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Process Views of Peer Mechanism in Joint Group Lending through the Theoretical Lens of Agency Theory : A Systematic Review of Literature

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ABSTRACT

Formal institutions are unwilling to lend to the micro poor due to information asymmetry and lack of physical collateral, (*Rai & Sjöström, 2010*), (*Angelucci, Karlan et al., 2015*). However, group lending helps to address this problem by leveraging social capital, (*Harriss & de Renzio, 1997*). The goal of this study is to see how Peer Monitoring, Selection and Enforcement might help formal financial institutions to overcome Moral Hazard and Adverse Selection issues that come with working with disadvantaged borrowers in an agency relationship. The systematic literature review method was used to conduct the analysis. This study examines the growth of literature in the field of joint liability via the theoretical lens of agency theory, as well as a process view of literature in the field of Peer monitoring, selection and enforcement. According to the study, adverse selection in a Joint Liability Group is mitigated by Peer Selection which is motivated by social ties and borrower risk type and moral hazard is mitigated by Peer monitoring and enforcement. In a group, Peer mechanism is a major factor that mitigates agency problems and default in repayment of loans, (*Noglo & Androuais, 2015*). There is scope for further research in the domain of impact of risk diversification and random matching on the sustainability of Joint Liability Group.

Keywords: Adverse selection, Information symmetry, Joint liability, Monitoring, Moral hazard, Peer pressure

JEL Classification: D82, G20, G21, G28

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INTRODUCTION

Sanae (2003) mentions a transcript from the interview:

> 'Good…members seem to be getting new loans even if someone with the same group defaults. Why then do they bother to exert Peer pressure on defaulters? That is because otherwise there would be a huge problem for all members at the center'

There are 1.7 billion financially excluded people globally (*Kunt, 2017*) and these people lack physical collateral and formal institutions suffer from information asymmetry due to lack of information on the creditworthiness of poor clients (*Ray, 1998*). Because of information asymmetry, formal financial institutions are hesitant to lend to these marginalised poor, as the costs of monitoring, screening are high

leading to asset quality deterioration, (*Demirguc Kunt et al., 2004*; *Hulme, 1990*). This is credit market failure leads to under-allocation of finance to the poor, (*Armendariz & Morduch, 2010*). (*Stiglitz, 1990*) argues that this is a key reason for money lenders' success in rural areas. Only low-quality lenders thrive in the market (*Akerlof, 1970*) as formal institutions do not find it viable to lend to the poor. Social finance is envisioned as a component of a long-term financial policy framework (*Weber, 2014; Ledgerwood, 1998*), which is aimed at creating a positive impact on Society and Environment (*Brundtland, 1987*) through microfinancing.

Within Emily Durkheim's Social Theory, theoretical lens is embedded in the concept of social solidarity and cohesion, which leverages social capital to achieve the common good. In the context of Joint Liability Groups, social capital refers to the set of institutionalised relationships that exist among a group of poor people as a result of social ties, (*Wydick, 1999*), trust and norms (*Sanae, 2003*). JLGs meet the needs of micro borrowers by providing loans to those who lack collateral and creditworthiness by substituting social collateral for physical collateral and reducing transaction costs. Monitoring costs ensure access to local information, (*Ghatak, 2007*) and banking for the unbanked (*Beck, 2015*). According to existing research, information asymmetry can lead to adverse selection, that is, selecting the wrong person for credit distribution (*Meckling, 1976*). External lenders know less about members and groups are repositories of information about financially disadvantaged members (*Harriss & de Renzio, 1997*). Peer selection by members is a good technique to resolve the issue of adverse selection.

Under social contracts, members who act as agents for the Group have joint liability, which has the advantage of harnessing Peer pressure and enforcing Peer sanctions to drive greater debt collection, savings and cost reduction (*Srivastava, 2005; Manuela Angelucci, 2015*). Also, social capital through social collateral allows financial inclusion by substituting physical collateral (*Pitt, 1998; Ghatak, 1999*).

Existing studies highlight 'What' the financial outcomes of a group mechanism are in promoting saving (*Gugerty, 2007*), increased credit (*Deininger & Liu, 2009*), income (*Puhazhendhi & Satyasai, 2000*) and asset ownership (*Greaney, 2013*), recovery performance, and reduced transaction costs (*Puhazhendi, 2002*). There is a shortage of research on 'How' the group mechanism promotes financial discipline and sustainability (*Deininger & Liu, 2009*) given the lack of physical collateral, knowledge asymmetry among the needy members of Joint Liability Groups (*BIRD, 2019*). There are very few studies that in context of Group lending, explicitly address the various elements of information asymmetry, such as moral hazard and adverse selection. Furthermore, there has been minimal research on how Peer mechanism, affects the group's financial sustainability (*Van, 1999*). Besides that, (*Aiyar, 1984*) argues that in the case of an informal lending mechanism, such as Moneylenders, the lenders personally interact with the borrowers and have perfect information about the borrowers as described by (*Coleman, 1988*), (*Rosenberg et al., 2009*). This study will most likely be the first to look into how asymmetric information and agency affect Joint Liability Group efficiency and effectiveness. This study will investigate how social capital, as mediated by Peer mechanisms and other causal factors, such as project riskiness, affect the long-term viability of microfinance institutions. To address these issues the research study seeks to give a rigorous evaluation of literature regarding, 'How' Peer Monitoring influences the success of Group lending using a thorough literature review and the Lakota Sian paradigm. It will provide academic discussion on the role of social capital in

supporting microfinance via effective Peer monitoring and enforcement and create a process view of Peer mechanism in Group lending through the theoretical lens of Agency theory.

OBJECTIVE OF RESEARCH

This research study will contribute to the existing literature in the field of behavioural finance by analysing numerous characteristics of information asymmetry, such as Moral hazard and Adverse selection. There is no systematic literature on peer monitoring. The study seeks to answer the following questions:

1. How do Peer mechanisms, that is, Peer Selection, Monitoring, and Enforcement help to reduce Moral Hazard and Adverse Selection?
2. What is the process flow of Peer Selection, Monitoring and Enforcement in the context of a Joint Liability Group?

METHODOLOGY

Search Methods

Data for the analysis was gathered using organisational evidence, experimental evidence and stakeholder perspectives. Using the triangulation method, data were gathered from a variety of sources, including academic journals, papers, books, reports, monographs and conference proceedings. A lot of databases were used in the web search. The analysis was carried out using the PRISMA methodology.

Data Extraction and Analysis

'Adverse selection', 'Credit, Demand & Supply factors', 'Financial inclusion', 'Sustainability', 'Impact investing', 'Information asymmetries', 'Moral hazard', 'Monitoring', 'Savings', 'Social finance', 'Transaction costs' and 'SHG Linkages' were used as keywords to search the articles for the literature review. A total of 49,431 articles were considered for the review. For this study, search databases used were EBSCO, Web sciences, and Google Scholar, Scopus, etc. Summary citations, peer review and reference details, publication date and author were used to refine the results. The analysis covered articles published between 1990 and 2021 in particular, this generated 949 articles for review. We read the abstracts of 949 articles to identify the relevant articles. From this pool, a list of 92 relevant articles was identified. We also conducted some backward and forward research to identify 10 more relevant studies. A total of 102 studies were identified and using the Agency theory framework results were identified for Peer Selection, Monitoring and Enforcement. The detailed flowchart of the process is presented in Figure 1.

Given below is Table 1 & 2, for the list of databases & key words used for research.

Table 1: List of Online Databases

S.No.	Databases
1.	SCOPUS
2.	EBSCO
3.	ABI/Inform
4.	ERIC
5.	Web of Sciences
6.	JGATE
7.	Google Scholar

Keywords used for review are mentioned below:

Table 2: Keywords used

Keywords
Adverse selection, Credit, Demand and Supply factors, financial inclusion, Sustainability, Impact investing, Information asymmetries, Moral hazard, Monitoring, Savings, Social finance, Transaction costs, SHG Linkages, Social Finance

Figure 1 depicts the PRISMA flow methodology adopted for the systematic literature review.

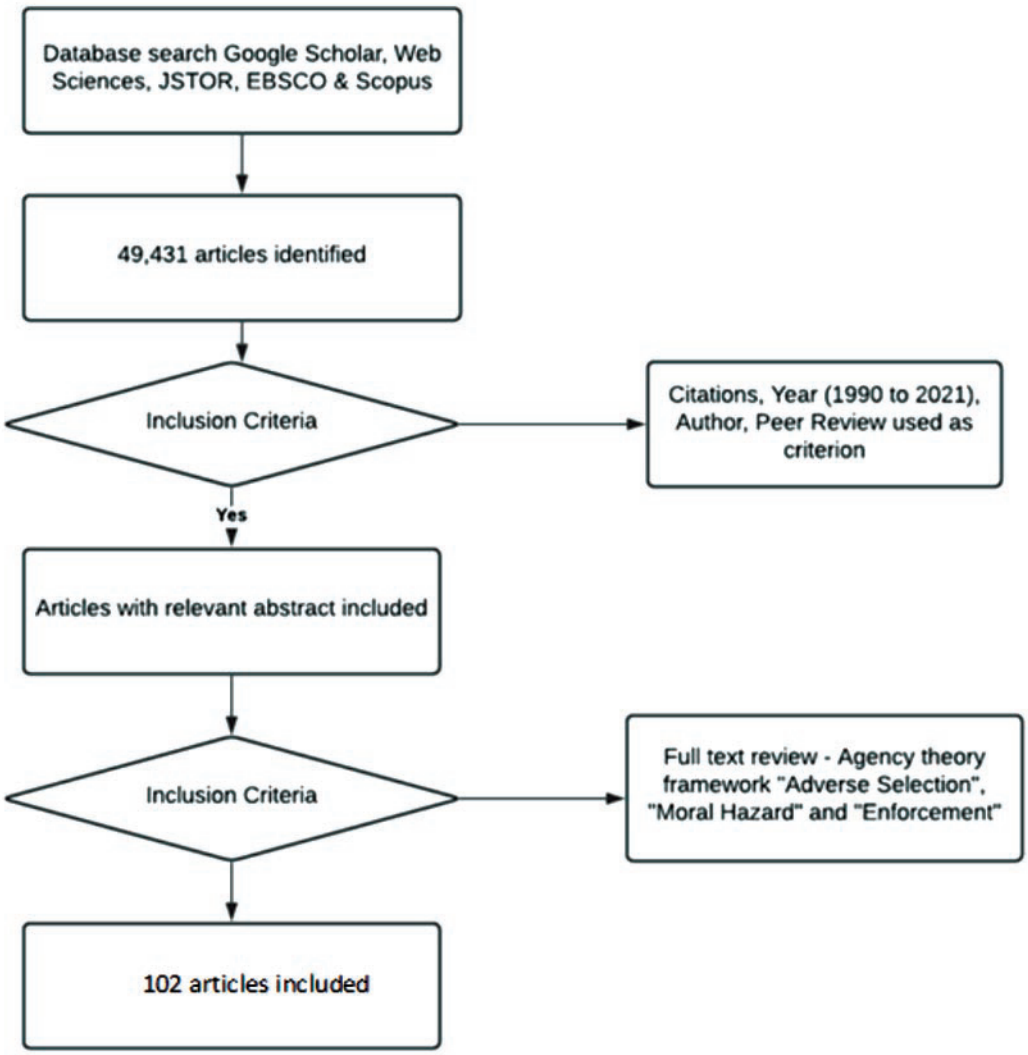

Figure 1: Systematic Literature Review
Source: Authors' own work

THEORETICAL LENS

To provide a conceptual framework to the challenges faced by the formal financial institutions in providing credit to the underbanked and unbanked, the Agency theory (*Meckling, 1978*) has been used to investigate the borrowers' and lenders' relationship. The purpose of using this theoretical lens is to have a better understanding of how peer mechanisms in Joint Liability Groups work. Figure 2 mentions the major themes in Peer Monitoring identified through theoretical lens of Agency Theory. In group lending, the borrower is an agent with limited liability, while the lender is the principal. Information asymmetry is a major barrier to financial inclusion for the poor. Borrowers face moral hazard, and lenders face adverse selection.

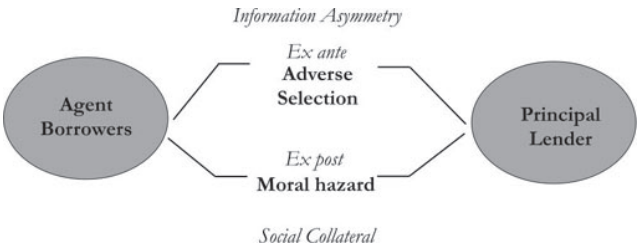

Figure 2: Agency Theory Framework
Source: Authors' own work

DISCUSSION AND ANALYSIS

Background on Joint Liability Lending

(*Robinson, 2001*) argued that Microfinance as a social revolution holds great promise in Poverty reduction, (*Rangarajan, 2014*) and initiating social change (*Barauh, 2012*). Due to mission drift, the subsidised banking model was becoming unviable for large commercial banks. Despite all efforts, formal financial institutions in developing nations were unable to uphold the promise of access to affordable finance for the rural poor until the 1980s (*Bhaduri, 2006*). (*Srivastava, 2005*), (*Hulme, 2008*) argued that in 1991 sustainable finance model replaced subsidy-based finance, but the banks had no information about the creditworthiness of the clients. (*Pischke, 1991*) argued that millions of rural impoverished people needed to be taught the value of regular saving and progressive credit. (*Sanae, 2003*) has proposed that social capital (*Jonathan de Quidt, 2016*) and Peer pressure play an important role in ensuring the sustainability of the Group lending model through higher repayment rates and lower transaction costs (*Morduch, 2000*).

Agency, Information Asymmetry and Joint Liability Groups

One of the most important concerns in finance is how to allocate resources to the most worthwhile projects. The funds in a capital market with perfect knowledge are allocated in a way that the marginal return of capital is just equal to the marginal cost. However, there are other inefficiencies in the microfinance business, including information asymmetry and lack of physical collateral. According to the literature, a Joint Liability Group is a type of social contract in which the major source of the problem is lenders' incomplete information about borrowers. (*Zeckhauser, 1971*) states that the output and income of the members are exogenous and unobservable by the lender, but observable by the members. (*Raviv, 1971*) argues that the verification of the output by the lenders is costly and depends on various factors including the probability distribution of output.

According to extensive literature, if even a single member defaults, the entire group would be sanctioned by the banks, and this joint accountability leads to Peer mechanism and better repayment. Peer pressure, monitoring, sanction and enforcement are defined as three stages of Peer mechanism. Figure 3 summarises the existing research in this domain as group dynamics, credit linkages and market linkages. Peer mechanism can be described as a three-step process comprised of peer selection, monitoring and sanctioning. The main issue is moral hazard at the group level and adverse selection at the credit linkage level. Market linkages refer to capital markets and are the least studied area.

Peer monitoring begins with a simple Peer monitoring mechanism in a heterogeneous population of risky and safe borrowers, where safe borrowers are reluctant to cross-subsidise risky borrowers due to limited responsibility (*Stiglitz, 1990*). The model further evolved into Peer selection and enforcement. (*Banerjee, 1994*) highlighted the importance of Peer selection by risk matching to address adverse selection problems and (*Coate, 1995*) highlighted the importance of Peer sanction. At the credit linkage level, the findings supported formal financial institutions' reluctance to invest in delegated monitoring, social intermediation, (*Barton, 1998*) and screening of micro poor.

Peer Mechanism in Joint Liability Groups

Role of Peer Selection in Mitigating Adverse Selection

Figure 4 enumerates criterion of Peer selection such as risk matching, business correlation, social ties, signalling, reporting, joint liability and incentives that mitigate the adverse selection and lemon problem. The

Figure 3: Process View of Peer Mechanism
Source: Authors' own work

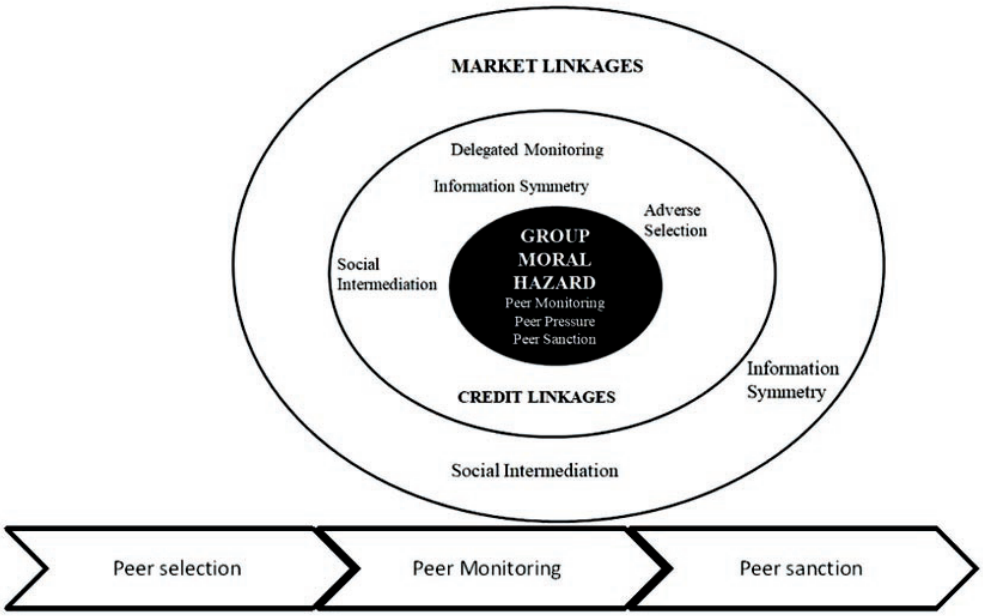

Figure 4: Akerlof Lemon Problem and Agency Theory Problem (Criterion for Self-Selection) to Mitigate Adverse Selection
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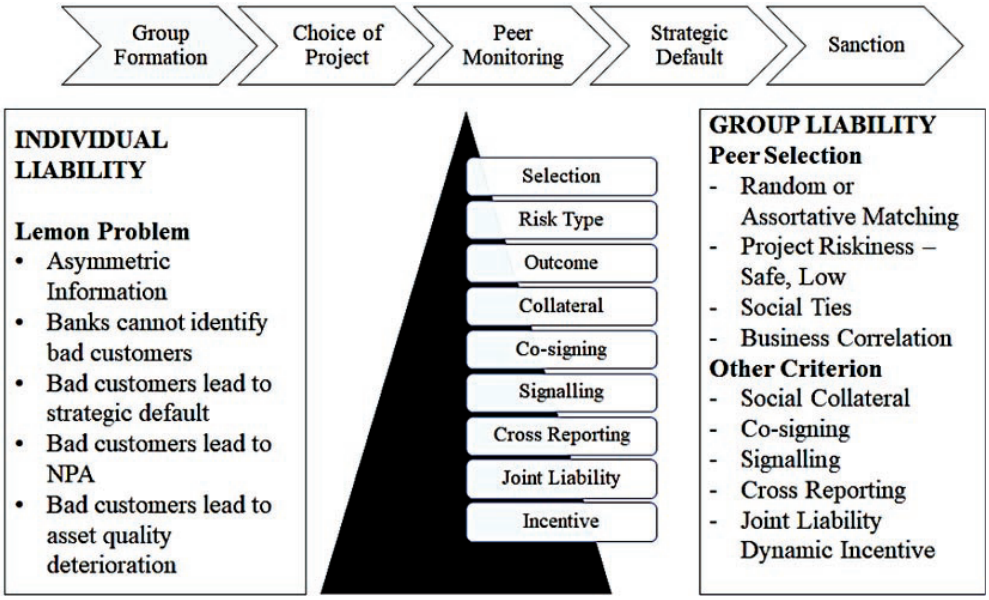

first stage in the group lending process is Peer selection or group formation. Adverse selection refers to a situation in which, ex ante the lender has no information about the borrowers and cannot screen them based on their creditworthiness (*Becker, 1981*). In other words, there are certain unobservable traits of borrowers which are known to the borrowers and not to the lender. These traits might affect the probability of default (*Ghatak, 2000*). If the bank knows the risk type of a member, the risky borrower can choose to pay a higher interest rate, (*Angelucci Karlan et al., 2015*) and less collateral, while the safe borrower can deposit higher collateral and pay less interest. But this increases the cost of selection by the banks and due to

lack of returns on loans to micro borrowers, banks might not be willing to spend on the selection of members in Joint Liability Groups. Thus, it can lead to lemon problem, where risky and safe type of borrowers pay same cost leading to inefficiency.

Agency problem crops up due to information asymmetry that is the root cause of adverse selection. Social capital is touted as a panacea to the problem of information asymmetry and high selection costs in JLGs. According to (*Sanae, 2003*), social capital through local information networks helps in risk hedging. (*Putnam, 2000; Coleman, 1988*) defined social capital as social networks and the relationship between the members of the group that set norms for group behaviour based on the principle of reciprocity and trust (*Fukuyama, 1995; Montalieu & Baudasse, 2004–05; Bastelear & Leathers, 2006*). Existing literature offers three distinct theories on social capital: relational and informational capital and groups with innate properties of joint liability (*Alessandra Cassar et al., 2007*).

(*Androuais, 2015*) have defined social capital as social ties among group members as a factor influencing compensation. As social ties, the same gender, ethnicity and activity or occupation have been used to self-select the members in the group. (*Hulme, 2008*) used religion as a proxy for social ties, (*Sharma & Zeller, 1997*) cited occupation and (*Hermes, 2005*) noted the same place of domicile or neighbourhood as a proxy of social ties. (*Karlan, 2005*) argues that social ties deteriorate after the group fails. Formal lenders do not have perfect information about the borrowers in the capital markets. Researchers emphasise that if borrowers can classify each other based on risk type, the lender can use Joint liability and various social contract types to select members in a group for lending. (*Morduch, 2000*) states that in rural markets, borrowers lack collateral, but group lending by Peer monitoring allows them to keep track of each other and it is used as the self-selection criteria for the group. (*Floro, 1991*) higher linkages and networks, according to the argument, can assure better group repayment. (*Tang, 1998*) argues that social capital helps lower transaction costs, which are dispersed across the pre-disbursal, disbursal and post-disbursal stages of credit delivery. In their seminal article (*Tirole, 1997*), the author discusses how wealth distribution and financial incentives affect monitoring intensity among credit-constrained individuals.

Assortative or Random Matching

Thus, the issue of selection in a group is primarily related to the risk propensity of borrowers. Hence, the issue is whether in a group can all members be risk homogenous, that is, either all safe or all risky? This occurs in the case of perfect information. Alternatively, in case of imperfect information, the group can be heterogenous, where some members are safe and some are risky. Homogenous group selection is termed as Assortative matching and heterogeneous group as Random matching.

Adverse selection is the problem of bank selecting a high-risk borrower who has high probability of default. In a Joint Liability Group scenario (*Vigenina, 2005*), when borrowers know each other, to reduce the probability of default safe borrowers will group with safe borrowers and risky borrowers will group with risky borrowers only. This reduces the issue of adverse selection and raises debt repayment rates in the groups (*Tassel, 1999; Ghatak, 1999*). (*Stiglitz, 1990*) in his moral hazard model argues that in a joint group, where members know about each other, the safe borrowers will not be willing to cross-subsidise the risky borrowers and will use the Peer mechanism. (*Ghatak, 1999*) safe members will screen out the risky borrowers and will not borrow till a cut-off point. Joint liability is incentive to monitor other members of the group, (*Greaney et al., 2013*). So, in a homogenous group, given joint liability, the safe member will group with

the safe borrower and will use the peer mechanism to ensure loan repayment. In this scenario, the banks can use different contracts as safe members will be more inclined to take higher joint liability and pay lower interest rate and risky members will be willing to take lesser Joint liability and higher interest payments. Also, the safe borrowers will be less inclined to borrow than risky borrowers. This is called the underinvestment problem in the case of a Joint Liability Group. Thus, authors argue that in joint liability, banks can screen members by the company they keep as risky borrowers will not be willing to assume joint liability which is greater than individual liability contracts. In this scenario, non-defaulting members pay defaulting members loan and penalty, if output is greater than penalty else all the borrower's default. As compared to random matching, assortative matching is the most popular method of group formation. A detailed process flow of Peer selection in homogenous groups through Assortative Matching is given in Figure 5.

(*Laffont, 2003*) analyses a simple model of lending to borrowers with limited liability and private information on the quality of their investment project. The paper argues that when the risk type of borrowers is related, group lending contracts are a powerful tool for rent extraction and subtle discrimination. However, the paper highlights that in Assortative matching since all the members are of the same risk type, if even one member defaults due to similar riskiness there is the probability of collision or strategic default. But researchers argue that groups with safe borrowers will be less willing to collude or take risky projects. Strategic default will be an issue in the case of members with risky projects.

The paper shows that group lending contracts are useful for extracting rents when collusion is feasible. These findings should hold for variable-sized loans, endogenous grouping and other adverse selection formulations of the bank's agency problem.

(*Natarajan, 2004*) in his study discusses the issue of adverse selection in the context of Assortative matching and explores the importance of non-monetary signalling mechanisms to address the issue of adverse selection and underinvestment. The authors in the study examine joint liability contracts where both banks and borrowers lack information. In a homogenous group, the borrowers, due to their existing social ties will gladly accept the added burden of verification and screening the risky borrowers by using non-monetary side payments as a signalling mechanism. Since the contracts are joint liability, borrowers must repay their loans and are responsible for the loans of their group members if any of the default. The welfare properties of homogenous group formation outperform random matching or individual lending with information asymmetry. This implies that signalling-based homogeneous group formation may help reduce under-investment. Therefore, since Joint Liability Groups are formed from the same group of people, the group can exert social pressure to ensure regular repayment.

Contrary to Assortative matching, (*Armendariz & Gollier, 2000*) in their research study propagates the case, when in a group lending situation, individuals do not know each other, and groups are formed through random matching or pooling mechanism. Random matching refers to a heterogeneous group in which the riskiness of the borrower is not a criterion for selection. This group comprises all borrowers with different risk types. In a pooling risk mechanism, if the cost of ex post bank verification is large, the safe members will be prepared to cross-subsidise the risky borrowers and group lending will be feasible through the social collateral effect.

(*Ahlin & Townsend, 2007*) examines the role of screening, monitoring, group pressure, self-selection and social ties on a group's repayment behaviour. (*Stiglitz & Weiss, 1981*), emphasises the importance

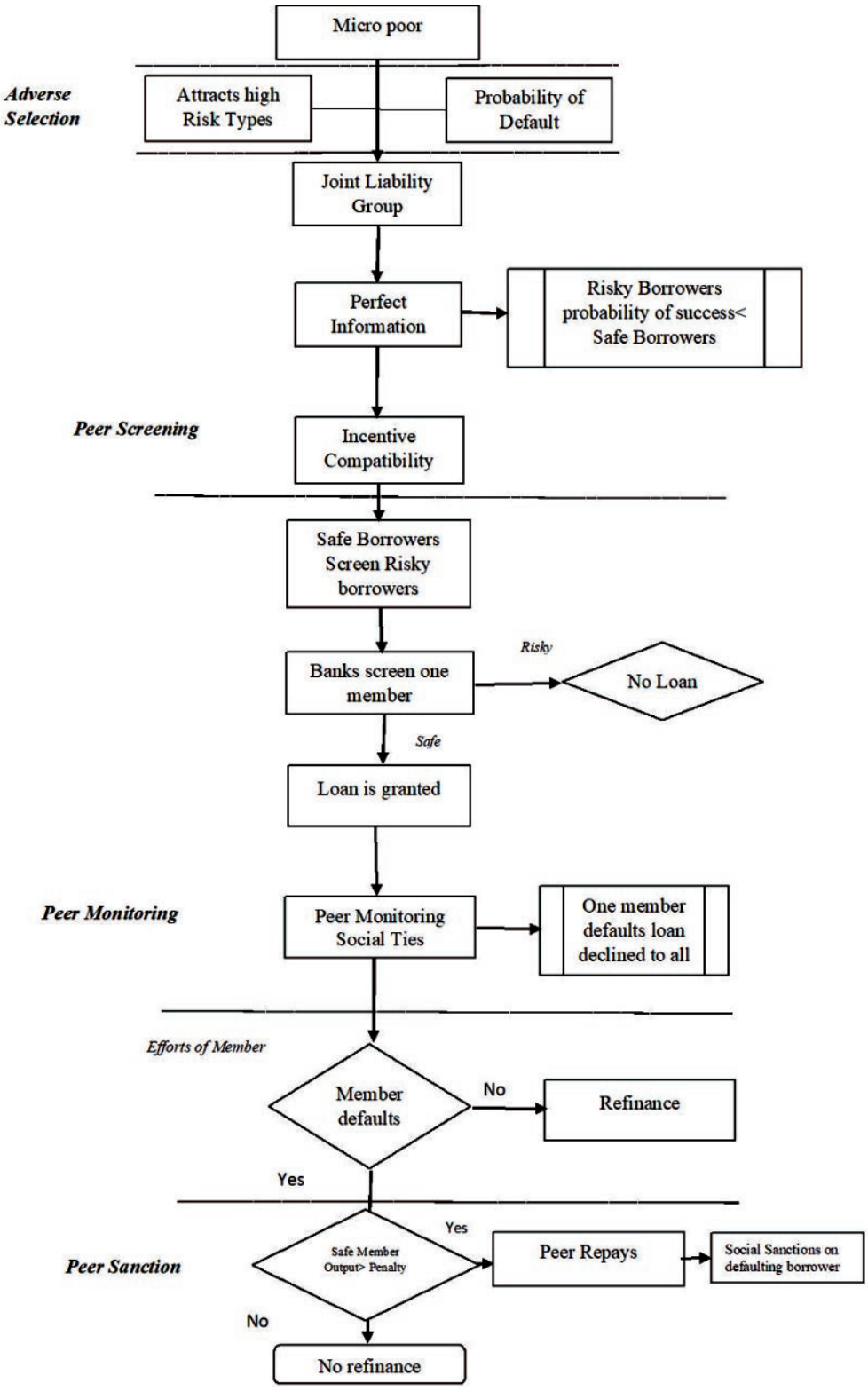

Figure 5: Peer Mechanism to Address Adverse Selection and Moral Hazard (Assortative Matching)
Source: Authors' own work

of interest rates, endogenous Peer selection through random or assortative matching, heterogeneity or homogeneity of members, the riskiness of the borrowers, correlation of project outcomes, group size (*Abbink, 2006*) as screening devices for distinguishing between good and bad risks, that impact the adverse selection at the group formation stage. (*Che, 2002*) argues that a free-rider problem arises in a joint liability group in a repeated game scenario, resulting in peer sanction enforcement. (*Besanko & Thakor, 1987*), no one knows about payoff-relevant borrower traits.

Recent Developments in Social Contracts with Heterogenous Risk Types

(*Ghatak, 2000*) highlights that homogenous groups with the same risks are formed under joint liability which cannot be greater than an individual liability. (*Gangopadhyay, 2005*), on the other hand, counters this argument by asserting that ex post optimal separating equilibrium can achieve higher welfare and achieve higher repayment rates, even if joint liability penalty is greater than an individual liability, particularly for risky borrowers. A co-signer is assumed in the study since debtors have no choice but to accept a specific debt arrangement with a co-signer. However, though (*Ghatak, 2000*) authors argued that joint liability does not exceed the amount of individual liability, but in the recency version, the authors highlight that joint liability can be greater than an individual liability. Banks profit from the risky borrowers and have zero profits with safe borrowers. (*Guttman, 2008*) argues that positive assortative matching, in which safe borrowers prefer to join with other safe borrowers rather than risky borrowers since dangerous borrowers have a larger risk of default, does not hold in the case of dynamic incentives, according to their study article. The author of the research describes dynamic incentives as a refinancing threat. The likelihood of members not receiving a loan in the future is equal to the product of future failure probabilities in a group. Furthermore, the marginal effect of a safe member on the probability of default is lower than the marginal effect of a hazardous borrower on the probability of default. This is known as negative assortative, and it means that a safe borrower will pay less to have a risky borrower, and a risky borrower will pay more to have a safe borrower. (*Katzur & Lensink, 2012*) study adds to the body of knowledge by looking into group lending in the context of project outcomes. Several studies have found that group loan contracts are less practical when project outcomes are positively related or in the case of high covariance of outcomes.

In the presence of an adverse selection problem with underinvestment, group loans can provide a greater welfare outcome when relatively secure projects are positively correlated (*Ahlin & Jiang, 2008*).

Peer Monitoring and Moral Hazard

As mentioned in Figure 6, through the conceptual framework of Gadamer hermeneutics and Agency theory, Peer mechanism has emerged as major theme to mitigate Moral Hazard. Peer selection reduces selection of risky borrower, Peer monitoring reduces the inability to misuse funds and Peer sanction leads to repayment of loan. (*Conning, 2012*), formal financial institutions are cautious of lending to the micro-poor due to lack of collateral and costly monitoring. Alternatively, due to limited liability, there is a moral hazard effect, in which borrowers are enticed to take the kinds of risks that lead to bankruptcy (*Busetta, 2012*). (*Weiss, 1984*) mentions that in the credit markets, ex ante moral hazard is a big challenge.

Once a financial institution has granted a loan to the borrower, a moral hazard arises (*Simtowe Franklin, 2006*), in his paper, he states that social collateral mitigates moral hazard. The author has identified group productivity, peer screening, peer monitoring, the strength of social ties, peer pressure, dynamic

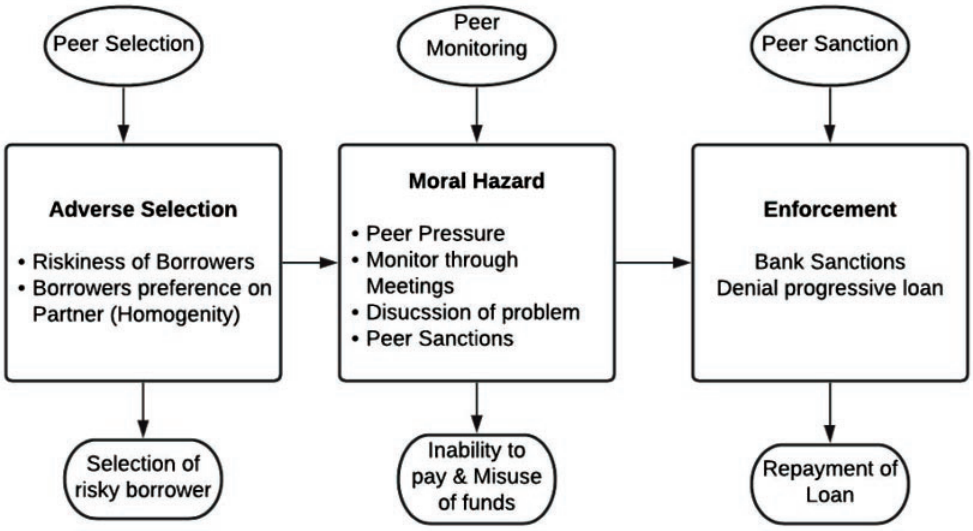

Figure 6: Agency Theory the Framework for Moral Hazard
Source: Authors' own work

incentives, social cohesion as the factors impacting moral hazard. The author argues that since members in a group know each other, they can better monitor, exert pressure and sanction the members, which reduces the probability of misuse funds borrowed from the bank, reducing moral hazard (*Katzur & Lensink, 2005*). According to the author, peer monitoring and social ties play an important role to mitigate moral hazards. (*Vigenina, 2005*), the moral hazard problem in a group lending situation, is influenced by the borrowers' risk propensity and group information, according to the research article. (*Aghion, 1999*) argues that if there is a correlation between the returns of different borrowers, the benefits of peer-based monitoring in terms of enhanced payback are not the same. (*Wenner, 1995; Zeller, 1997; Varian, 1990 & Zeller, 1998*) emphasise the importance of selection criterion, that is, random or assortative, the riskiness of project and correlation of returns in impacting the outcomes of peer monitoring. Very few existing studies clarify the impact of borrowers' output distributions on the success of peer monitoring in mitigating strategic default. The author argues that the riskiness of the project has an impact on the tendency for strategic default. (*Stiglitz, 1990*) argues that risky borrowers prefer to default because their output probability distributions have fatter tails.

(*Wei Zhang, 2008*) highlights the importance of dynamic incentive of refinancing in solving ex ante moral hazard problem. Due to joint liability even if one borrower defaults entire group will be debarred from further loans and due to this safe borrower will monitor the risky borrowers and use social ties and pressure to inculcate financial discipline. Furthermore, literature discusses the free-rider problem, which states that because of limited liability members lack the incentive to repay on behalf of other members of the group, which leads to strategic default, and other studies mention various factors responsible for moral hazard problems, such as project output and penalty costs. (*Hung, 2006*), in case of unobservable action of an agent, the borrower's financial contract cannot be operationalised and it is the only social contract that can ensure financial sustainability.

Mitigation of Moral Hazard

(*Stiglitz, 1990; Varian, 1990; Williams, 2014*) discuss how the Joint Liability Group aids in the transfer of liability and cost of monitoring from financial institutions to borrowers and how Peer monitoring

can successfully improve group performance. (*Stiglitz, 1990*) shows how Peer monitoring can reduce moral hazard in joint liability lending. It is assumed that by using Joint liability, group members who are jointly liable for the loan will monitor each other's investment decisions and efforts, lowering the monitoring costs for the lending institution and reducing moral hazard. So, safe borrowers will be reluctant to cross-subsidise the risky borrowers and will also monitor their peers to avoid repayment issues (*Ghatak & Guinnane, 1999; Morduch, 2000*). Peer Monitoring shifts risk from the bank to the members of the group, who by social ties are better equipped to bear it. This article shows that the transfer of risk leads to an improvement in borrowers' welfare. A (*Banerjee, 1994*) highlights the relevance of monitoring with Peer sanction in mitigating strategic default (*Sjostram, 2010*).

(*Rey, 2003*) cites collusion as one of the causes of moral hazard among the group's borrowers. (*Varian, 1990; Stiglitz, 1990; Besley & Coate, 1995*), in their research study, refer to the moral hazard problem as a strategic default problem. Thus, research highlights the importance of *social sanctions,* in reducing moral hazard. If a borrower defaults on a personal loan, all the bank can do is issue sanctions. But in group lending, he may face the anger of his fellow group members. In instances where the market and non-market institutions interact, the idea of calling on certain agents' punishment power to better outcomes has broader importance in contract design. Further, the borrowers' strategic default is determined by penalties and output. Borrowers will strategically default if the output is less than the penalty (*Vigenina, 2005*). If a borrower refuses to repay his portion of the loan, the entire credit group is regarded in default, preventing access to future loans. This causes the group to either compensate or socially pressurise the delinquent member.

(*Busetta, 2012*) their research paper mentions that banks overcome information asymmetry by offering several contracts with collateral requirements. Risky borrowers choose a contract with high repayment low collateral and safe borrower choose contracts with high collateral and low repayment.

It is difficult to encourage members of disorganised groups, such as self-help groups, to attain the group's goals (*Luigi Guiso, 2004*). (*Demsetz, 1975*) recognised the importance of *specialisation and authority in leadership and centralised structure* in promoting cooperative behaviour. Houngbedji (2014) explored the impact of risk aversion on various types of monitoring techniques. (*Ghatak, 2000*) further argues that members action determines the probability of success. In a joint liability group as per the author marginal cost of the project is not equal to marginal return, as in absence of collateral and presence of information asymmetry, the cost of failure is not internalised by the member. The author argues that in Joint Liability group members either act cooperatively or non-cooperatively. If all members act cooperatively, together they choose a safe project, or even if one member chooses a risky project, the other member will also choose a risky project due to joint liability. The author also highlights the importance of group size as large group sizes are difficult to monitor and large groups in which project returns are uncorrelated have more states of the world. Small group sizes as per the author are easy to monitor. The author also highlights the importance of the dynamic incentive, close group ties. In a Joint Liability Group, a Peer mechanism through peer monitoring ensures that members utilise credit for only income-generating activities.

PEER SANCTION

In agency theory, sanctions are used to punish or reward agents and align their interests with those of principals. In microfinance, the lender punishes defaulting group members by using social sanctions

to control opportunistic behaviour. We contend that social sanctions generally encourage clients to pay on time. This relationship is mentioned in Figure 7. It exhibits the progressive lending model in a Joint Liability group. Borrowers, who are agents of the formal financial institutions, if pay in time get higher refinancing, which acts as incentive to promote good financial behaviour or *stewardship behaviour* through Peer pressure.

The primary issues with lending money are moral hazards and bad payback behaviour (*Vigenina, 2005*). If all borrowers in the group return their loans, then they can access greater loans (dynamic incentives). Afraid of being barred from future loans if one (or more) of its members cannot repay, each member will keep an eye on others and pressurise them if they misuse their loans. (*Besley & Coate, 1995*), as a result, repayment is improved because joint-liability contracts transfer risk from lenders to borrowers. Groups allow a member with a high return project to pay off a partner with a poor return project. However, if social ties among members are strong enough, the net effect is beneficial because borrowers who default willingly face punishments from both the bank and the community. A borrowing group with enough social capital enforces payback better than an individual. In these groups, if the business connection of the borrowers is not too great, more than one borrower will be unable to repay their loan (*Gine, Karlan et al., 2006*). Clients with group liability have an incentive to pressure other clients to ensure enforcement is improved. As a result, group liability effectively shifts responsibility from the lender to the clients, overcoming knowledge asymmetries that are common in credit markets, particularly for households without collateral.

Mitigation of Risk through Sanctions

As per (*Besley & Coate, 1995*), the conventional reason for high group loan payback rates is Peer group pressure in the form of potential sanctions and denial from

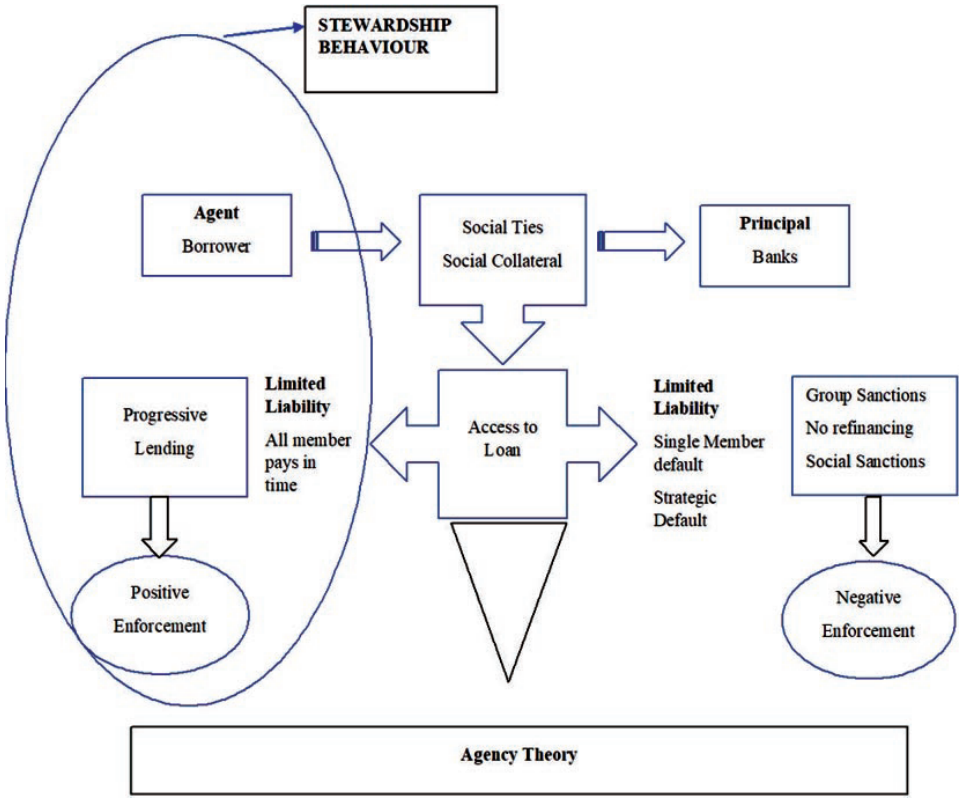

Figure 7: Agency and Stewardship Theory
Source: Authors' own work

future loans. If other group members do not follow the rules, they risk being sanctioned. Others pay if a member fails to make a weekly payment or repay the loan. To ensure prompt repayment, the threat of potential punishment is seen as a strong motivator (*Barley, 2006*). Group sanctions might include indirect or outright criticism of an individual, social exclusion, and financial sanctions on prospective loans. (*Husted, 2015*), as per the research study, in agency theory, sanctions are used to punish or reward agents and align their interests with those of principals. We contend that social sanctions generally encourage clients to pay on time. Clients can benefit from and enjoy different aspects of group participation, including meeting content, information, idea-sharing and social interaction with other group members. Peer mentorship, intragroup learning, shared decision-making, attendance and timeliness are all characteristics of effective groups, according to empirical microfinance research (*Morduch, 2005*). For exerting social pressure, the word of mouth can also be extremely important (*Watt, 1968*). Moreover, as per group meetings can enable the members to improve their productivity (*Khandekar, 1998*). Therefore, in a group members can monitor each other and sanction the defaulting members to ensure financial discipline.

PROCESS VIEW OF THREE-STEP PEER MECHANISM (PEER SELECTION, PEER MONITORING AND ENFORCEMENT)

Figure 8 provides a detailed process view of Peer mechanism as a three-step process. Adverse selection is mitigated through Peer selection or self-selection and social contracts with individual or limited liability based on criterion such as riskiness of projects or personal characteristics. After selection, the main challenge is Moral Hazard, where members choose risky projects. The issue is about the riskiness of the project and probability of strategic default. Peer monitoring, sanctions, enforcement through social contracts based on social collateral mitigate moral hazard. Contracting in Group lending can use signalling, cross reporting and incentive of refinancing for mitigating moral hazard.

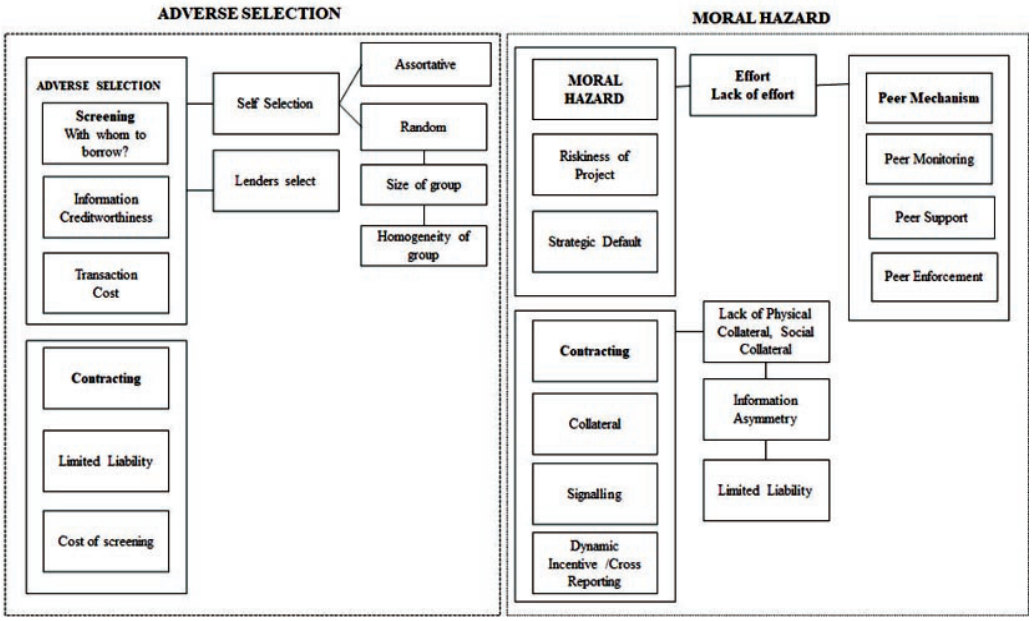

Figure 8: Process View of Peer Monitoring through the Theoretical Lens of Agency Theory
Source: Authors' own work

CONCLUSION

The study offers a theoretical framework for evaluating peer mechanisms' impact on Joint Liability Group success and borrower repayment behaviour. An analysis of Moral Hazard and Adverse Selection in a Joint Liability Group using the Peer Mechanism is presented in form of Process View. Peer selection via self-selection decreases selection costs while peer monitoring reduces adverse selection issues. In the absence of collateral, Joint Liability Groups let underprivileged people have access to credit and accomplish sustainable development goals, (*Khandekar & Cartwright, 2006*). This article will add to the current research on joint liability groups and peer monitoring by describing how peer mechanisms influence financial inclusion through peer selection, monitoring and enforcement. Peer mechanism is a social innovation that allows micro borrowers to harness their social capital to get access to financial services. This study will theoretically corroborate the current financial intermediation and microfinance literature in the domain of Joint Liability Group lending & further research can be undertaken in domain of Internal Capital Markets (ICM), (*Stein, 1997*).

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