Agricultural Credit, Joint Liability, and Social Networks:

in Search for the Optimal Joint Liability Group
(VERY PRELIMINIARY)

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Motivation

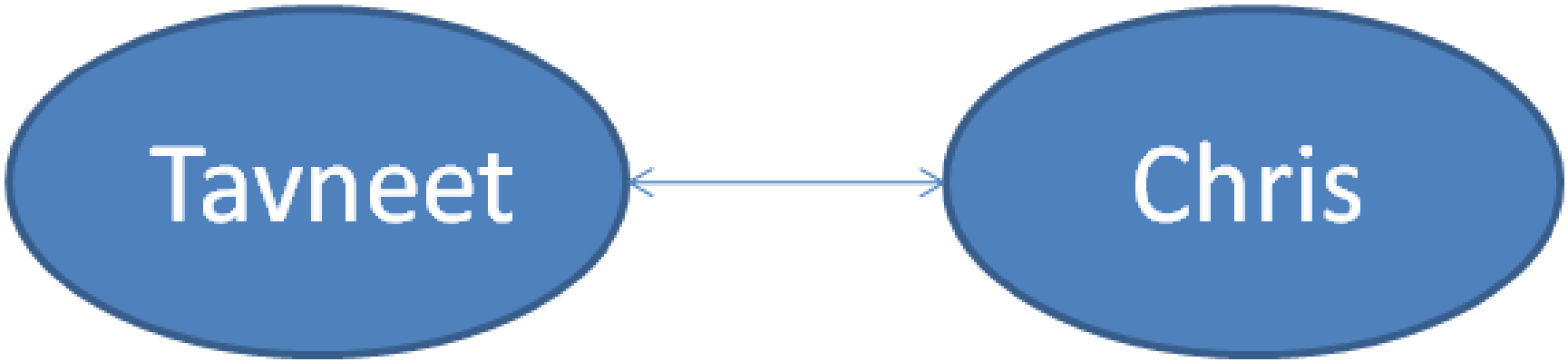
- Goal is to provide agricultural credit to a target population
  - long run sustainability of the project (i.e. high enough repayment rates)
  - efficient use of the funds
- Consider **JOINT LIABILITY** contracts, extensively used in microfinance
  - increases repayment to lender (implicit insurance and monitoring)
  - there might be perverse investment incentives
- Informal insurance through social networks

Projects and benefits

	Cost	Low	High	Average	Risk
Project 1	20	50		50	Cero
Project 2	20	30	90	60	Medium
Project 3	20	10	130	70	High

	Low	High	Average
Project 1	30		30
Project 2	10	70	40
Project 3	-10	110	50

Tavneet and Chris' world social network



Tavneet and Chris always engage in informal insurance!!!

Project choice

2 individuals **WITH** money: Tavneet (T) and Chris (C)

	Low	High	Average	Choice
Project 1	30		30	
Project 2	**10**	**70**	**40**	**T, C**
Project 3	-10	110	50	

2 individuals **WITHOUT** money: Tavneet (T) and Chris (C)

	Low	High	Average	Choice
Project 1	30		30	
Project 2	10	70	40	
Project 3	**0**	**110**	**55**	**T, C**

Introduction of join liability

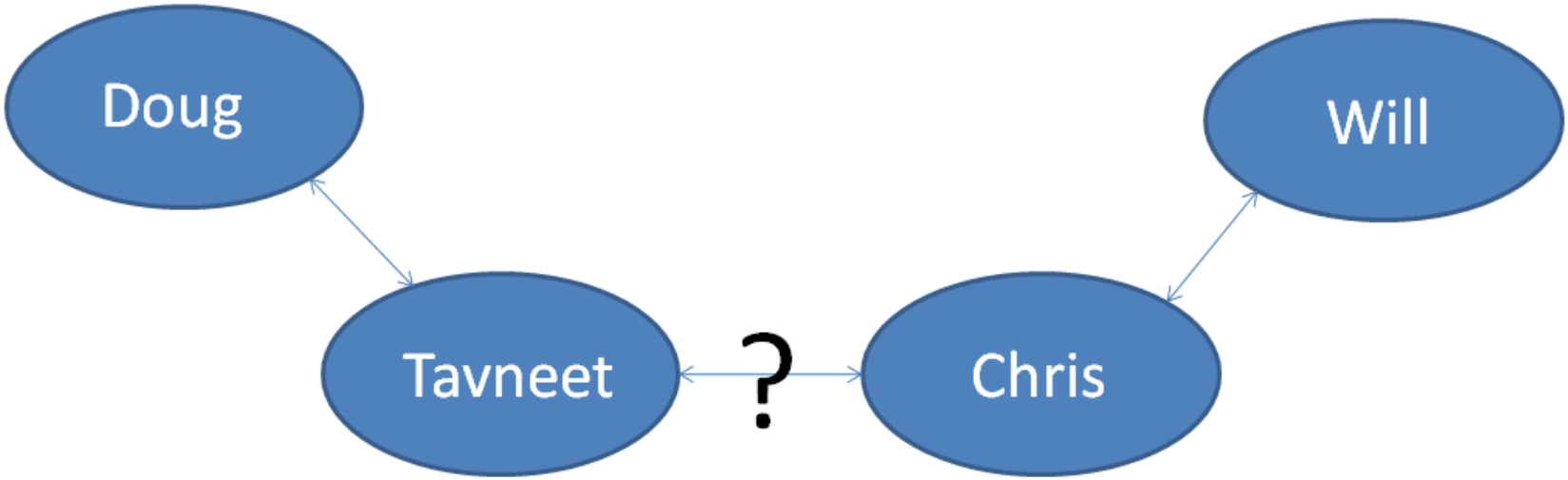
Solution to the problem for the bank: **JOINT LIABILITY**
Tavneet (risk-lover person) and Chris (risk-averse person)
Tavneet $\longrightarrow$ Project 1, Chris $\longrightarrow$ Project 3

	Low	High
Chris	10	30
Tavneet	0	110

Why Chris would not do the same? **Too risky!**

	(Low,Low)	(Low,High)	(High,Low)	(High,High)
Chris	0	0	100	110
Tavneet	0	100	0	110

Larger world social network



Tavneet and Chris do not necessarily engage in informal insurance $\Rightarrow$ change incentives!

Chris might want to strategically default $\rightarrow$ credible threat since he has Will $\Rightarrow$ Tavneet will behave

Treatments

- People normally form joint liability groups with socially close people
  - What about if you match them with not so close people?
- People should approach in groups of N and each individual should have a potential agricultural investment
- People randomly assigned to
  - T1: individual liability
  - T2: joint liability (endogenous group formation)
  - T3: joint liability (exogenous group formation - varying social distance)
- Real life risk - sharing network is always present

Outcomes and Comparisons

- Outcomes:
  - repayment
  - investment characteristics
  - transfers
    - outside joint liability group, within joint liability group
- Comparison
  - T1 vs T2: effect of joint liability and choice
    - as in Giné and Karlan (2010)) but we would like to get to the moving pieces with different outcomes
  - T1 vs T3: effect of joint liability (with varying effect of social proximity) but no choice effect
  - T2 vs T3: bundle of things that should change with social distance
- Need of theory to interpret T1 vs T3 and T2 vs T3 as a function of social distance.