

# **Group Loans**

### Insight Investigation into BAAC Administrative Dataset







# Why Group Loans?

from Perspectives of Existing Literatures

#### **Peer Selection**

Ghatak (1999), Van Tassel (1999), Armend ariz de Aghion and Gollier (2000), Laffont and N'Guessan (2000), Laffont (2003), Guttman (2008), Ahlin (2015, 2020)

#### **Peer Monitoring and Social Collateral**

Stiglitz (1990), Karlan (2007), Ahlin and Townsend (2007), Berhane et al. (2009), Eeckhout and Munshi (2010), Al-Azzam et al. (2012), Al-Azzam et al. (2013), Baland et al. (2013), Gin<sup>´</sup>e and Karlan (2014), Czura (2015), Beck and Behr (2017)



# **Demography of BAAC Loan Types**





# **Performance of BAAC Loan Types**





# **Demography of BAAC Borrowers**

**Summary Statistics** 





### **Structure of BAAC Group Loan**





### **Structure of BAAC Group Loan**



**Big Group** 



# Structure of BAAC Group Loan



Branches:	1,020
Borrowers:	5,593,147
Big Groups:	340,075
Small-group Contracts:	3,830,828





### Sorting Behaviors? | Strategic Default?



# **Big vs Small Group Statistics**

Average of	Big Group	Small Group
# Member	15	6
Default Rate	12%	22%
Shock Correlation (Maximum % Members claims in each year)	0.32	0.47





\*Assume risk type of borrowers is time-invariant due to data limitation



SD big group - SD small group



Count	Mean	SD	Min	25%	50%	75%	Max
292,770	0.1203	0.1130	-0.2267	0.0325	0.0953	0.1898	0.5



SD big group - SD small group



0.4



t-test: SD big group > SD small group





Preliminary Result of Regression Analysis

	Linear Regression			Probit Regression		
	Coeff.		S.E.	Coeff.		S.E.
Number of members in group	7.012e-04	***	4.910e-05	1.658e-02	***	8.115e-04
Average Asset Size (2023)	1.267e-08	***	7.748e-10	9.365e-08	***	1.050e-08
SD of Asset Size (2023)	-7.398e-09	***	8.062e-10	-3.211e-08	**	1.088e-08
% Joint Liability Loan Accounts	-5.035e-01	***	5.434e-03	-3.494e+00	***	7.515e-02
% Personal Guaranteed Loan Accounts	-1.245e-01	***	4.301e-03	-4.792e-01	***	5.768e-02
% Unsecured Loan Accounts	-1.409e-01	***	4.354e-03	-6.724e-01	***	5.828e-02
% Members having Saving Account	8.936e-02	***	2.867e-03	8.476e-01	***	3.840e-02
% Members having Asset Collateral	-9.610e-02	***	3.217e-03	-5.449e-01	***	4.400e-02
Average Asset Collateral Value (includes 0)	2.313e-08	***	1.497e-09	1.914 <b>c-</b> 07	***	2.069e-08



	Linear Regression			Probit Regression		
	Coeff.		S.E.	Coeff.		S.E.
Average Loan Size	-9.435e-08	***	3.265e-09	-8.288e-07	***	4.536e-08
SD of Loan Size	3.000e-08	***	1.674e-09	2.523e-07	***	2.387e-08
Average Age	1.529e-04	*	7.798e-05	2.641e-03	*	1.043e-03
SD of Age	1.519e-03	***	1.060e-04	2.385e-02	***	1.425e-03
% Members with bachelor's degree or higher	-1.787e-04		5.099e-03	-8.599e-02		6.761e-02
% Members with secondary education or above	-5.001e-03		2.862e-03	-2.121e-01	***	3.818e-02
SD of Education Years	-3.955e-04		2.449e-04	1.780e-03		3.242e-03
Average Education Years	-3.114e-04		2.623e-04	4.231e-03		3.491e-03
% Members using A-mobile app or LINE OA	3.180e-03		2.737e-03	2.489e-02		3.689e-02
Average Number of Loan Accounts	6.345e-03	***	4.346e-04	6.540e-02	***	5.978e-03
Number of Contracts (Small Groups)	6.462e-04	***	4.131e-05	5.936e-02	***	7.646e-04
% Members with Landless	-5.692e-03	**	1.545e-03	-9.156e-02	***	2.072e-02
% Members who are Livestock Farmers	-0.01327		0.01730	2.711e-01		2.431e-01
Number of Crop types	4.816e-03	***	4.958e-04	7.172e-02	***	7.037e-03
% Members who are Rice Farmers	4.013e-03	*	1.619e-03	1.1 <b>59e-0</b> 1	***	2.179e-02



	Linear Regression			Probit Regression		
	Coeff.		S.E.	Coeff.		S.E.
Crop Similarity among Members	1.717 <b>e-0</b> 3		2.811e-03	9.564e-02	•	3.851e-02
Average Dependent Household Members (i.e. aged <15 years or >70 years)	-0.03076	***	0.003018	-2.965e-01	***	3.971e-02
% Members having off-farm income	1.033 <b>c-</b> 03		1.151e-03	2.733e-02	•	1.554e-02
% Members receiving relief	-8.189e-03	***	1.287e-03	-7.109e-03		1.753e-02
Shock Correlation	1.651e-02	***	1.457e-03	8.151e-02	***	2.005e-02
# of observations		136,855			134,875	