA Bank clients?
  - Is an individual more likely to get a loan if she has access to a collection officer? Is she likely to borrow more?
- Problem with correlations (‘naïve’ analysis):
  - May overstate effect if collection officers more likely to be established in successful/high-demand areas (e.g., potential saathis may care about commission)
  - May understate effect if SEWA Bank targets poorer areas for increased credit access

# Impact of credit access

- Even comparing clients within areas may be problematic: some clients may be more likely to have a saathi than others
  - Say we want to know how having a saathi affects the probability of getting a loan
  - Understates effect if less energetic clients less likely to get a loan, more likely to need saathi
  - Overstates effect if more enterprising clients more likely to get a loan and more likely to ‘outsource’ collection of savings/repayment of loan

# Impact of credit access

- Our approach: use features of Ahmedabad geography, SEWA Bank expansion to isolate quasi-random variation in access to banksaathi
  - Use variation at geographic level finer than client targeting occurs
  - Physical constraints in collection influence set of clients a saathi may serve
- We explain these in more detail, then discuss necessary data collection and other uses for the data

# Evaluation strategy

- Background on Ahmedabad geography
  - Main forms of low-income residential areas
    - ‘Chawls’: housing units originally built for mill workers
    - ‘Slums’: occupy marginal areas of city; often lack basic facilities
  - 1991: estimated that 40 percent of households in Ahmedabad lived in slums and chawls
  - SEWA Bank targets women in the informal sector, many of whom live in these types of housing
  - Distinct neighborhoods often in close proximity (useful for our evaluation strategy)

# Evaluation strategy

- Background: becoming a banksaathi
  - SEWA Bank client may apply to become saathi – though Bank may not accept applicants if area already has enough
  - SEWA Bank may also recruit clients to be saathis, if it wants to expand services in a given area
  - Choice depends largely on applicant's history with SEWA

# Evaluation strategy

- Overcoming evaluation problems: Targeting
  - SEWA Bank targets broad areas in establishing saathin, but unlikely to target specific chawls/slums
  - Saathi may target certain groups (e.g., wealthier clients, ‘below poverty line’ (BPL) clients), but geographic and social proximity may influence selection of clients
    - E.g., saathi may target BPL clients in general, but wealthier clients may live nearby, or en route to saathi’s usual clients

# Evaluation strategy

- Implication of these types of targeting
  - Simple comparison across areas may give biased estimate (and can't sign bias)
  - But within an area, geographic features generate quasi-random variation in saathi access
  - We measure how distance of clients from a saathi's chawl affects access to the saathi (and therefore to credit), comparing only clients within relatively compact areas
  - Using this 'quasi-random' variation should help reduce evaluation problems associated with client selection

# Evaluation strategy

- Strategy
  - Compare clients within an area
  - Some will have greater geographic/social proximity to saathi than others, which will make them more likely to be served by the saathi
  - Using this ‘quasi-random’ variation should help reduce evaluation problems associated with client selection: can compare clients whose use/lack of a saathi is due only to this geographic variation

# Evaluation strategy: data

- Data requirements
  - Observe all clients in computerized database
    - E.g., data on income, savings, credit history with SEWA Bank
  - Key additional requirement: detailed geographic data on where SEWA Bank clients live

# Evaluation strategy: data

- We are currently mapping all the neighborhoods in Ahmedabad, including slums, chawls, and more middle class neighborhoods.
- Teams of two walk an area with a GPS meter, recording coordinates for every chawl encountered.
- Guided by two sources of information:
  - The electoral maps of Ahmedabad, which provide a list of neighborhoods in each electoral part, the smallest electoral unit
  - A list combining chawl names culled from SEWA's transaction database with custom software and chawl names gathered during the computerization of SEWA's pre-loan forms and of the BPL lists.
- Teams create 3rd list for new chawls

# Evaluation strategy: data

- Coverage guided first by electoral rolls. A part is considered first-run mapped when all streets have been walked and all neighborhoods from the electoral list have been found.
- When a SEWA area is completely mapped, we will assess the concordance between the lists and conduct a second sweep of the area to find any unmapped SEWA chawls with multiple customers

# Evaluation strategy: data

- Teams collecting other basic data on each chawl:
  - # houses in chawl
  - # entrances
  - Avg # stories
  - Has the city provided drainage?
  - A rating, from 1 to 3, of the amount of trash in the streets/walkways
  - Another rating of 1 to 3 of road quality, with a provided list of materials for each rating
- For each bank saathi, aside from address:
  - Occupation, caste, religion

# Uses of geographic data

- Quasi-random variation in access
- Example of other questions requiring geographic data:
  - How quickly do microfinance transactions costs rise as population density falls in an urban setting?
    - Reaching pockets of rapidly expanding cities may be difficult – transactions costs may not be as low as traditionally assumed in urban areas
    - Is ‘doorstep’ banking cost-effective in peri-urban areas?

# Conclusions

- Questions of policy and research interest:
  - What is impact of credit access on an individual's well-being?
  - What is impact of introducing collection officers on credit access?
- For both questions, evaluations difficult
- But by using detailed geographic data can isolate quasi-random variation in credit access
- Efforts ongoing to collect data for this and other research questions