



ELSEVIER

Journal of Development Economics 70 (2003) 329–348

JOURNAL OF  
Development  
ECONOMICS

www.elsevier.com/locate/econbase

# Collusion and group lending with adverse selection

Jean-Jacques Laffont

*Université de Toulouse (IDEI, ARQADE, GREMAQ), Place Anatole-France, 31042 Toulouse Cedex, France*

Received 1 November 2000; accepted 1 February 2002

---

## Abstract

In an environment with correlated returns, this paper characterizes optimal lending contracts when the bank faces adverse selection and borrowers have limited liability. Group lending contracts are shown to be dominated by revelation mechanisms which do not use the ex post observability of the partners' performances. However, when collusion between borrowers under complete information is allowed, group lending contracts are optimal in the class of simple revelation mechanisms (which elicit only the borrower's own private information) and remain useful with extended revelation mechanisms.

© 2003 Elsevier Science B.V. All rights reserved.

*JEL classification:* D8; G2; O12; O17

*Keywords:* Group lending; Adverse selection; Collusion; Development

---

## 1. Introduction

The development of group lending through the Grameen Bank and similar institutions has attracted the interest of all those who believe that lending to the poor is a necessary step to exit the vicious circles of underdevelopment. The empirical evaluation of the success of these new ways of lending to entrepreneurs who have no collateral is still subject to debates (see [Khandker et al., 1995](#); [Morduch, 1999](#); [Pitt and Khandker, 1996](#)).

Theorists have proposed various explanations for the new opportunities provided by group lending (see [Ghatak and Guinnane, 1999](#) for a review). In this paper, we restrict our attention to group lending as an instrument to improve discrimination between entrepreneurs of different types (adverse selection).

[Ghatak \(2000\)](#) and [Armendariz de Aghion and Gollier \(2000\)](#) have argued that group lending triggers a peer selection effect among entrepreneurs who know each other. For

---

*E-mail address:* [laffont@cict.fr](mailto:laffont@cict.fr) (J.-J. Laffont).

independent types, they show how the knowledge of the types in the group which vary with the different regroupings (for example, in a group of two: two good types or two bad types or one good and one bad type) makes discrimination possible. When entrepreneurs do not know each other, with independent types, group lending brings no improvement (Laffont and N'Guessan, 2000).

In this paper, we propose a simple model to study the role of group lending in discrimination when collusion between borrowers is possible.

We consider exogenously fixed potential pairs of ex ante identical entrepreneurs who carry projects with correlated returns. Each entrepreneur, when he discovers his type, revises his beliefs about the type of his partner, but he does not observe his partner's type. At this point in time, he cannot switch to another partner and draw again his type. When correlation becomes perfect, we have the situation where agents know each other.

Through this modeling, we leave aside the issue of endogenous regrouping to focus on two questions: first, what is the relative power of group lending (for which a successful entrepreneur's repayment depends on the success or failure of his partner) in the class of all possible lending mechanisms? Second, what are the optimal collusion-proof lending contracts and how do the group lending contracts perform from the point of view of collusion?

The model with correlated types is presented in Section 2. The optimal individually incentive-compatible contracts are obtained in Section 3. The place of individual contracts and group lending contracts in the class of individually incentive-compatible mechanisms is explained in Section 4. Section 5 shows that the group lending contracts are in fact optimal when a certain type of group incentive constraints are taken into account. Section 6 considers more general revelation mechanisms and shows that group lending contracts remain useful in this context. Section 7 concludes.

## 2. The model

There is a continuum of pairs of entrepreneurs, each entrepreneur being associated with a good or a bad project. A good (resp. bad) project returns  $h$  when it is successful, i.e. with probability  $\bar{p}$  (resp.  $\underline{p}$  with  $\bar{p} > \underline{p}$ ), for one unit of investment. For simplicity we consider only projects of size 1.

A pair of entrepreneurs represents a local set of investment opportunities. For simplicity again, we take the case of a group of two entrepreneurs, but, at the cost of more complex notation, it could be a group of any size. However, the size of the group is here exogenous, and we do not raise the issue of the optimal number of entrepreneurs in a group.

Let  $p_i$  in  $\{\underline{p}, \bar{p}\}$  be the type of entrepreneur  $i$ 's project, or, for brevity, the type of the entrepreneur. It is private information of the entrepreneur.<sup>1</sup> The types in a pair,  $(p_1, p_2)$ , are jointly distributed according to the distribution function

$$\pi_{11} = \Pr(p_1 = \underline{p} \text{ and } p_2 = \underline{p})$$

<sup>1</sup> We consider a case of pure adverse selection. It would certainly be interesting to extend the model to situations where the verifiability of the level of production is an issue and enforcement of contracts is imperfect.

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات