

# The Impact of Microfinance Credit on Household and Business Levels: A Case Study of Center for Community Transformation (CCT) Credit Cooperative

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# Outline

- Introduction
- Objectives
- Methodology
- Discussion of results
- Conclusion

# Introduction

- Microfinance credit as a tool to reduce poverty
- Microfinance positive impacts on welfare of the poor and microenterprises
- Most impact assessment focused on rural setup
- Little research on impact assessment in the urban context

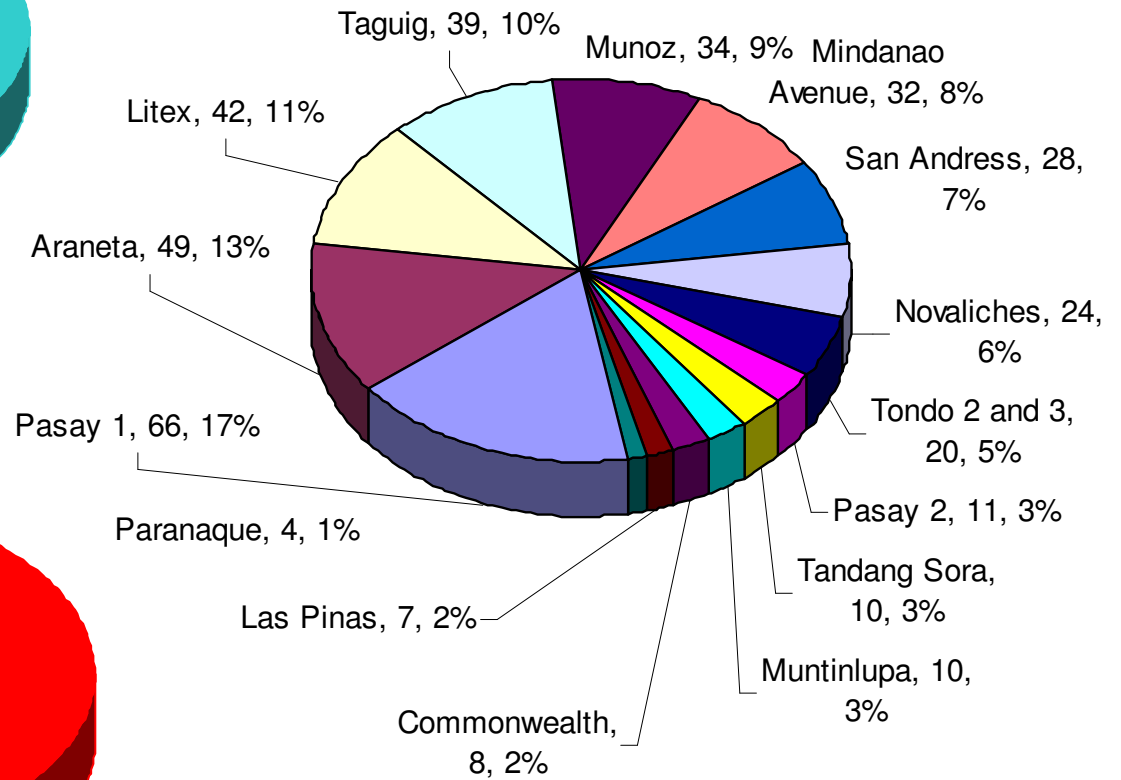
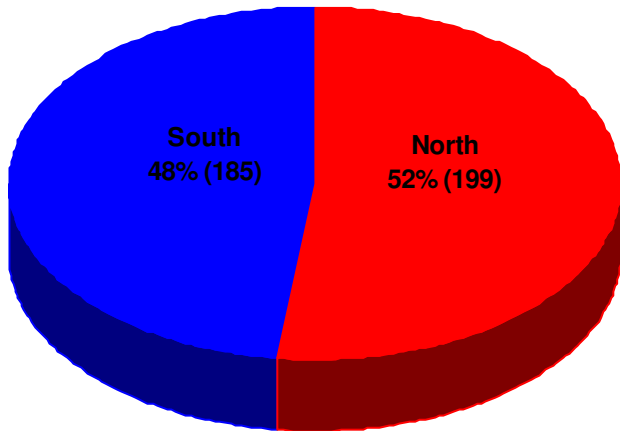
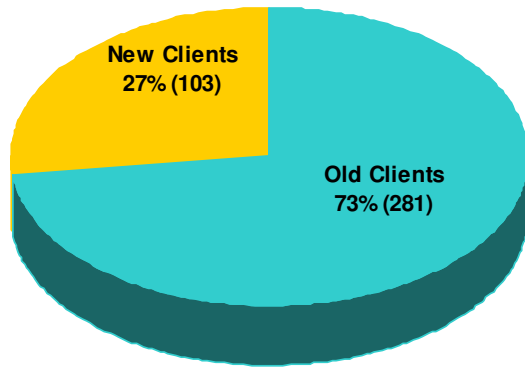
# Objectives

1. To analyze the factors influencing credit participation decision
2. To examine the impact of credit, other microfinance lending indicators, and client household characteristics on household and business income
3. To analyze the perception of impact at the household level
4. To analyze the perception of impact at the business level
5. To analyze the perception of impact in terms of non-economic welfare

# Methodology

- Research Design
  - Quasi-experiment approach
  - Econometric method
  - Descriptive analysis
- Survey Location
  - 15 areas in NCR
  - reference period: Nov-Dec 2009

# Sampling



# Credit Participation Decision Model

*Last loan cycle amount = f(age, dependency ratio, high school, college, lot ownership, number of days spent per loan cycle, opportunity cost of borrowing, previous sources of credit, years of membership with CCT)*

# Household Income Model

*Household income per capita* = f(age, marital status, dependency ratio, high school, college, lot ownership, loan payment, amount of savings, unforeseen events, last loan cycle amount, business type, previous credit sources, global financial crisis)



# Business Income Model

*Business income* = f(age, marital status, household labor capacity, high school, college, lot ownership, loan payment, amount of savings, unforeseen events, last loan cycle amount, years in business operation, business type, business capital, previous credit sources, global financial crisis)

# Household Characteristics

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	Old client	New client	Whole sample
Age (years)	49.46	39.18	46.70
Female (=1 if female client; 0 otherwise)	0.996	0.96	0.99
Marital status (=1 if married; 0 otherwise)	0.78	0.65	0.74
Elementary (=1 if elementary; 0 otherwise)	0.21	0.10	0.18
High school (=1 if high school; 0 otherwise)	0.44	0.49	0.45
College (=1 if college; 0 otherwise)	0.27	0.29	0.27
Household size (number)	5.51	4.99	5.37
Working adults (number)	3	2	2
Dependency ratio	1.02	1.19	1.07
Residency in NCR (years)	32.96	24.45	30.67
Lot ownership (=1 if own lot; 0 otherwise)	0.37	0.33	0.36
House ownership (=1 if own house; 0 otherwise)	0.76	0.68	0.74
Number of observations	281	103	384

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# Micro-enterprise Characteristics

	Old client	New client	Whole sample
Membership with CCT (years)	6.89	0.57	5.20
CCT programs availed (number)	6	4	5
Four-month loan cycle (number)	7.25	1.32	5.66
Six-month loan cycle (number)	5.94	0.18	4.39
Loan payment (=1 if pay on-time; 0 otherwise)	0.97	0.93	0.96
Amount of savings (pesos)	223	141	201
Cost incurred in availing the loan (pesos)	171	244	190
Days spent per loan cycle (number)	18	22	19
Credit sources before joining CCT (number)	1	1	1
Business type (number)	1.46	1.25	1.41
Amount of business capital (pesos)	10489	9149	10130
Years in business operation	13.56	6.82	11.75
Number of observations	281	103	384

# Loan Participation and Income

	Old client	New client	Whole sample
Last loan (=1 if availed last loan cycle; 0 otherwise)	0.99	0.37	0.83
Last loan cycle amount (pesos)	19879	2631	15253
Household income (pesos/month)	36629	26303	33859
Household income per capita (pesos/month)	7661	6137	7252
Business income (pesos/month)	19251	13322	17661
Number of observations	281	103	384

# Current Type of Business

Type of Business	Old		New		Total	
	Number	Percent	Number	Percent	Number	Percent
Food seller	127	24.66	66	38.15	193	28.05
Non-food seller	63	12.23	24	13.87	87	12.65
Store owner/supplier	194	37.67	40	23.12	234	34.01
Services	113	21.94	41	23.70	154	22.38
Transportation	18	3.50	2	1.16	20	2.91
TOTAL	515	100.00	173	100.00	688	100.00

# Amount of Loan by Type

Type	First loan	Last loan	Current loan
<b>Minimum</b>			
Old	4,000.00	-	-
New	-	-	-
<b>Maximum</b>			
Old	6,000.00	170,000.00	50,000.00
New	50,000.00	50,000.00	50,000.00
<b>Mean</b>			
Old	3,802.14	19,879.00	18,173.84
New	4,485.44	2,631.07	4,572.82

# CCT Programs Aailed

Program	Old		New		Total	
	Number	Percent	Number	Percent	Number	Percent
Program 1	270	15.74	92	23.53	362	17.19
Program 2	162	9.45	31	7.93	193	9.16
Program 3	279	16.27	95	24.30	374	17.76
Program 4	35	2.04	2	0.51	37	1.76
Program 5	21	1.22	1	0.26	22	1.04
Program 6	240	13.99	62	15.86	302	14.34
Program 7	29	1.69	0	0.00	29	1.38
Program 8	9	0.52	3	0.77	12	0.57
Program 9	13	0.76	3	0.77	16	0.76
Program 10	117	6.82	10	2.56	127	6.03
Program 11	126	7.35	21	5.37	147	6.98
Program 12	74	4.31	3	0.77	77	3.66
Program 13	30	1.75	3	0.77	33	1.57
Program 14	79	4.61	10	2.56	89	4.23
Program 15	27	1.57	1	0.26	28	1.33
Program 16	204	11.90	54	13.81	258	12.25
	1715	100.00	391	100.00	2106	100.00

# Previous Credit Sources

Source	Old		New	
	Number	Percent	Number	Percent
No Source	54	17.36	18	15.93
Personal Savings	168	54.02	67	59.29
Bank	3	0.96	0	0.00
Cooperative	5	1.61	3	2.65
Financing Agency	12	3.86	2	1.77
Pawnshop	11	3.54	2	1.77
Five/six	16	5.14	11	9.73
Relative/friend	42	13.50	10	8.85
Total	311		113	



## Crude Measure of Opportunity Cost

	Old	New
Cost incurred in availing the loan (pesos)	171	244
Ratio of initial cost of borrowing to household income (%)	0.47	0.97
Number of days spent per loan cycle	18	22

# Credit Participation Decision

Dependent Variable: Last Loan Cycle Amount

Variable	Impact	Significance
Age	positive	No
Dependency ratio	negative	Yes
High school graduate	positive	Yes
College graduate	positive	Yes
Lot ownership	positive	No
No. of days spent per loan cycle	negative	Yes
Ratio of initial cost of borrowing to household income	negative	No
No. of credit sources before joining CCT	negative	No
No. of years of membership with CCT	positive	Yes

# Impact on Household Income

Variable	Impact	Significance
Age	positive	no
Marital status	negative	no
Dependency ratio	negative	yes
High school graduate	positive	no
College graduate	positive	yes
Lot ownership	positive	no
Loan payment	positive	yes
Amount of savings	positive	no
Experienced unforeseen events	negative	yes
Last loan cycle amount	positive	yes
Number of business type	positive	no
Number of credit sources before joining CCT	positive	yes
Financial crisis	negative	no
IMR from loan participation probit	positive	no

# Impact on Business Income

Variable	Impact	Significance
Age	positive	no
Marital status	positive	no
Number of family members involved in the business	positive	yes
High school graduate	positive	no
College graduate	positive	yes
Lot ownership	positive	no
Loan payment	positive	yes
Amount of savings	positive	no
Experienced unforeseen events	negative	no
Last loan cycle amount	positive	yes
Number of years in business operation	positive	no
Number of business type	negative	no
Initial capital	positive	yes
Number of credit sources before joining CCT	positive	yes
Financial crisis	negative	no
IMR from loan participation probit	positive	no

# Household Diversification of Activities

Activity	Old				New			
	Yes		No		Yes		No	
	No.	%	No.	%	No.	%	No.	%
Enhanced household income with business income	198	70.46	83	29.54	69	66.99	34	33.01
Saved money for emergency or investment use	148	52.67	133	47.33	55	53.40	48	46.602
Made house improvements	210	74.73	71	25.27	57	55.34	46	44.66

# Perceived Household Impact

	Income		Savings		Food Spending		Financial Situation		Economic Outlook	
	No.	%	No.	%	No.	%	No.	%	No.	%
Old										
Increase	142	50.53	161	57.30	165	58.72	230	81.85	262	93.24
Constant	71	25.27	70	24.91	75	26.69	13	4.63	5	1.78
Decrease	68	24.20	50	17.79	41	14.59	38	13.52	14	4.98
New										
	281									
Increase	48	46.60	65	63.11	50	48.54	76	73.79	96	93.20
Constant	26	25.24	30	29.13	39	37.86	7	6.80	1	0.97
Decrease	29	28.16	8	7.77	14	13.59	20	19.42	6	5.83
Total										
Increase	190	49.48	226	58.85	215	55.99	306	79.69	358	93.23
Constant	97	25.26	100	26.04	114	29.69	20	5.21	6	1.56
Decrease	97	25.26	58	15.10	55	14.32	58	15.10	20	5.21
	384		384		384		384		384	

# Durable Goods Purchased

Durable Goods	Old		New		Total	
	Number	Percent	Number	Percent	Number	Percent
TV	202	0.11	30	12.77	232	11.21
Radio/Radio Cassette	81	4.42	13	5.53	94	4.54
CD/VCD/DVD player	149	8.12	27	11.49	176	8.51
Washing machine	124	6.76	11	4.68	135	6.52
Refrigerator/freezer	113	6.16	9	3.83	122	5.90
Karaoke	49	2.67	5	2.13	54	2.61
Electric fan	360	19.63	53	22.55	413	19.96
Aircon	9	0.49	1	0.43	10	0.48
Personal computer	41	2.24	4	1.70	45	2.17
Bed	107	5.83	8	3.40	115	5.56
Sala set/sofa bed	70	3.82	7	2.98	77	3.72
Other furniture	131	7.14	13	5.53	144	6.96
Car	7	0.38	1	0.43	8	0.39
Jeep	6	0.33	0	-	6	0.29
Motorcycle	36	1.96	3	1.28	39	1.88
Other vehicles	46	2.51	1	0.43	47	2.27
Cellular phone	269	14.67	44	18.72	313	15.13
Landline telephone	34	1.85	5	2.13	39	1.88
	1834	100.00	235	100.00	2069	100.00

# Economic Shocks Experienced

	Old				New			
	Yes		No		Yes		No	
Economic shocks	No.	%	No.	%	No.	%	No.	%
Medical treatment	117	41.64	164	58.36	44	42.72	59	57.28
Lack of money for medical treatment	16	5.69	265	94.31	11	10.68	92	89.32
Unforeseen events	68	24.20	213	75.80	24	23.30	79	76.70



# Economic Shocks Coping Mechanism

Coping mechanism	Old				New			
	Medical		Unforeseen		Medical		Unforeseen	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Reduced savings	56	19.93	25	8.90	27	26.21	14	13.59
Used business earnings	41	14.59	16	5.69	13	12.62	7	6.80
Used revolving fund	7	2.49	1	0.36	6	5.83	3	2.91
Borrowed money	12	4.27	7	2.49	6	5.83	5	4.85
Asked for contribution	44	15.66	28	9.96	13	12.62	7	6.80
Others	15	5.34	11	3.91	5	4.85	3	2.91
NA	164	58.36	213	75.80	58	56.31	78	75.73

# Business Level Impact

Activity	Old				New			
	Yes		No		Yes		No	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Expanded business	242	86.12	39	13.88	87	84.47	16	15.53
Added new products	186	66.19	95	33.81	66	64.08	37	35.92
Hired workers	43	15.30	238	84.70	10	9.71	93	90.29
Reduced costs	147	52.31	134	47.69	48	46.60	55	53.40
Eliminated borrowings from other sources	165	58.72	28	9.96	71	68.93	8	7.77
Saved money for special training	196	69.75	85	30.25	76	73.79	27	26.21

# Spiritual Welfare

Spiritual indicators	Yes		No	
	Number	Percent	Number	Percent
Belief in God's existence	383	99.74	1	0.26
Belief in Impersonal Forces/Luck	272	70.83	112	29.17
Belief in fate	281	73.18	103	26.82
Belief in Jesus Christ	382	99.48	2	0.52
Sense of intimacy with God	381	99.22	3	0.78
Assurance of forgiveness	360	93.75	24	6.25
Assurance of answered prayer	377	98.18	7	1.82
Assurance of heaven	275	71.61	109	28.39
Compassion	383	99.74	1	0.26

# Spiritual Welfare

Spiritual indicators	Bible reading	Seeking God's will in decision-making	Church worship	Good works	Intercession (prayer)	Giving
<b>Number</b>						
Always	191	368	297	330	373	290
Sometimes	180	15	85	54	11	94
No	13	1	2	0	0	0
<b>Percent</b>						
Always	49.74	95.83	77.34	85.94	97.14	75.52
Sometimes	46.88	3.91	22.14	14.06	2.86	24.48
No	3.39	0.26	0.52	0	0	0

# Family Relationship

Family welfare indicators	Satisfied with family relationship	Improved family relationship	Conflicts due to financial difficulties	Conflicts due to non-financial matters
<b>Number</b>				
Yes	375	375	na	na
No	9	9	na	na
Always	na	na	8	10
Sometimes	na	na	188	170
No	na	na	188	204
<b>Percent</b>				
Yes	97.66	97.66	na	na
No	2.34	2.34	na	na
Always	na	na	2.08	2.6
Sometimes	na	na	48.96	44.27
No	na	na	48.96	53.13

# Community Involvement

Community involvement indicators	Yes		No	
	Number	Percent	Number	Percent
Client participates in community activities	327	85.16	57	14.84
Community involvement is important to the business	342	89.06	42	10.94
Trust in collective action	381	99.22	3	0.78

## Conclusions

- Old CCT clients have higher loan participation rate and higher returns on borrowing compared with new clients
- Clients who spent additional days per loan cycle, clients with higher years of membership with CCT, clients with higher education, and clients with higher dependency ratio were all more likely to adjust loan participation decision

# Conclusions

- Higher amount of credit availed, higher number of previous credit sources, on-time loan payment and higher level of education significantly increase monthly household income per capita
- Higher amount of credit availed, higher initial business capital, higher number of previous credit sources, on-time loan payment, larger household labor capacity and higher level of education significantly increase monthly business income



# Conclusions

- Microfinance credit greatly contributed to household welfare:
  - sending children to school
  - accumulation of durable goods
  - income, savings, investments, food spending, financial situation and economic outlook
  - finance economic shocks

# Conclusions

- Microfinance credit greatly contributed to business welfare:
  - business expansion
  - input cost reduction
  - liquidity enhancement
  - savings (revolving fund)
- Joining CCT's credit program, by and large, improved clients' spiritual, family and community relationship

# Implications

- Institutional linkages with informal sectors through barangays to fulfill the mission of transforming lives and communities, and to acquire greater market share
- Further review of the current procedures on access to credit, loan size, repayment period and grace period, and marketing strategies for other programs/services to attain maximum clients' satisfaction

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**Thank You**