

Incentive Effects of Bank-Correspondent Models

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Introduction

Two Issues

- Financial Inclusion and Access
- Group Lending ?

Bank-Correspondent Models: South Africa, Brazil.

India ?

The Reserve Bank of India (2005) in a recent review of successes from Brazil to South Africa, provides suggestions for the screening function of correspondents in India:

identification of borrowers and fitment of activities, collection of applications and verification of primary information/data, and preliminary appraisal of credit based on standard norms set by banks and using local data/information (a simple credit scoring model may be employed).

Purpose of Paper: analytically evaluate, i.e. correspondents as screeners.

Results:

Direct Lending. Banks will not guarantee initial access to all.

Explicit Linkages. (RBI) To improve upon direct lending is very difficult.

Implicit Linkages. (suggested). Correspondents as co-financers possibly help.

Model Set Up and Direct Bank Lending

Adverse selection

λ ($1 - \lambda$) the proportion of good (bad) borrowers

$$P_g > P_b$$

$$Y_g < Y_b$$

Return in the bad state is 0

Denote ρ as the bank's cost of lending and L as the loan amount.

$$P_g Y_g > P_b Y_b > \rho L$$

Denote β^i for $i = g, b$ as the probability of obtaining a loan.

Denote R_i for $i = g, b$ as repayments of the borrower.

The bank then maximizes profits
subject to the incentive compatibility constraint:

$$\beta^b P_b(Y_b - R_b) \geq \beta^g P_b(Y_b - R_g)$$

First, since the bank knows the lower bound, $R_g = Y_g$.

$$\beta^b(Y_b - R_b) = \beta^g(Y_b - Y_g)$$

The binding condition implies that extracting all the rents on bad borrowers requires excluding good borrowers from borrowing (since it makes mimicking less attractive).

. In both cases, since $P_b Y_b > \rho L$, $\beta^b = 1$.

Case 1. If $\lambda(P_g Y_g - \rho L) > (1 - \lambda)P_b \Delta Y$, then $\beta^g = 1$.

- if the expected social return of the good's project is sufficiently larger than the expected differential increase in output of the bad's (both weighted by population fractions).

Case 2. If $\lambda(P_g Y_g - \rho L) < (1 - \lambda)P_b \Delta Y$, then $\beta^g = 0$.

- Raises a concern since the bank denies access to good types with profitable projects and larger expected returns to the bank.
- Arises with a low expected surplus of the good's project, a high (low) percentage of bad (good) types, and large spread between bad and good incomes.
- This last measure also reflects the information asymmetry. With a large amount of asymmetry, the bank will not lend to good types.

Intuition

The bad gain more from defecting with a greater differential increase in output. The bank gains a greater profit with a greater surplus from the good. As long as this surplus is greater than the mimicking gain (the differential increase in output), both will obtain loans.

Financial Access

Summary of Direct Lending

Explicit Linkage

As suggested by the RBI, banks can hire correspondents who aid in screening borrowers.

Wages of the correspondent depend upon the identified borrowers.

As borrowers would, correspondents will claim that borrowers as “good” when they are actually bad and pocket (or share) the difference.

A truth-telling constraint must be placed on correspondents: $(\text{bad}, \text{bad}) > (\text{bad}, \text{good})$

$$\beta^b P_b(Y_b - R_b) \geq \beta^g P_b(Y_b - R_g)$$

But!

With an explicit linkage, the bank cannot improve upon its original contract.

Not surprising given that with no additional instruments, the bank faces the same incentive constraints.

To improve upon the contract, the bank must employ an additional instrument which would decrease the right hand side surplus (or equivalently increase the left hand side surplus).

Suppose the bank can verify if the correspondent had lied and deduct an amount w .

Then the above constraint alters to the following:

$$P_b(Y_b - R_b) \geq P_b(Y_b - Y_g) - w,$$

If properly constructed the bank can extract the maximum surplus from the borrowers.

Hiring correspondents would indeed increase financial inclusion and increase profits for banks.

Assumptions needed for this linkage. Bank needs to...

1. Credibly verify whether the correspondent was lying.
2. Credibly extract a penalty w .
3. Not expend much costs in verifying.

But ...

The right hand side of the incentive constraint must be less attractive carries over to the next linkage.

Implicit Linkage

Description

Good borrowers have access to correspondents and borrow C^g .

Borrowers pay the cost of funds to borrow from this sector, denoted γ , where $\gamma > \rho$.

$$\beta^b P_b(Y_b - R_b) \geq \beta^g P_b(Y_b - R_g) - \gamma C^g$$

Three different cases:

1. Only bad borrowers in the market. In this case the loans from the correspondents are not large enough to compensate for the low surplus from good borrowers.
2. Both borrowers in the market. In this case, the loans from the correspondents are not large enough to exclude the bad borrowers.
3. Only good borrowers in the market. Bad borrowers will not apply for loans.

Intuition: correspondent lends on his own and incentives are aligned with that of bank

Summary

- Evaluated the potential of hiring correspondents as suggested by the Reserve Bank of India.
- Under adverse selection banks do indeed not extend access to viable projects.
- Banks can effectively explicitly hire correspondents as suggested by RBI but the assumptions required for bank linkage are strong.
- We then evaluate the possibility of implicitly using correspondents who disburse loans to help identify borrowers.
- For certain parameter values, this procedure increases financial inclusion for borrowers.

Contrast the theoretical framework to the proposed framework of the RBI.

The RBI's framework differs in three key aspects:

1. For small farmers, interest rates are capped
2. Correspondents are not allowed to charge clients for their services
3. RBI can randomly inspect the correspondents of banks

Analytical implications of each

As shown in direct lending, banks are satisfied issuing passive screening contracts and excluding borrowers in the process.

Current correspondents proposal may actually not increase access at all.

As of December 2006, not much interest.

Relaxing some of these regulatory procedures ?

Even with this regulatory relaxation, this paper questions the validity of correspondents as explicit screeners because of the weak incentive effects of the proposed program.

Rangarajan Committee (January 2008)

Why don't banks participate ? Survey

- Banks don't want to absorb costs involved on grounds of impact on viability of operations.
- Lack of clarity regarding procedural complexities

Movement towards individuals: ex-servicemen, retired bank officials, schoolteachers...

Incentive mechanism: include accounts opened, etc. Also: need to penalize correspondents

Moral Hazard as Information Asymmetry

Description

An implicit linkage, correspondents lend a partial amount themselves so that with direct involvement in the credit process, they absorb the costs.

Two types of bank-MFI linkages, the first with group lending and the second with value enhancing MFIs.

Changing Information Structure under Moral Hazard

- Explicit Linkage
- Implicit Linkage
- Group Lending
- Value Added MFI

Conclusion and Policy Implications of Moral Hazard

- Relax the limited liability constraints on correspondents, an explicit linkage can improve upon direct bank lending.
- In an implicit linkage correspondent lends as well and absorbs the lending costs.

Correspondent's wages

- Penalize correspondents.
- Vary depending on the monitoring costs and information contribution.

MFIs as correspondents: Superior ?

- Require a staff member to monitor and oversee the group.
- Lend Directly to Groups (SHGs)

Concluding Thoughts

- Top Down Approach vs Bottoms Up.
- Over-regulation.
- Try in small pockets.
- Incentives not aligned as currently placed.
- Banks can always lend directly (and will safely).
- Type of correspondent: MFI: polluted. Moneylenders as “accredited loan providers” (RBI(2007)). On-lending only as of now.
- Financial Inclusion ? How to keep borrowers once access granted ?
- More research: Regulation and application of bank-correspondent models in India.