

Interorganizational Networks in Microfinance:

A comparative study

Riccardo De Vita, Ana Marr*

*International Microfinance Research Group (IMRG) and
Centre for Business Network Analysis (CBNA)
University of Greenwich Business School*

Acknowledgments: We are grateful for the financial support from The Leverhulme Trust to the research project 'Optimising the Dual Goals of Microfinance' of which this is an output. We thank Paola Tubaro for valuable comments to previous versions.

**Corresponding author: A.Marr@gre.ac.uk.*



University of Greenwich
Tuesday, 31st January 2012
6-7 pm

- ◆ Research background
 - Existing studies
 - Contribution
- ◆ Methodology
 - The empirical setting
 - Data collection and analysis
- ◆ Data analysis
 - Country analysis
 - Comparison
- ◆ Discussion
 - Implications
 - Future research

*Presentation will last approximately
30/40 minutes, leaving time for
questions and debate*



Rationale

- ◆ Growth of the industry led to the creation of microfinance “value chains” or “ecosystems” (Reed, 2011)
- ◆ In the pursuit of their objectives Microfinance Institutions (MFIs)
 - Develop different types of relations (Marr & Tubaro, 2010a)
 - Interact with different stakeholders (Marr, mimeo)
- ◆ Evidence of relevance on connections among individuals in the microfinance industry (e.g. Karlan, 2007; Mayoux, 2001)



Existing studies & research gaps

- ◆ Unit of analysis
 - Individuals or MFIs
- ◆ Focus on single type of relations
 - Financial
 - Technological (e.g. Firpo, 2005)
 - Social
- ◆ Methodologies
 - “Traditional” methodologies, not always suitable to the analysis of a network
- ◆ Unit of analysis
 - MFIs and their partner organizations
- ◆ Simultaneous analysis of multiple relations
 - Financial
 - Non-financial
- ◆ Methodology
 - Social Network Analysis (SNA)

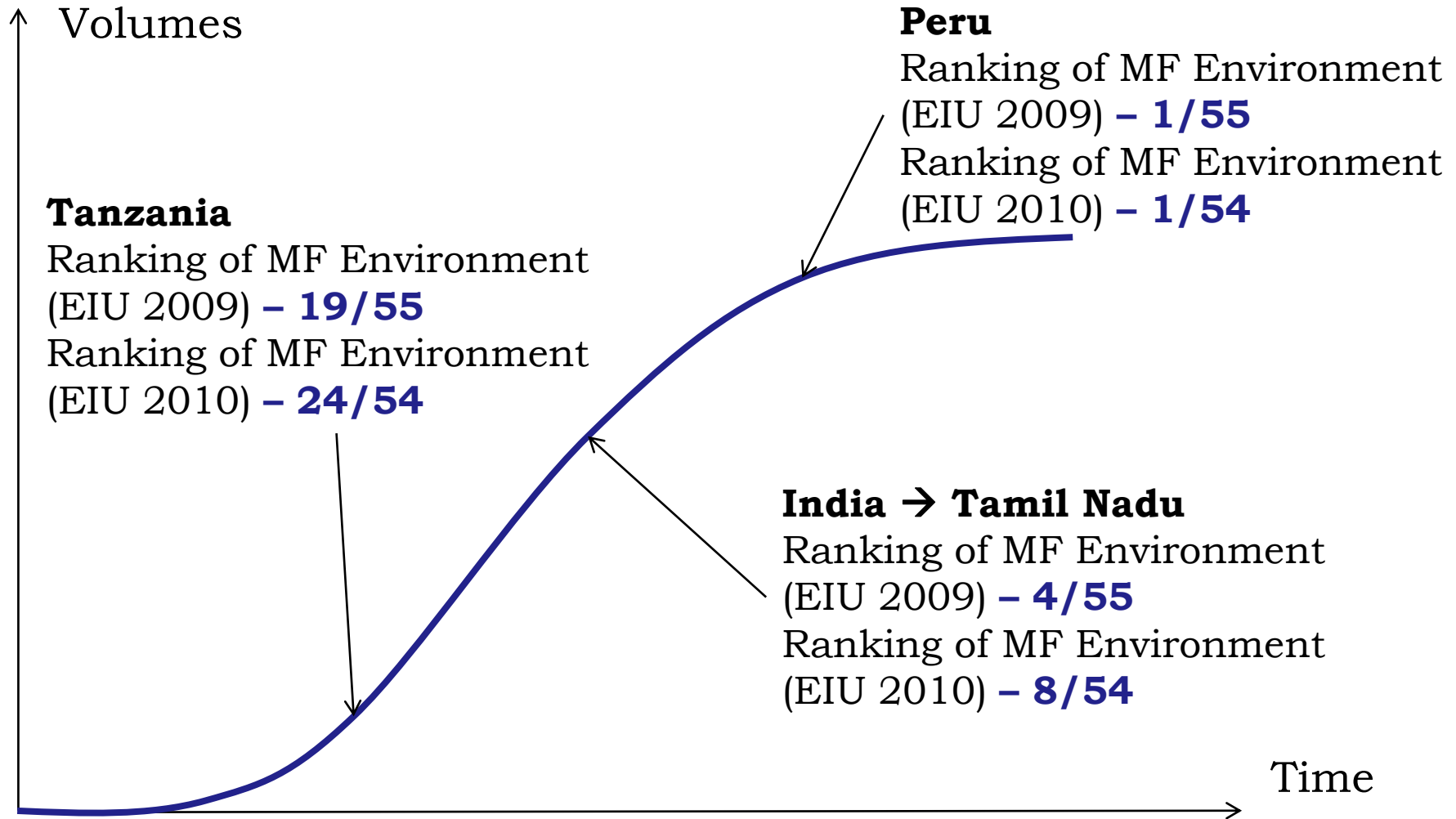


The contribution of the study

- ◆ Following some promising examples (Marr & Tubaro, 2010a, 2010b), SNA will be employed to:
 - Map the overall microfinance networks in three countries
 - Identify “central” actors in the local microfinance networks
 - Explore the relationship between network positions and organizations’ characteristics
- ◆ A comparative approach allows to develop preliminary hypothesis about the impact of the institutional framework on the characteristics of local microfinance networks
- ◆ The nature of the study remains exploratory due to the relative lack of influential contributions employing similar approaches



The empirical setting/ 1



The empirical setting/2

- ◆ Poverty alleviation is a relevant issue in all the three countries, however there are remarkable environmental differences
 - Peru: market-oriented financial and banking system, with a modern regulatory system
 - India: financial and economic system still largely controlled by the government. The scope for action of MFIs and other financial institutions is more limited
 - Tanzania: a smaller and poorer country. The regulatory framework is still pretty inadequate and resources are scarce
- ◆ Three cases selected to build a theoretical sample (Eisenhardt, 1989)



Social Network Analysis (SNA) as a paradigmatic shift – Wellman (1988, 2011)

- ◆ SNA not as a methodology or metaphor, but as a paradigm
 - Analytical focus is on relations, not attributes
 - SNA studies “patterns or relations, not just relations between pairs” (Wellman, 2011:14)
 - Specific analytical methods and measures
 - Networks measure relational ties and uniquely allow for the integration of structural dimensions to agency roles
- ◆ ‘A social network consists of a finite set or *sets of actors* and the *relation or relations* defined on them’ (Wasserman & Faust, 1994, p. 20)
- ◆ Implication for data collection and analysis



Data collection (July – November 2011)

- ◆ Definition of population
 - Actor based positional approach (Laumann, Marsden, & Prensky, 1983)
 - Inclusion of MFIs based in one of the three countries and reporting information on Mix Market database (www.mixmarket.org)
 - Use of other databases (e.g. Sa-Dhan www.sa-dhan.net for validation purposes)

- ◆ Definition of relations
 - MFIs self-report partner organizations according to pre-defined categories

- ◆ In spite of some limitations the approach remains optimal
 - Trade off between consistency and comparability Vs completeness



Variable	Definition
Interorganizational relationship (linking a MFI to another partner organization)	Based on Mix Market database, whether or not an MFI and another organization are related through: affiliations to MFI networks; funding relations; vendor relationships; partnerships; endorsement or rating relations.
Shared partner organization (linking two MFIs)	Two MFIs are related when, according to Mix Market database, have a relation to at least one common partner organization. This relation is “weighted”, ie MFIs can have more than one partner organization in common



Variables – Attributes of MFIs

Variable	Definition
Scale	Small, Medium or Large on the basis of Gross Loan Portfolio in USD
Type of MFI	Classification of MFIs in one of the following categories: 1-Bank; 2-NGO; 3-Rural bank; 4-NBFI; 5-Credit Union/Cooperative; 6-Other
Age	New, Young or Mature
Regulated	Whether or not the MFI is subject to supervision by the banking and/or financial authorities of the country
Target market	Low end, Broad, High end or Small Business, based on depth (Avg. Loan Balance per Borrower/GNI per capita)
%of women borrowers	From 0 to 1. This is often used as a measure of social performance
Outreach	Small, Medium or Large, based on the number of borrowers
Sustainability	Whether MFI is operationally self sufficient or not



Variables – Attributes of Non-MFIs

Variable	Definition
Organization type	Classification of Non MFI organizations in one of the following categories: 1-MFI Networks; 2-Fund, financial institutions, fund managers, DFIs; 3-Multi- and Bilateral Development Agency, Development Program, Government Agency/Program, Regulator; 4-NGO, Foundation, NGO/Foundation; 5- Academic/Research; 6-Rater; 7-TechnologyProvider; 8-PrivateCorporation and individuals; 9-Peer to Peer Lender
Location	Same country of the MFI the Non-MFI organization is connected to; Same region of the MFI the Non-MFI organization is connected to; Rest of the world
Size (for MFI networks only)	Number of MFIs affiliated to the network

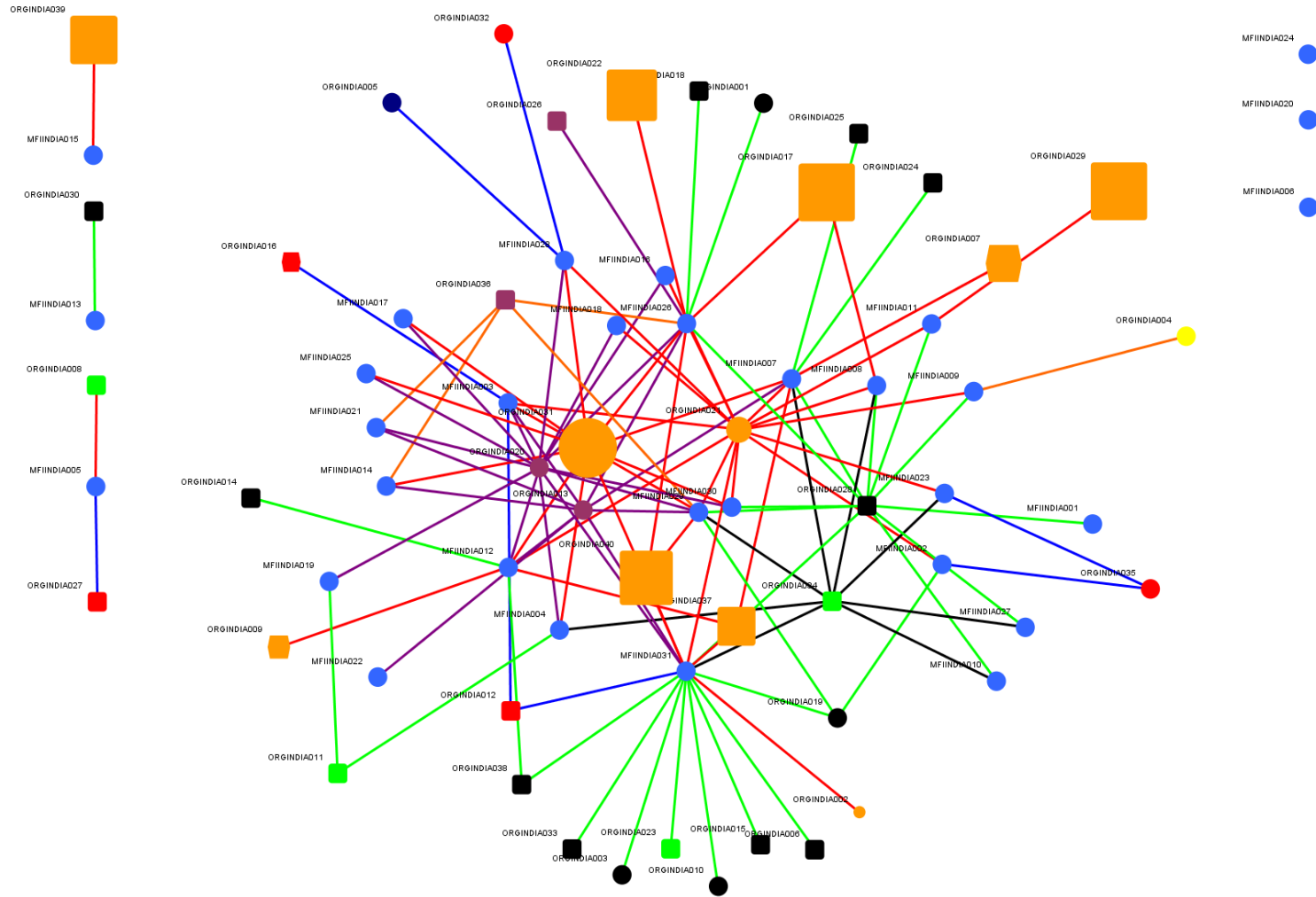


Data analysis – Non technical considerations

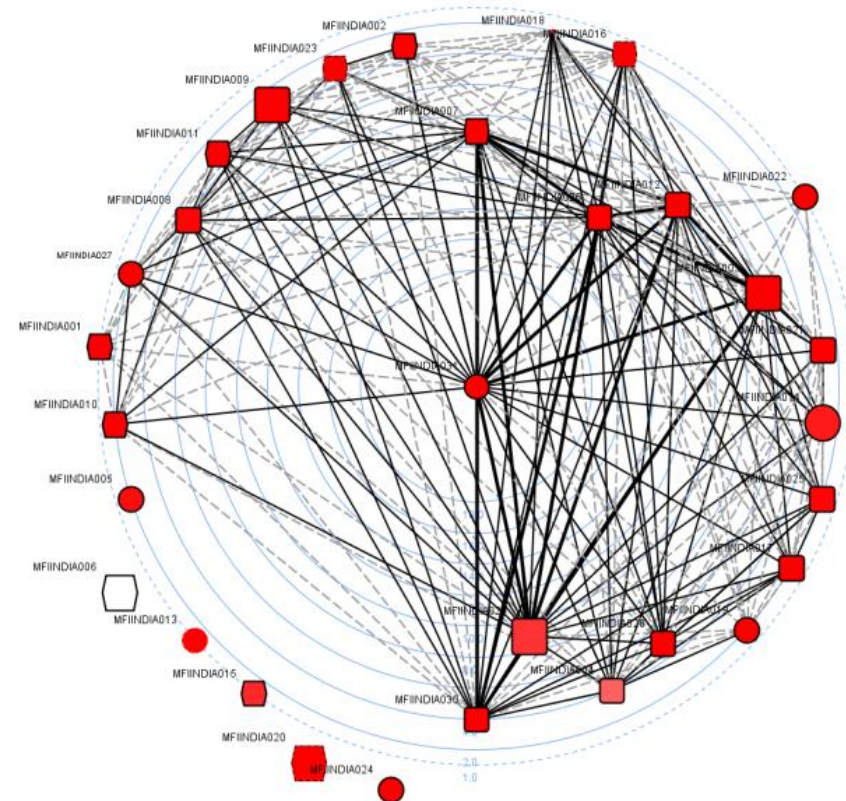
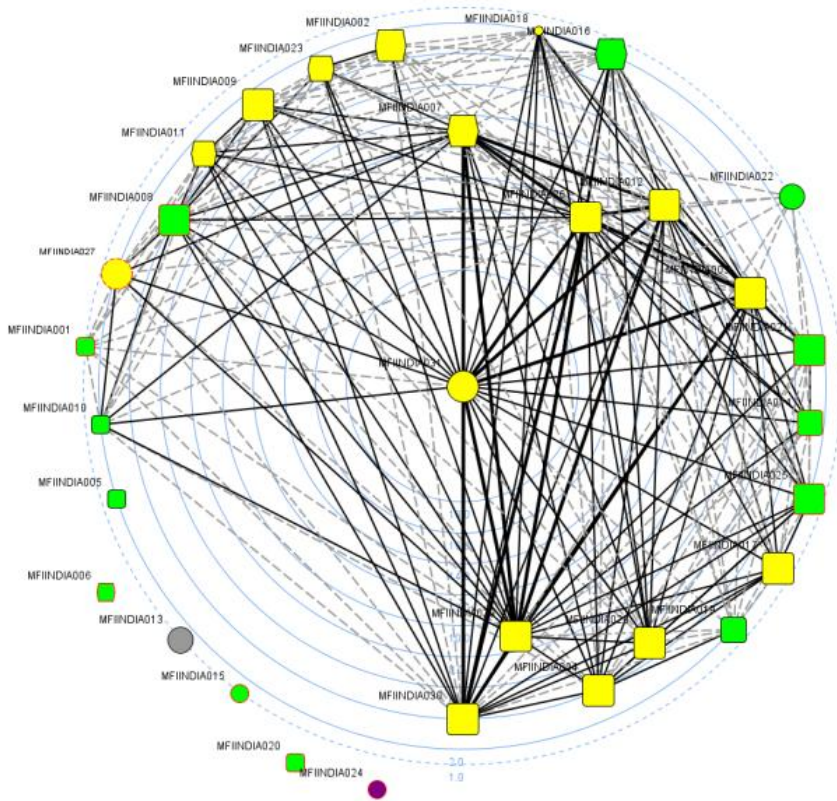
- ◆ Degree centrality (Freeman, 1978)
 - Measure of popularity or expansiveness (based on tie counts)
- ◆ Betweenness centrality (Freeman, 1978)
 - Potential of brokerage and gatekeeping for actors “in the middle”
- ◆ Centralization (Freeman, 1978)
 - The extent to which a network revolves around a single actor (having a star-like configuration)
- ◆ Density (Wasserman & Faust, 1994)
 - Measure of cohesion, number of ties present over the possible ties
- ◆ Software: UCINET (Borgatti, Everett, & Freeman, 2002).



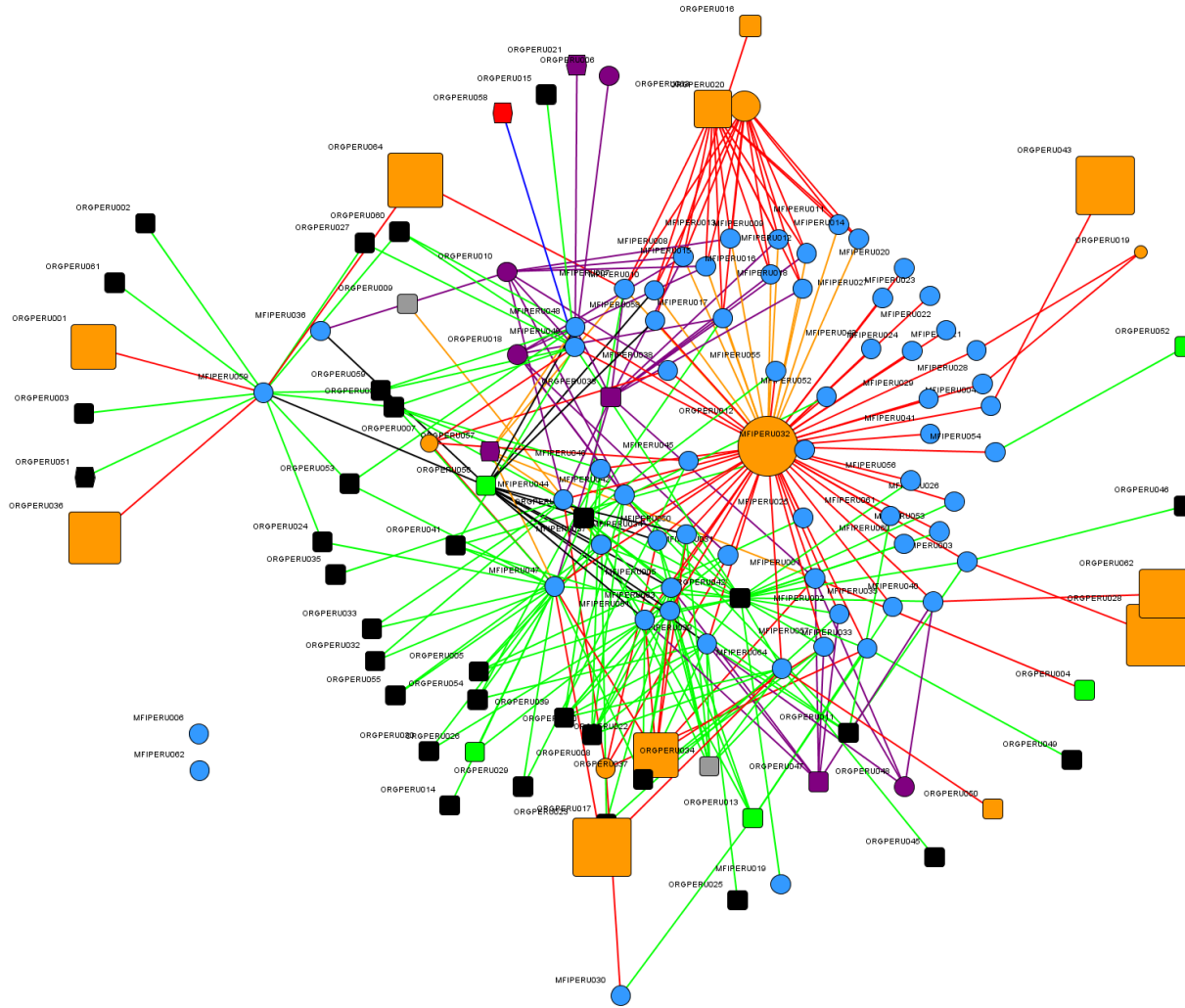
Tamil Nadu – MFIs and partner organizations



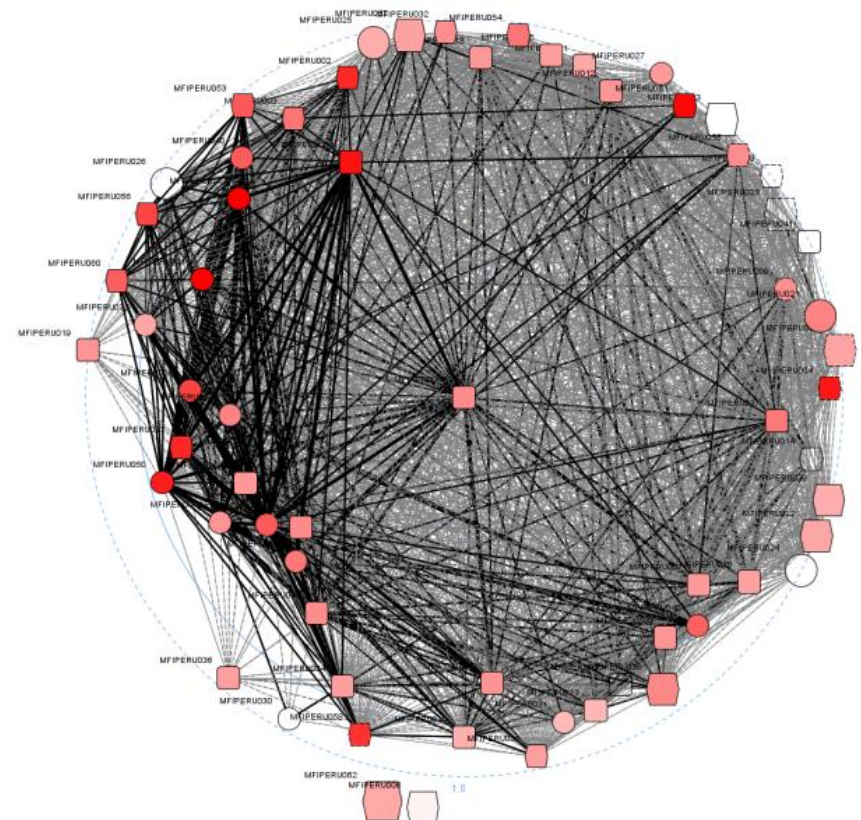
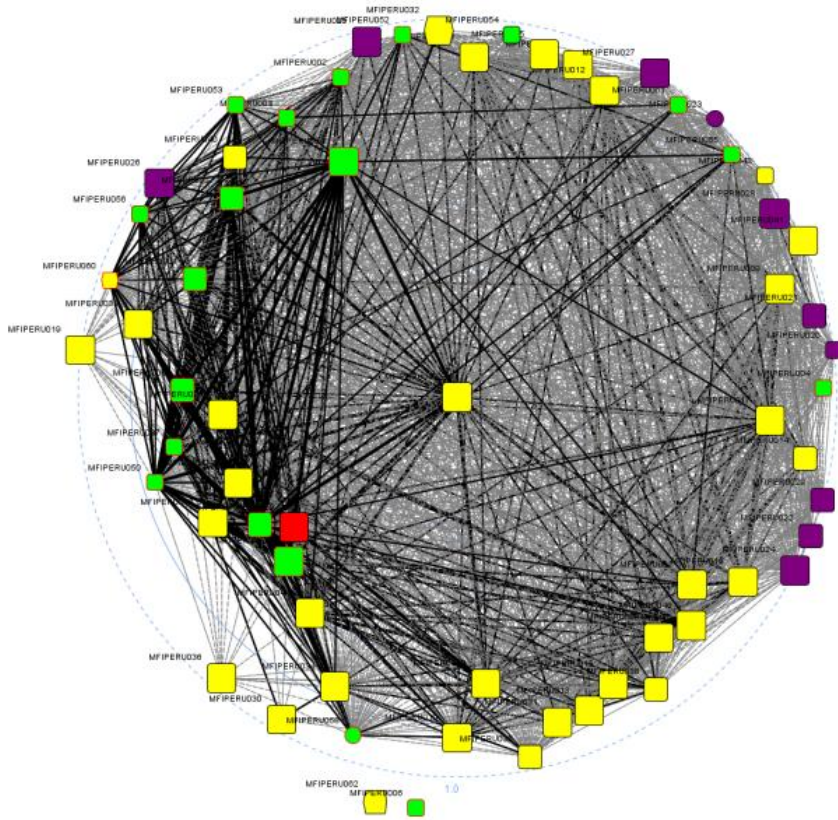
Tamil Nadu – MFIs only (links represent “having common partner organizations”)



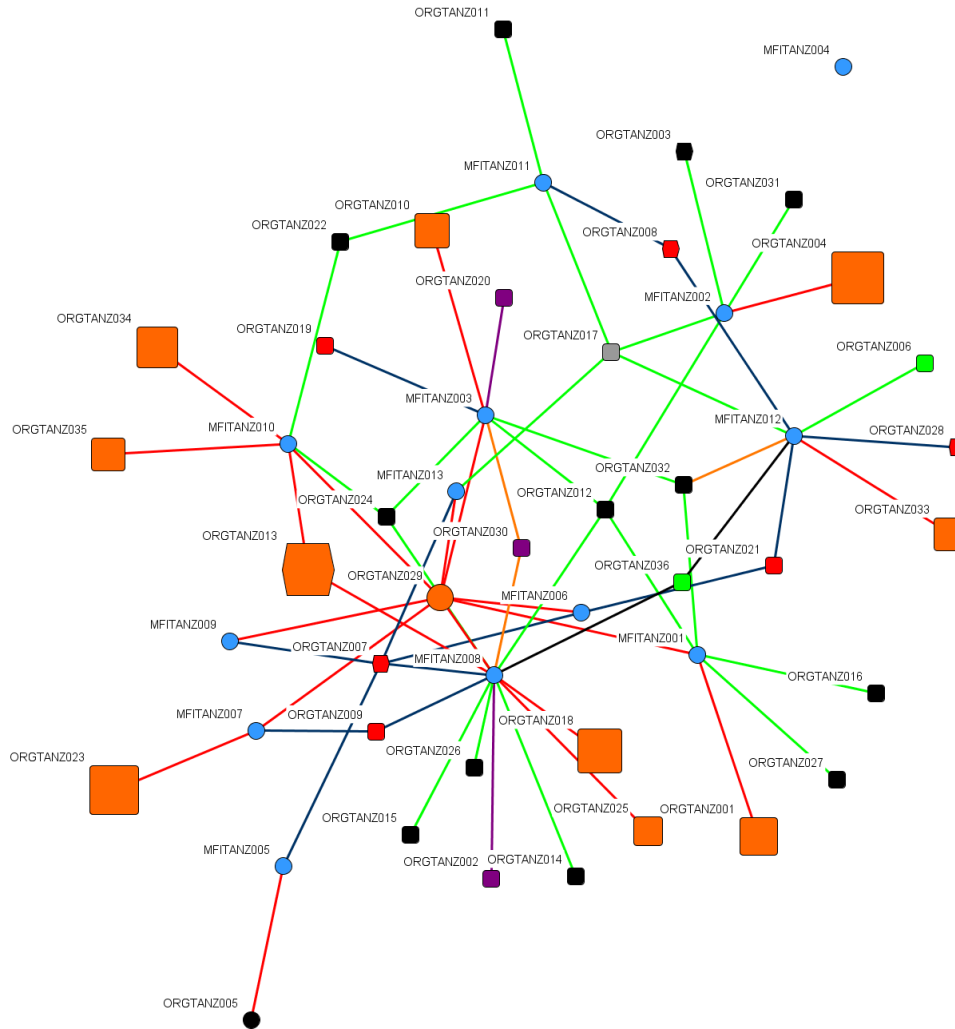
Peru – MFIs and partner organizations



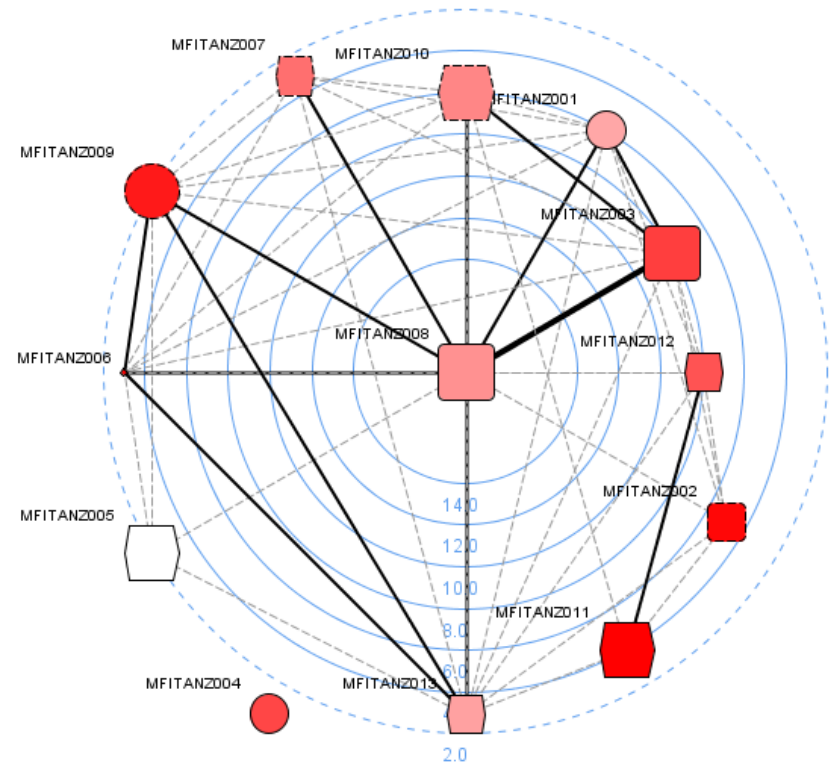
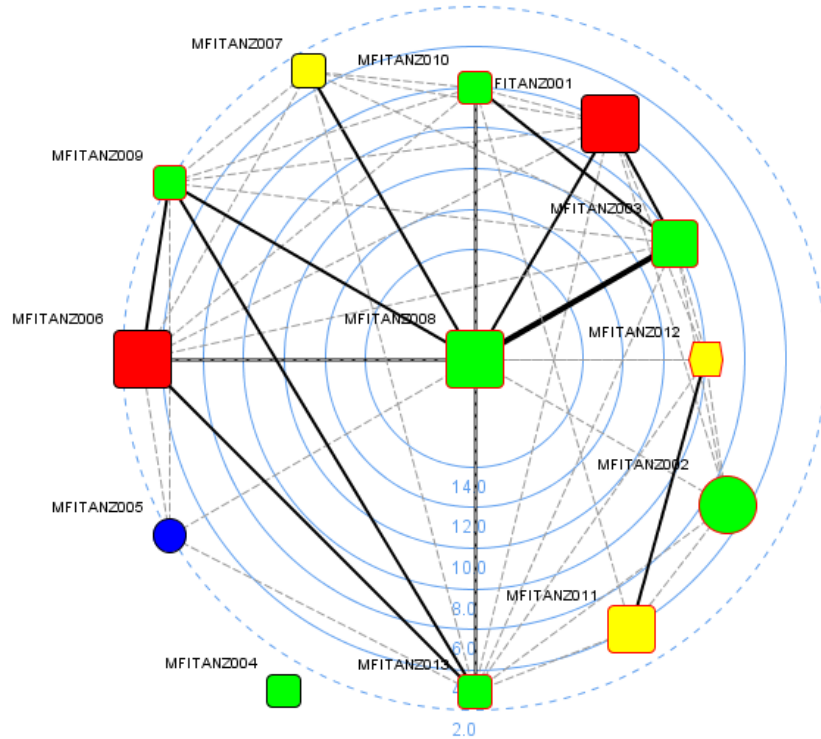
Peru – MFIs only (links represent “having common partner organizations”)



Tanzania – MFIs and partner organizations



Tanzania – MFIs only (links represent “having common partner organizations”)



Cross country comparison – the relevance of different relations

	Tamil Nadu		Peru		Tanzania	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Network Affiliation	42	35.9%	99	33.4%	20	31.3%
Funding	30	25.6%	128	43.2%	24	37.5%
Vendor	8	6.8%	1	0.3%	13	20.3%
Endorsement	8	6.8%	12	4.1%	2	3.1%
Partnership	5	4.3%	18	6.1%	3	4.7%
Rating	24	20.5%	38	12.8%	2	3.1%
Total	117		296		64	



Cross country comparison – the relevance of different types of organizations

	Tamil Nadu		Peru		Tanzania	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Networks	11	15.5%	16	12.5%	11	22.4%
Fund ,financial institutions, fund managers, DFIs	14	19.7%	32	25.0%	13	26.5%
NGO, Foundation, NGO/Foundation	4	5.6%	5	3.9%	2	4.1%
Raters	4	5.6%	8	6.3%	3	6.1%
Technology Providers	5	7.0%	1	0.8%	6	12.2%
Private Corporations and individuals	1	1.4%				
Peer to Peer Lenders			2	1.6%	1	2.0%
MFI's	32	45.1%	64	50.0%	13	26.5%
Total	71		128		49	

- ◆ Academic institutions and governmental agencies/regulators
 - ◆ Reporting issue or area of improvement?



Cross country comparison – Characteristics of MFIs/1

		Tamil Nadu		Peru		Tanzania	
MFIs		31		64		13	
Legal Status	Banks			1	1.6%	2	15.4%
	NGOs	13	41.9%	19	29.7%	7	53.8%
	Rural banks					1	7.7%
	NBFIs	16	51.6%	34	53.1%	3	23.1%
	Credit Unions and Cooperatives	1	3.2%	10	15.6%		
	Other	1	3.2%				
Scale	Small	7	22.6%	17	26.6%	7	53.8%
	Medium	6	19.4%	12	18.8%	2	15.4%
	Large	17	54.8%	35	54.7%	4	30.8%
	NA	1	3.2%				
Age	New	6	19.4%	3	4.7%	1	7.7%
	Young	7	22.6%	2	3.1%	2	15.4%
	Mature	18	58.1%	59	92.2%	10	76.9%
Regul.	Yes	21	67.7%	45	70.3%	5	38.5%
	No	9	29.0%	19	29.7%	8	61.5%
	NA	1	3.2%				



Cross country comparison – Characteristics of MFIs/2

		Tamil Nadu		Peru		Tanzania	
MFIs		31		64		13	
Target Market	Low End	24	77.4%	51	79.7%	6	46.2%
	Broad	6	19.4%	12	18.8%	6	46.2%
	High End			1	1.6%		
	Small Business						
	NA	1	3.2%			1	7.7%
Outreach	Small	5	16.1%	23	35.9%	6	46.2%
	Medium	5	16.1%	19	29.7%	3	23.1%
	Large	20	64.5%	22	34.4%	3	23.1%
	NA	1	3.2%			1	7.7%
Sust.	OSS	26	83.9%	53	82.8%	9	69.2%
	Non-OSS	3	9.7%	11	17.2%	4	30.8%
	NA	2	6.5%				
% wom.	Range	0.6-1		0.14-0.99		0.38-1	
	NA	1		8		1	



Cross country comparison – MFIs networks

# of common partner organizations	Tamil Nadu		Peru		Tanzania	
	N	%	N	%	N	%
1	102	47.0%	2582	75.3%	33	71.7%
2-3	98	45.2%	682	19.9%	12	26.1%
> 3	17	7.8%	166	4.8%	1	2.2%
Total	217		3430		46	

	Tamil Nadu		Peru		Tanzania	
	<i>All ties</i>	<i>Ties > 1</i>	<i>All ties</i>	<i>Ties > 1</i>	<i>All ties</i>	<i>Ties > 1</i>
Density	0.47	0.25	0.85	0.21	0.59	0.17
Centraliz.	35.6%	48.4%	12.1%	37.3%	38.6%	49.2%



Implications for theory

- ◆ Microfinance industries positioned at different phases of an evolutionary life cycle present different characteristics
- ◆ Emergence over time of co-ordinating organizations and establishment of standards, also in terms of relational patterns
 - Need of a “contingent” approach to the study of microfinance networks
- ◆ Lack of involvement of specific types of organizations
- ◆ Limited number of “common” partners → selective strategy of partner selection?



Implications for decision making

- ◆ Managers of MFIs
 - Identification of brokers, gatekeepers and bottlenecks
 - Identification of prevailing relational strategies

- ◆ Policy makers
 - Creating proper environmental conditions
 - Involvement of prominent actors or inclusion policies (e.g. For the spread of best practices)

- ◆ Aid agencies, funders, networks and support organizations
 - Facilitating MFI in accessing relevant resources

- ◆ Academics
 - Lack of study in the field



Limitations

- ◆ Data collection
 - Not complete coverage of microfinance industries in the three countries
 - Self reported nature of relationship
 - Missing values and comparability

- ◆ Nature of the study
 - Exploratory study focused on three countries and limited set of organizations
 - Need to generate a larger sample for confirmatory purposes



Future research opportunities

- ◆ Empirical aspect
 - Focus on more countries
 - Study of microfinance regional industries
 - Role of international actors and links across regions

- ◆ Theoretical aspect
 - Development of theory driven hypothesis
 - Focus on different types of relations or actors
 - Association between performance and network positions

- ◆ Methodological aspect
 - Inclusion of specific network measures and more advanced statistical techniques



Interorganizational Networks in Microfinance: A comparative study

Thank you for your attention!

*Riccardo De Vita, Ana Marr**

*International Microfinance Research Group (IMRG) and
Centre for Business Network Analysis (CBNA)
University of Greenwich Business School*

**Corresponding author: A.Marr@gre.ac.uk.*



the
UNIVERSITY
of
GREENWICH

Methodology

The empirical setting

	India	Peru	Tanzania
GDP per capita growth annualised 2006-2008	6.8%	7.5%	4.1%
Population under US\$2 a day	75.6%	17.8%	96.6%
Financial exclusion (%)	65%	55%-65%	89%
Environment ranking (55 countries)	4	1	19
Environment ranking (54 countries)	8	1	24

Table 1. Microfinance and its environment in the three chosen countries

*Source: Elaboration of the authors on Marr and Tubaro (2010a), EIU *2009, 2010)*

	India	Peru	Tanzania
Loans (USD, 2010)	5.1 billion	7.0 billion	63.7 million
Active borrowers (million, 2010)	30.9 million	3.3 million	222,693
Deposit (USD, 2010)	272.1 million	5.3 billion	52.9 million
Depositors (2010)	5.6 million	3.0 million	238.942

Table 2. The microfinance industry in the three countries

Source: Elaboration of the authors on Mix Market data



Methodology

Issues associated with data collection

- ◆ Mix Market does not cover 100% of MFIs (and related organizations)
 - Relevance of the database (more than 2,000 MFIs)
 - Improving auditing
 - Inclusion of relations according to a consistent approach
- ◆ Self reported nature of relationships
 - Respondents' perception of “meaningful” relations
- ◆ Missing data
 - Not updated profiles – MFIs kept in the network (no longitudinal analysis)
 - Most recent information available considered (2005-2010) – inclusiveness privileged



Results

Central actors in the three networks

MFI Degree		MFI Betweenness		Other Organiz. Degree		Other Organiz. Betweenness	
INDIA031	0.450	INDIA031	0.235	INDIA021	0.484	INDIA021	0.190
INDIA026	0.300	INDIA026	0.139	INDIA020	0.452	INDIA020	0.126
INDIA007/29	0.225	INDIA007	0.091	INDIA031	0.387	INDIA028	0.105

MFI Degree		MFI Betweenness		Other Organiz. Degree		Other Organiz. Betweenness	
PERU047	0.328	PERU047	0.138	PERU012	0.906	PERU012	0.592
PERU059	0.219	PERU059	0.104	PERU042	0.344	PERU042	0.097
4 MFIs	0.188	PERU049	0.090	3 Organizat.	0.187	PERU056	0.069

MFI Degree		MFI Betweenness		Other Organiz. Degree		Other Organiz. Betweenness	
TANZ008	0.389	TANZ008	0.391	TANZ029	0.615	TANZ029	0.282
TANZ003	0.222	TANZ012	0.195	TANZ007	0.385	ANZ012	0.153
TANZ012	0.222	TANZ003	0.170	TANZ012-17	0.308	TANZ007	0.115

