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Profitability of microfinance institutions and borrowers: a systematic literature review

Rentabilidad de las instituciones de microfinanciación y de los prestatarios: una revisión sistemática de la literatura

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ABSTRACT

Using the SCOPUS database, this paper conducts a systematic literature review to identify the drivers of financial profitability for both microfinance institutions (MFIs) and borrowers. Among the 174 papers reviewed, 39 addressed the profitability drivers of MFIs and borrowers. For, MFIs several factors stand out: financing for women and group credit, portfolio quality; client monitoring; appropriate active and passive interest rates; and control of operating costs. For borrowers, training in small business management; the generation of innovative and well-structured business ideas, access to microcredit and adequate passive interest rate, monitoring by MFIs and investment-focused credit, are found to drive profitability without jeopardizing their scope and depth of their operations. In this way the MFIs can grow and expand their services in a financially sustainable way, and better serve excluded individuals. These results may provide a valuable framework to MFIs and borrowers to consider in their activities. Additionally, the findings are valuable also to policymakers when designing microfinance policies aimed at poverty reduction. A possible conjecture resulting from this study is that the financial sustainability of microfinance does not lie in subsidization, but in the application of market rules. By identifying two sets of factors that drive profitability, for MFIs and for borrowers, this paper provides an interface that incorporates measurement indicators.

Keywords: Profit, Financial Performance, Microfinance Institutions, Microcredit, Borrower, Systematic Review.

RESUMEN

Utilizando la base de datos SCOPUS, este documento lleva a cabo una revisión sistemática de la literatura (RSL) para identificar los factores que impulsan la rentabilidad financiera tanto de las instituciones de microfinanciación (IMFs) como de sus beneficiarios. De los 174 documentos revisados, 39 abordaban los determinantes de la rentabilidad de las IMFs y los beneficiarios. Para las IMFs, se destacan varios factores: financiación para mujeres y créditos colectivos, calidad de la cartera; supervisión de los clientes; tasas adecuadas de interés activas y pasivas; y control de costes operativos. Para los beneficiarios, la formación en gestión de pequeñas empresas; la generación de ideas de negocio innovadoras y bien estructuradas, el acceso al microcrédito y a un tipo de interés pasivo adecuado, la supervisión por parte de las IMFs y el crédito centrado en la inversión, se considera que impulsan la rentabilidad sin poner en peligro el alcance y la profundidad de sus operaciones. De este modo, las IMFs pueden crecer y ampliar sus servicios de forma financieramente sostenible, y atender mejor a las personas excluidas. Estos resultados proporcionan un marco valioso a los responsables políticos a la hora de diseñar políticas de microfinanciación dirigidas a la reducción de la pobreza. Una posible conjetura resultante de este estudio es que la sostenibilidad financiera de las microfinanzas no reside en los subsidios, sino en la aplicación de las reglas del mercado. Al identificar dos conjuntos de factores que impulsan la rentabilidad, para las IMFs y para los beneficiarios, este trabajo proporciona una interfaz que incorpora indicadores de medición.

Palabras clave: Beneficio, Rendimiento Financiero, Instituciones de Microfinanciación, Prestatario, Revisión Sistemática.

1. INTRODUCTION

Microfinance institutions (MFIs) have a dual mission – social and financial: without financial sustainability, their ability to fulfill their social mission would be compromised. Therefore, it is crucial for MFIs to ensure their long-term financial sustainability and growth. This is achieved by applying interest rates that can sustainably remunerate capital, enabling the extension of microfinancial services to a larger number of borrowers, particularly through microcredit (Mota *et al.*, 2018). By doing so, MFIs can effectively promote their social mission.

The microfinance industry has experienced significant growth, supporting over 205.3 million customers (Wondirad, 2022). However, the interest rates applied by MFIs are often higher than those charged by commercial banks. This is because the costs associated with lending and collecting numerous small loans are higher than handling a few larger loans with a greater capital volume (Bennouna & Tkiouat, 2016). Therefore, higher interest rates are necessary to cover these operating costs.

To understand the concept of profitability, or financial sustainability, in the context of MFIs, it is essential to examine the framework within the scope of microfinance. Profitability can be viewed as a mechanism through which microfinance services are provided to clients in a profitable manner, allowing MFIs to sustain and expand their operations without relying on subsidies (Fadikpe *et al.*, 2022; Hemtanon & Gan, 2020). For Bhanot and Bapat (2015), profitability means fully recovering costs or generating profits to ensure the future growth and operation of MFIs, serving more impoverished individuals without continuously depending on government subsidies or donor funds. In the context of microfinance, sustainability refers to the continuous provision of financial services to the poor through the ongoing operation of MFIs (Navajas *et al.*, 2000). Financially sustainable MFIs generate enough revenue to cover all their costs without depending on subsidies (Fadikpe *et al.*, 2022).

The profitability of MFIs' clients is determined by their ability to meet their credit obligations using the revenue generated from their activities, thereby freeing up financial resources for their households and sustaining their businesses over time (Brau *et al.*, 2009).

According to Hemtanon and Gan (2020), financial performance contributes to the financial sustainability of MFIs, as measured by three indices: return on assets (ROA), return on equity (ROE), and operational self-sufficiency (OSS). Positive ROA and ROE, along with an OSS value above 100%, indicate that MFIs are profitable and sustainable. The OSS index measures whether operating income is sufficient to cover all operating costs, including salaries, loan losses, and administrative expenses. An OSS index above 100% indicates that MFIs can operate without external funding or grants. If MFIs strive for financial sustainability and provide microcredits on favorable terms to borrowers, they can contribute to poverty alleviation by improving economic conditions at local and national levels. Ultimately, this economic growth benefits the poor and overcomes any concerns about repayment by impoverished individuals (Kumar & Sensarma, 2017).

If microfinance and microcredit has been analyzed from the point of view of the borrowers, namely their personal characteristics, their business projects and their loan characteristics (Mota *et al.*, 2018), the profitability of MFIs and their borrowers is a critically important topic that requires further study to understand and identify the main factors driving this profitability. It is crucial to enable MFIs to operate in a self-sufficient manner, without relying on public subsidies, in order to grow and expand their activities. This enables them to reach a wider population and promote financial inclusion for the poorest individuals, leading to an improvement in their living conditions. Sustainable and autonomous operations are key to achieving this extended reach and depth. The more financially profitable and self-reliant MFIs are, the greater their capacity to serve the poor population and reduce poverty. This is achieved through mechanisms that empower individuals to develop their own businesses, supported by microfinance as needed.

Although this topic has been analyzed from other perspectives, e. g. from the point of view of Non-Profit Organizations (NPOs) (Urquía-Grande *et al.*, 2022), the object of this study is on MFIs, specifically. The objective of this study is to conduct a systematic literature review (SLR) to identify the main drivers of financial profitability for MFIs and their borrowers. The research questions that will be addressed are: What are the primary drivers of profitability for MFIs and borrowers? How do these elements contribute to achieving profitability? The SLR was based on studies published in the SCOPUS database until January 2023.

The main results and novelty of this research include: Firstly, identifying the key drivers of profitability and financial sustainability for MFIs and borrowers, Secondly, presenting a comprehensive framework that combines these drivers and corresponding measurement indicators, and providing a unique perspective on the profitability process within the microfinance system.

This study contributes to the existing literature in several ways: Firstly, by presenting a holistic view of the profitability process for both upstream and downstream actors, which is distinct from previous studies such as those by Kumar and Sensarma (2017), Bradley *et al.* (2012), Mota *et al.* (2018) and Crombrugghe *et al.* (2008), as they only look at one side of the problem. Second, additionally, the study establishes an intertwined relationship between profitability drivers and indicators for both MFIs and borrowers, clarifying where the process begins and ends (Bennouna & Tkiouat, 2016; Bos & Millone, 2015). Finally, the study presents a framework encompassing the driving factors and profitability indicators for both MFIs and borrowers, building upon the works of Baklouti (2013), Caserta *et al.* (2018), and Hermes *et al.* (2011).

The practical implications of this study lie in recognizing the driving factors and profitability indicators that can support MFIs and borrowers in their daily activities, as well as aiding decision-makers in formulating effective public policies that promote true profitability for these entities. Ultimately, the aim is to enhance the well-being of the poorest individuals. In turn, as one of the implications of the results of this study, it is advisable MFIs conduct their lending activities according to market principles and avoid dependence on government subsidies or other entities if they wish to maintain economic and financial sustainability in the long run.

The structure of this paper is organized as follows: after this introduction, section 2 provides a description of the research methodology. Section 3 presents the investigation's results, while section 4 discusses these findings. Section 5 concludes with implications, limitations, and suggestions for future research.

2. RESEARCH METHODOLOGY

2.1 Systematic Literature Review

A systematic literature review (SLR) involves the identification, selection, analysis, and synthesis of existing research on a specific topic to keep knowledge on the subject up to date (Denyer & Tranfield, 2009; Mota *et al.*, 2020). SLRs are advantageous because they adhere to principles of rigor, transparency, and replicability, thereby expanding the breadth of knowledge and emphasizing the importance of empirical evidence over preconceived notions of a given topic.

SLRs aim to identify, synthesize, and evaluate all available evidence to provide a robust, empirically derived answer to a focused research question. Additionally, SLRs help identify knowledge gaps, inconsistencies, and methodological weaknesses (Gil-Lamata & Latorre-Martínez, 2022; Mota *et al.*, 2020; Petticrew & Roberts, 2006).

Regarding the choice of database, Scopus was selected because its curated and citation database, mandatory for a credible outcome using scholarly peer-reviewed published journal articles, with an extensive collection of scientific high-quality, relevant research journals (Baas *et al.*, 2020; Zhu & Liu, 2020). It provides large search options with a good degree of customization offering researchers several essential tools that enable them to analyze and compare documents by the exclusion and inclusion search criteria (Mota *et al.*, 2020).

Although Web of Science (WoS) records peer-reviewed journals in the social sciences and is one of the most comprehensive databases, Scopus has been used because of its broader coverage of relevant and quality publications (Arroyo Esteban *et al.*, 2022; Rasel & Win, 2020). Although Scopus, WoS and Google Scholar are the three main databases for academic literature and citation indexes, this study chooses the Scopus database due to its largest citation and abstract database covering a wide range of subjects. We did not conducted the formal search in the Google Scholar because it does not have a strong quality control process (Ali *et al.*, 2022).

This SLR specifically aims to select articles that discuss the drivers of profitability or financial sustainability in the field of microfinance. The proposed structure for this SLR follows the following phases (Denyer & Tranfield, 2009; Gil-Lamata & Latorre-Martínez, 2022; Mota *et al.*, 2020): planning, realization, reporting, and dissemination of results.

The planning phase includes defining the objective and research questions, as outlined in the introduction chapter, along with a review of the literature on financial profitability/sustainability. The realization phase involves creating a table of the main analyzed articles selected based on inclusion criteria, while the third phase focuses on describing and disseminating the obtained results.

The searches were conducted using the following keywords: profit, revenue, income, financial performance, earning, microfinance institution, borrower, microcredit client, microcredit customer, microfinance client, microcredit client, micro-finance client, micro-finance customer. The search covered the period up to January 2023 to gather as much information as possible on the subject.

In the planning phase of this SLR, the search words and the corresponding research equation were defined as integral elements of the research, as shown in Table 1.

Table 1
Research method implemented in the SCOPUS database

Elements of the research	**SCOPUS database** /*Search documents*
Keywords/*search words*	*Profit, revenue, income, financial performance, earning, microfinance institution, borrower, microcredit client, microcredit customer, microfinance client, micro-credit client micro-finance client, micro-finance customer*
Search Equation/*Query*/Search Key/search syntax	Search within Paper title, Abstract, Keywords (Profit* OR revenue* OR income* OR "financial performance" OR earning* AND "microfinance institution*" AND borrower* OR "microcredit* client*" OR "microcredit customer*" OR "microfinance client" OR "micro-finance client" OR "micro-finance customer*")
Inclusion/limitation criteria	Research area: *Economics, Econometrics and Finance; Business, Management and Accounting*; Document years 1951-January 2023; Languages: English; Document type: *Article and Review*, Source: *Journal.*
Quality criteria	Searches conducted and repeated on different dates, having obtained the same results. The paths taken were access to SCOPUS, keywords, inclusion criteria and saving in the SCOPUS list.
Results before inclusion criteria	174
Results after inclusion criteria	94
Selection of documents tuned to the content of mutual profitability	39

Source: Own elaboration.

The inclusion criteria presented in Table 1 aimed to identify articles that specifically address the business, management, economic, and financial facets of microfinance, while excluding social aspects unrelated to the core of this research. Additionally, conference papers, book chapters, and books were also excluded, as they do not typically undergo the rigorous double-blind review process and often serve different objectives compared to scientific articles.

After applying the inclusion criteria, a total of 94 documents were considered for the analysis phase. Table 1 provides an overview of the search terms used in the SCOPUS database. The quality criterion used in this SLR involved repeating the entire process a few days later, which yielded the same results of 174 documents.

A total of 94 documents were initially considered, and the subsequent selection process resulted in 39 articles eligible for this work. The 94 articles underwent analysis based on exclusion criteria applied to titles, abstracts, keywords, introductions, and conclusions, with a focus on identifying factors driving profitability or financial sustainability relevant to the SLR's objective. Articles not addressing microfinance or its broad concepts, as well as those lacking discussions on factors influencing profitability or financial sustainability factors and their corresponding measures/indicators, were excluded. Consequently, 55 articles were excluded, leaving 39 articles for further analysis.

The 39 final articles underwent thorough examination, considering various aspects such as authors, article types, objectives, geographic scope of the studies, factors influencing profitability or financial sustainability, and their corresponding indicators, as well as the main conclusions. This comprehensive analysis identified the state of the art regarding the main factors or drivers of financial profitability/sustainability in the context of microfinance.

2.2. *Bibliometric analysis*

Bibliometric analysis was conducted to enhance the analysis of the articles included in this (SLR) and to identify key issues related to mutual profitability within the context of microfinance. This involved employing the VOSviewer software version 1.6.19 as analytical tool for the analysis of keywords co-occurrence and bibliometric coupling as detailed by Rios-Romero *et al.* (2023).

2.2.1. Co-occurrence of all keywords

In this section, all keywords utilized in the publications were subject to analysis. The frequency with which a keyword appeared alongside another is termed co-occurrence. Based on the link strength of co-occurrence, these keywords were categorized into clusters, each distinguished by color, as outlined by Yihua *et al.* (2023).

For the co-occurrence analysis of Keywords, we considered those used by multiple authors and occurring at least twice. Out of a total of 183 Keywords, 35 met these criteria. As depicted in Figure 1, "Microfinance" and "Lending Behavior" were the most frequently occurring keywords, appearing 23 and 8 times, respectively, with a total link strength of 84 and 40 each, and they were grouped into five clusters related to one another:

- **Cluster 1 (red)** comprises 9 items: article, financial management, financial support, government, human, income, India, investment, profit.
- **Cluster 2 (green)** includes 8 items: credit provision, interest rate, lending behavior, numerical model, poverty, regression analysis, sustainability, trade-off.
- **Cluster 3 (blue)** consists of 7 keywords: banking, efficiency, financial system, mission drift, outreach, panel data, profitability.
- **Cluster 4 (gold)** encompasses 6 items: Bangladesh, financial performance, microcredit, microfinance institutions, social capital, social performance.
- **Cluster 5 (purple)** involves 5 keywords: institutional framework, low-income population, microfinance, poverty alleviation, saving.

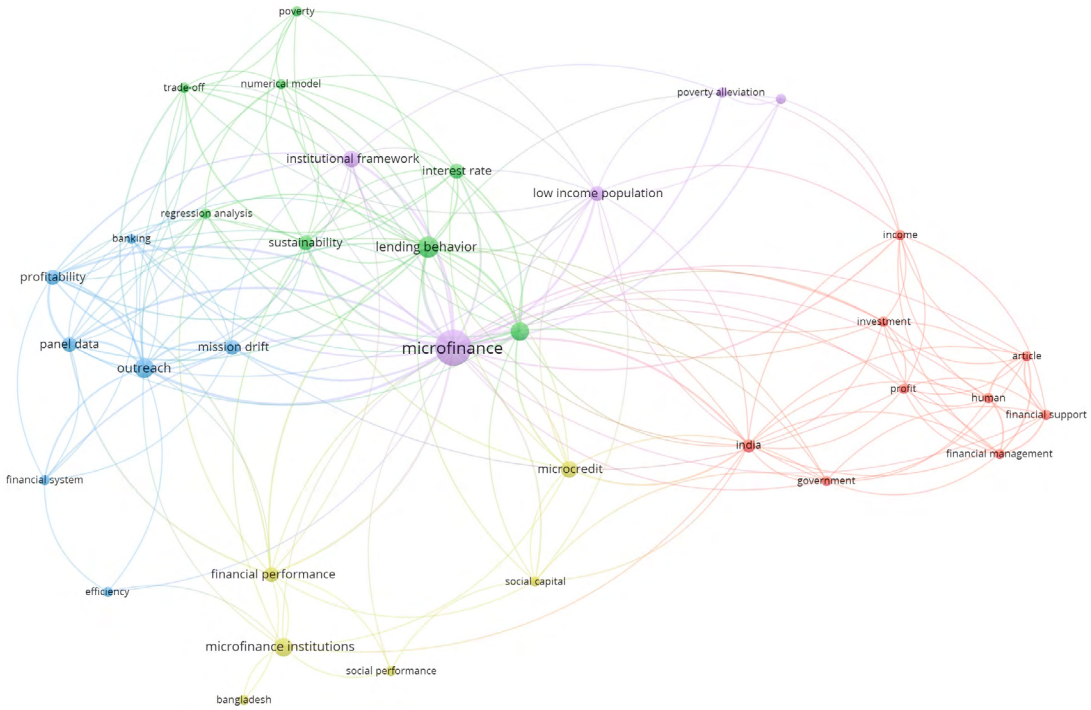

Figure 1
Co-occurrence of all keywords
Source: Own elaboration from SCOPUS using VOSviewer.

2.2.2. Bibliographic coupling with document as unit of analysis

In our Bibliographic Coupling analysis, we considered documents with a minimum of two citations to ensure a degree of similarity among the research items. Out of the 39 documents, 35 meet this criterion, and 32 are interconnected, forming five distinct clusters as illustrated in Figure 2.

The two most extensive clusters are Cluster 1, comprising 12 documents, and Cluster 2, consisting of nine documents, with a notable connection between them. Three additional clusters follow, also interconnected: Cluster 3 (blue) including seven documents, Cluster 4 (gold color) consisting of two documents, and Cluster 5 (purple) also involving two documents.

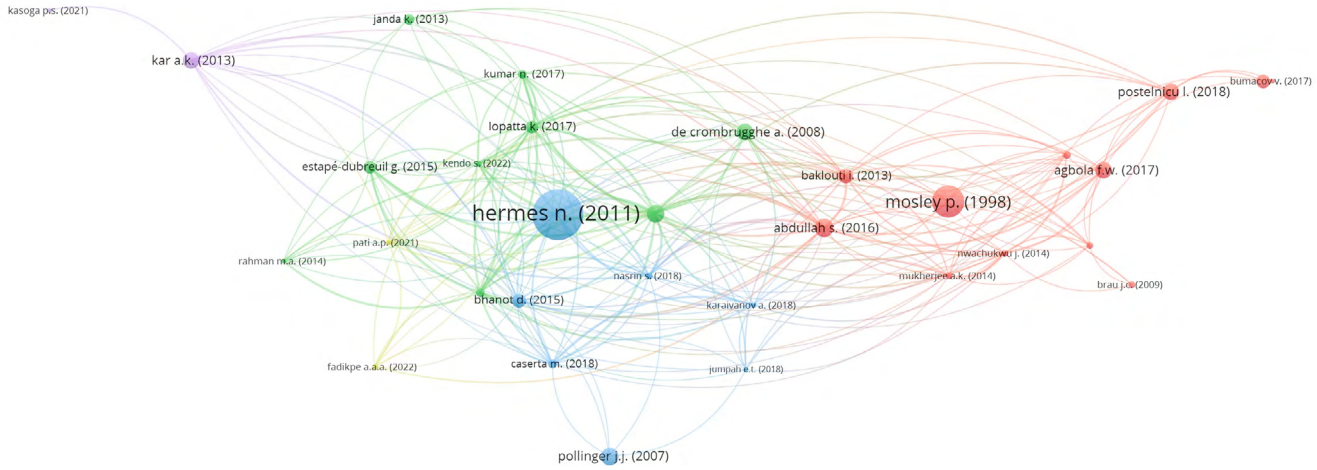

Figure 2
VOSviewer bibliographic coupling
Source: Own elaboration from SCOPUS using VOSviewer.

After analyzing the results of figures 1 and 2, we can see that the bibliographic coupling is in line with the co-occurrence of Keywords even in number of clusters, five for each, maintaining the coherence of the minimum threshold of two.

3. RESULTS

Out of the 94 articles analyzed, only 39 met the inclusion criteria that had been established previously. These articles were focused on the topics of profitability or financial sustainability of MFIs and their borrowers, as well as the factors and variables used to measure financial performance. Moreover, these chosen articles also demonstrated a connection to both the social and financial dimensions of MFIs' performances.

Of the 39 selected documents, approximately 77% of them employed a quantitative approach, utilizing various econometric models. The remaining articles employed a qualitative approach, relying on case studies and research based on secondary data.

3.1. Evolution and sources of publication

2018 is the year with the highest number of articles published and analyzed in this SLR. There is also a high concentration of articles in the years 2020, 2018, 2017, and 2013. As such, 77% of the articles were published between 2012 and 2022. This indicates that there is a significant interest among scholars in studying the profitability of MFIs and their borrowers in recent years (Table 2).

Table 2
Publications by year

Years	Publications	Absolute percentage (%)	Cumulative percentage (%)
2021-2022	5	12.8	12.8
2019-2020	4	10.3	23.1
2017-2018	9	23.1	46.2
2015-2016	5	12.8	59.0
2013-2014	7	17.9	76.9
2011-2012	4	10.3	87.2
2009-2010	2	5.1	92.3
2007-2008	2	5.1	97.4
1998	1	2.6	100.0
Total	39	100.0	100.0

Source: Own elaboration from SCOPUS.

Concerning the sources of publication, the chosen articles were published in a total of 31 different outlets, demonstrating the wide range of publications that address the profitability or financial sustainability of MFIs and their borrowers. Within these journals, several publications emerged as notable contributors, with a very high number of articles. These prominent journals include *Applied Economics*, *World Development*, *Annals of Public and Cooperative Economics*, *International Journal of Social Economics*, *Plos One*, and *Quality and Quantity*, which collectively account for 36% of all articles.

3.2. Publications by territories or countries

The analyzed documents exhibit a diverse geographical distribution, spanning all continents and emphasizing the global breath of the subject under investigation. The countries with the highest number of published documents were the United Kingdom and the United States, each contributing 5 out of the 39 documents, accounting for 13% of the total, respectively. India closely followed with 4 documents, representing 10% of the total. The Netherlands had 3 documents, while Australia, Belgium, France, Italy, Malaysia, and Tanzania each had 2 documents, representing 5% each.

3.3. Relationship among keywords, title content and source

The analysis of the relationship between keywords (DE), titles (TI_TM), and sources (SO) is presented in Figure 3, through a three-field plot using the Sankey diagram (Arroyo Esteban *et al.*, 2022; Asif *et al.*, 2023; Parvanda & Kala, 2023; Yihua *et al.*, 2023). According to Yihua *et al.* (2023), Sankey diagrams are a type of flow diagram in which the arrows' width is proportional to the flow rate.

The interplay between three indicators is shown in Figure 3, utilizing the Biblioshiny package within RStudio. The largest rectangle nodes for each element under analysis depict the relationship between the three elements. The analysis starts with the keywords, extends to the title content and the source.

Figure 3 reveals "microfinance" as the most frequently used title across nearly all sources, appearing in 26 different outlets, like *Applied Economics*, *International Journal of Social Economics*, *World Development*, and *PLoS One*. "Institutions," "performance," and "outreach" follow closely as prominent titles. As keywords, "microfinance," "microfinance institutions," "outreach," and "financial performance" stand out. Notably, "microfinance" as a title connects heavily with 25 other keywords, including "microfinance institutions," "social capital," "asset size," "efficiency," "social performance," and "sustainability." Notably, "institutions" appears in 13 different publications and 13 keywords, while "performance" appears in 10 publications and is connected to 12 keywords.

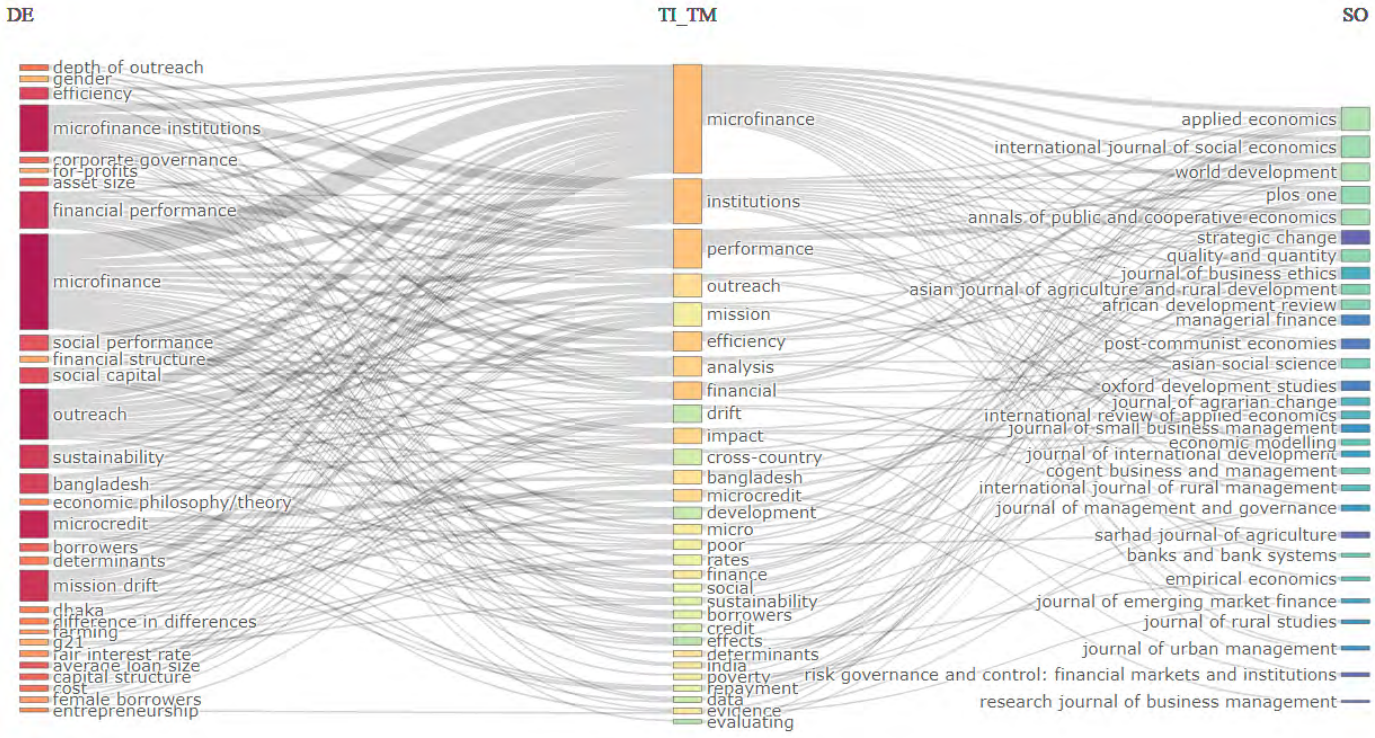

Figure 3
Three-fields plot representing the keywords, titles and sources
Source: Authors own creation, based on data retrieved from Scopus, using Bibliometrix R package.

3.4. Driving the profitability of MFIs, borrowers and framework

To identify the drivers of profitability and their corresponding indicators, an inductive thematic analysis approach, as described by Braun and Clarke (2006), was employed. This method ensured that the identified themes directly emerge from the data itself, avoiding pre-conceived coding structures or the researcher's own biases. Following an interpretative synthesis logic outlined by Mota *et al.* (2020), the 39 articles were grouped thematically and by author, focusing on factors influencing profitability of MFIs and borrowers. The findings are presented in Tables 3, 4 and 5, categorized by geographical coverage. Table 3, presents the articles that cover countries analyzing multiple geographical locations. Table 4 presents studies covering the Asian continent. Finally, Table 5 presents studies from the American and African continents.

Table 3
Characterization of geographical coverage of Worldwide sample

References and citations	Geographical coverage	Sample	Method/Methodology
Hermes *et al.* (2011); 364	Africa, Asia Europe, Latin America, and the Caribbean	Data from MIX; 435 MFIs, more than 1,300 observations	It employed Stochastic Frontier Analysis (SFA) to examine whether there is a trade-off between outreach to the poor and efficiency of MFIs.
Mosley and Hulme (1998); 157	Latin America, Africa, Asia	13 MFIs; 100 borrowers; control group of 50 non-borrowers	It measured financial performance using two alternative indicators: the proportion of loans more than six months in arrears, and the Subsidy Dependence Index. It utilized descriptive statistics.
Abdullah and Quayes (2016); 48	Asia, Africa	892 MFIs over a period of 10 years	It used three different measures of financial performance –, Profit Margin Rate (PMR), ROA, and OSS – as proxies to measure the sustainability of an MFI using descriptive statistics.
Bos and Millone (2015); 44	Worldwide dataset	1,146 MFIs, 3,880 observations	It introduced a simple approach accommodating a wide range of business models and estimated the operational efficiency of MFIs using descriptive statistics.
Postelnicu and Hermes (2018); 39	Worldwide dataset	6934 observations covering 934 MFIs based in 100 countries	It employed an econometric model to investigate the determinants of the MFI financial performance.
Kar (2013); 37	71 countries, worldwide	409 MFIs in 71 countries	It utilized benchmark regressions to understand if there is a trade-off between MFIs' increased motivation for profitability and depth of outreach.
Lopatta *et al.* (2017); 22	Africa, Asia, Eastern Europe, Latin America and the Caribbean	Period 1995–2012; total of 7,253 MFI-year observations for 952 MFIs	It proposed a model of MFIs' contribution to sustainable development based on their outreach and profitability focus, measured by percentages of female borrowers and profit margins.
Estapé-Dubreuil and Torreguitart-Mirada (2015); 21	Worldwide dataset	MIX; 1,261, nonbanking financial intermediaries and banks and rural banks	It examined diverse governance mechanisms implemented by microfinance institutions using descriptive statistics.
Caserta *et al.* (2018); 10	Bangladesh, Indonesia and Mexico	Unspecified	It tested for-profit monopolistic MFIs or a non-profit benevolent MFIs using a comparative model.
Harper (2012); 10	Africa, Eastern Europe, and Central Asia	Data from MIX; yields for the 1,081	It calculated differences in return rates using descriptive statistics.
Gupta and Mirchandani (2020); 8	Unspecified	456 MFIs from 87 countries from 2005–2015	It relied on descriptive statistics for analysis.
Nwachukwu (2014); 8	Asia, Europe, Latin America, the Middle East, and Sub-Saharan Africa	Data from MIX; 426 institutions	It combined descriptive statistics and a quadratic regression model for analysis.
Kendo and Tchakounte (2022); 3	Unspecified	953 MFIs	It applied a panel quantile approach with non-additive fixed effects.
Karaivanov (2018); 3	Worldwide dataset	346 MFIs globally observed in 2002–2004	It used an econometric model to analyze MFI's effort choice.
Bumacov *et al.* (2017); 3	Africa, Asia, Pacific, Eastern Europe, Latin America and the Caribbean	Unspecified	It employed linear regression models and ordinary least squares models.
Wondirad (2022); 2	Europe, Asia, Pacific, Africa and Latin America and The Caribbean	Unspecified	It used a literature review and a qualitative approach method.
Bennouna and Tkiouat (2016); 1	Unspecified	Unspecified	It focused on the interest rate applied by Moroccan microfinance institutions. It presented a stochastic model of the interest rate in microcredit built in random loan repayment periods.

Source: Own elaboration.

Table 4
Characterization of geographical coverage of Asian countries

References and citations	Geographical coverage	Sample	Method/Methodology
Agbola *et al.* (2017); 39	Northeastern Mindanao, Philippines	211 microfinance client and non-client households	It conducted a quasi-experimental design to measure the impact of microfinance.
Crombrugghe *et al.* (2008); 38	India	42 MFIs for the year 2003	It studied the role of each determinant of operational performance, conditional upon other determinants and upon indicators of MFI specificity, using regression analysis.
Field *et al.* (2012); 29	India	213 clients	It examined if small adjustments in loan structure that reduce repayment rigidity enable clients to experience the economic benefits of microfinance with minimized financial stress, using a randomized controlled trial experimental design.
Bhanot and Bapat (2015); 23	India's MFIs	Data from MIX database; 81 MFIs	It constructed an Index of sustainability by aggregating multiple indicators (operational self-sufficiency ratio, the average loan balance per borrower, and the number of active borrowers) to arrive at a composite sustainability score of MFIs.
Janda and Turbat (2013); 16	Asia	90 MFIs from 1998-2011	It analyzed the determinants of the earnings performance of microfinance institutions in several Asian countries using descriptive statistics.
Kumar and Sensarma (2017); 13	India	75 MFIs during 2004-2011	It employed the stochastic output distance function approach to ascertain whether there is a trade-off between efficiency and outreach.
Mukherjee (2014); 8	Indian	Secondary data Unspecified	It examined the role of MFIs in bringing capital to the ultra-poor using a qualitative approach method based on secondary data.
Nasrin *et al.* (2018); 6	Bangladesh	Data from 2007 to 2013, and 690 MFIs	It measured portfolio yield and profit margin using two dependent variables and deploying fixed effect and random effect time series analyses.
Hossain and Wadood (2020); 4	Bangladesh	200 slum households	It used econometric techniques of difference in differences (DID) and the probit model.
Pati (2021); 2	The private Indian MFIs	34 MFIs	It employed a panel regression model using STATA software.
Rahman and Mazlan (2014); 2	Bangladesh	5 MFIs	It measured the determinants of operational self-sufficiency using the multiple regression technique.
Anjum *et al.* (2020); 0	District Dera Ismail Khan, Pakistan	300 borrowers	It utilized descriptive, inferential, and chi-square statistics, and simple linear regression models to analyze the following parameters: family income, family health status, children's educational status, living standard, food/diet pattern, crop production, and transportation.
Hemtanon and Gan (2020); 0	Thailand	90 Village Funds and 70 Save Group Productivity	It used descriptive statistics to compare the performance of Village Funds (VFs) and Saving Groups for Production (SGPs).

Source: Own elaboration.

The methods and procedures used to gather the necessary information were outlined within the project or research design. This framework establishes the data types to be collected, the sources of origin, and the procedures to be applied (Arunkumar *et al.*, 2016).

The identification and classification of the profitability drivers were conducted through an inductive analysis of the articles based on the predefined criteria. Information regarding the profitability drivers was extracted from each analyzed article and recorded in a table, along with other relevant information. The factors were then categorized into two groups: those pertaining to the MFIs and those relating to the borrowers. Each group contains a range of factors that drive profitability (Baklouti, 2013; Caserta *et al.*, 2018; Harper, 2012; Hossain & Wadood, 2020; Jumpah *et al.*, 2018; Karaivanov, 2018).

Two different groups emerged addressing profitability drivers, with each group consisting of several factors. These factors include financing for women and group credit, portfolio quality, appropriate active and passive interest rates, control of operating costs, low cost per credit, increase in active customers, avoidance of client over-indebtedness, customer monitoring, and technology (Bhanot & Bapat, 2015; Estapé-Dubreuil & Torreguitart-Mirada, 2015; Fadikpe *et al.*, 2022; Gupta & Mirchandani, 2020; Hemtanon & Gan, 2020; Jumpah *et al.*, 2018; Karaivanov, 2018; Kumar & Sensarma, 2017; Nasrin *et al.*, 2018; Pati, 2021;

Wondirad, 2022). The most frequently referenced factors driving the profitability of MFIs are the control of operating costs and appropriate active and passive interest rates, as shown in Figure 4.

The factors driving the profitability of borrowers, also shown in Figure 4, are: training in small business management, innovative and well-structured business idea, access to microcredit and adequate passive interest rates, monitoring of MFIs, social capital, credit focused on investment rather than consumption (Anjum *et al.*, 2020; Bradley *et al.*, 2012; Caserta *et al.*, 2018; Harper, 2012; Hossain & Wadood, 2020; Jumpah *et al.*, 2018; Karaivanov, 2018; Mosley & Hulme, 1998; Pollinger *et al.*, 2007; Postelnicu & Hermes, 2018). The most mentioned factors are: training in small business management, access to microcredit and adequate interest rate and, credit focused on investment rather than consumption.

Table 5
Characterization of geographical coverage: other geographies

References and citations	Geographical coverage	Sample	Method/Methodology
Pollinger *et al.* (2007); 45	MFIs in USA	Not specified	Through an econometric model, it calculates discounted cash-flows based on loan portfolio size, loans in portfolio, hours per month, direct staff expenses, and indirect costs.
Baklouti (2013); 29	Tunisian	5,022 applications deposited	It uses a binary logistic regression model to examine the factors that affect default among borrowers.
Kessy and Temu (2010); 20	MFIs in Tanzania	225 micro and small enterprises - micro credit recipients	It uses independent t-tests to examine business performance between two specific groups of microfinance clients: those with entrepreneurship training and those without.
Becchetti and Conzo (2013); 10	Buenos Aires, Argentina	359 micro-entrepreneurs	It uses Ordinary Least Squares (OLS) and ordered probit estimates.
Brau *et al.* (2009); 9	Guatemalan MFIs	393 clients from Guatemalan MFIs	It uses descriptive statistics to investigate microlending outcomes among Latin American non-governmental organizations (NGOs), specifically MFIs.
Bradley *et al.* (2012); 8	Dominican Republic	Unspecified	It uses a Probit model to examine the role of business innovation intervening in the relationship between microcredit loans and income level.
Kasoga and Tegambwage (2021); 2	Tanzania	535 micro-borrowers	It uses descriptive, thematic, and logistic regression techniques for data analysis and was conducted among micro-borrowers from two major microfinance institutions in Tanzania.
Jumpah *et al.* (2018); 1	Ghana	224 microcredit borrowers	It uses logistics regression model to analyze factors determining repayment rates among smallholder farmer borrowers.
Fadikpe *et al.* (2022); 0	Sub-Saharan Africa	735 observations from 105 MFIs	It uses the Generalized Method of Moment and Seeming Unrelated Regression for the analyses. ROA, ROE, and OSS measure financial performance.

Source: Own elaboration.

4. DISCUSSION OF RESULTS AND IMPLICATIONS

The objective of this SLR is to identify the main drivers of financial profitability for MFIs and their borrowers, based on relevant articles on the subject. For this, a comprehensive analysis was conducted within a framework that considers the factors influencing the profitability of FMIs and borrowers, categorized according to their nature. Figure 4 exhibits the whole process of mutual profitability, in particular its driving factors and the corresponding measurement indicators.

There are several factors driving the profitability of MFIs, namely: financing for women and group credit; the quality of the client portfolio; effective control of operating costs; low cost per credit; increasing the number of active customers, preventing client over-indebtedness and employing appropriate clients' monitoring systems and technology.

Microfinance for women ensures MFIs the desired repayment rate due to the greater methodical and disciplined approach of women in managing micro-businesses compared to some men. When women receive funding, they are more likely to allocate it to the purpose for which it was contracted ensuring that they generate income to repay the credit, unlike many men. Therefore, as long as women invest microcredit in businesses, they can ensure the income that allows them to repay the credit, which happens if MFIs combine microfinance with other factors such as their training, constant monitoring and advice.

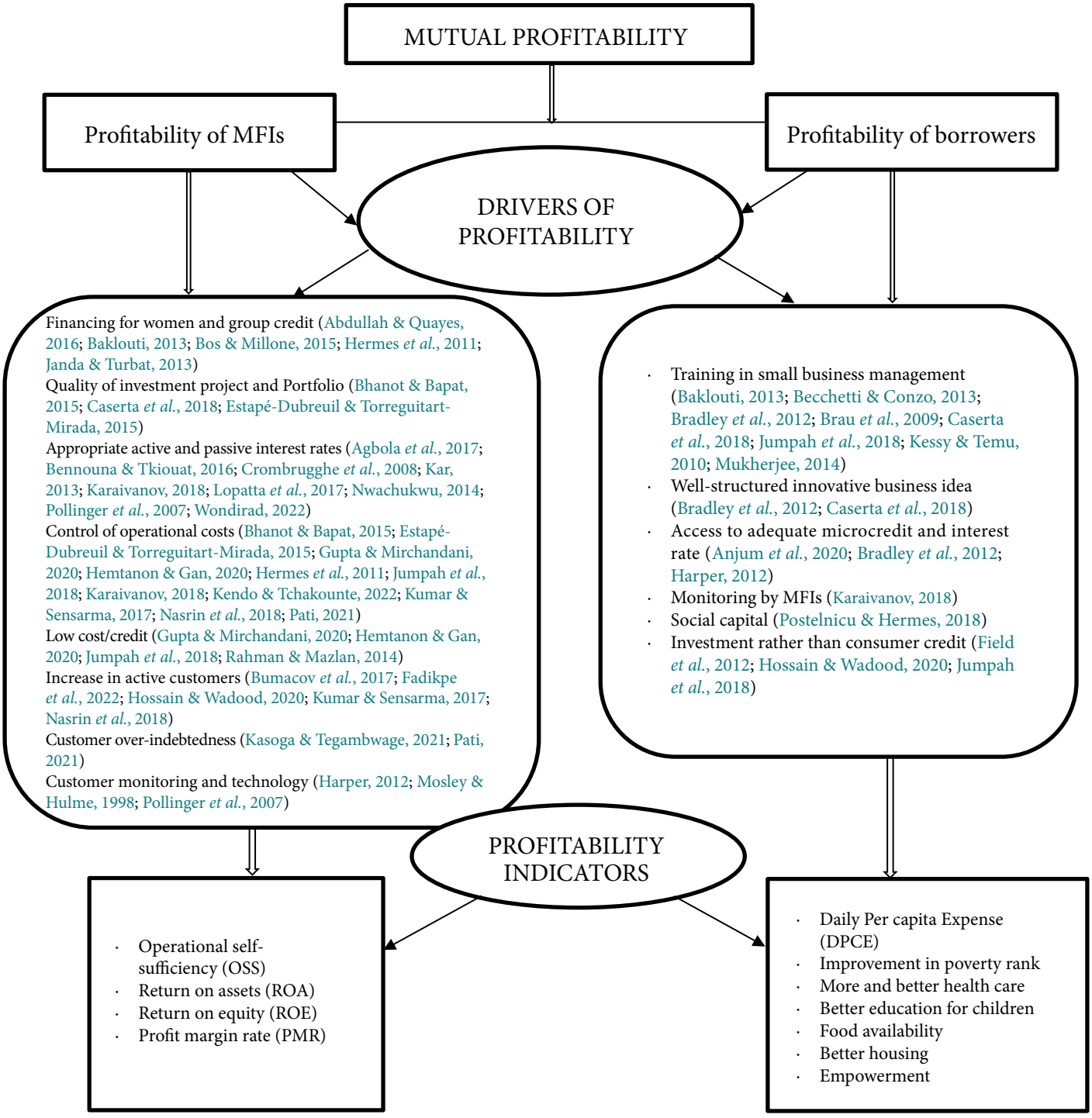

Figure 4
Framework on financial profitability system from the perspective of MFIs and borrowers
Source: Own elaboration.

Group-based joint liability microcredit serves as a tool to extend the outreach of microfinance products, particularly for niche populations that lack sufficient collateral to secure individual microcredits. By facilitating joint loan liability groups, MFIs fulfill what is at the genesis of microfinance, which is the sustained reduction of poverty and the improvement of the living conditions of the poor. This approach enhances the profitability of MFIs without compromising their social impact, which is in line with Fadikpe *et al.* (2022). Hence, it is essential for MFIs to guide these very vulnerable populations in forming joint liability groups to mitigate financial exclusion resulting from the inability to provide individual guarantees.

Through the financial inclusion of very poor, especially women, who do not have any form of collateral, MFIs can expand the scope and depth of their services by providing credits through joint liability groups. MFIs thus increase the extent and depth of the reach of their services, creating a good portfolio with the increase of active customers. This implies the improvement in financial profitability of MFIs, not least because the cost of monitoring also decreases, as a result of maintaining a high-quality client portfolio (women and solidarity groups loans), consistent with, e. g., Fadikpe *et al.* (2022), Kumar and Sensarma (2017), Abdullah and Quayes (2016).

Over-indebtedness among customers is a detrimental factor that negatively impacts the efficiency of MFIs. When borrowers are burdened with debts that exceed their actual repayment capacity, they face significant difficulties in meeting their installment payments. This can result in higher default rates, leading to substantial losses in MFI profitability. To address this issue, MFIs need to implement robust due diligence policies that assess and estimate the disposable income of each borrower, ensuring their ability to repay. Furthermore, it is important for MFIs to have access to the credit risk database of the country in which they operate. This helps prevent borrowers from obtaining multiple microcredits from different institutions, which can erode their ability to repay.

Customer monitoring is also a critical factor for the operational success of any MFIs, as many borrowers after obtaining microcredits, if not constantly monitored by MFIs, may fail to repay their installments. However, there is a high cost associated with good constant monitoring, which increases the operational expenses of these MFIs with consequences for microcredit borrowers, namely the increasing costs. Hence the justification that the active interest rates of autonomous subsidies of MFIs are significantly higher than those of commercial banks, as banks do not engage in constant on-the-ground monitoring of their customers.

Introducing technologies and fintech solutions into the system can be beneficial to reduce monitoring costs. This would allow financially literate and qualified customers to digitally contract microcredits and make installments payments, avoiding the need for MFI agents or borrowers to travel for collection and repayment. Such technological advancements would decrease operating costs for both parties involved.

MFIs profitability drivers allow them to perform well financially. Hence, the higher their financial profitability, the greater their ability to serve the poorest more with better services, with the extension of credits to the various social strata of the population. Moreover, poor financial performance or dependence on subsidies hampers the growth and efficiency of MFIs, limiting their reach, exacerbating financial inclusion issue. These findings are in line with, e.g., Karaivanov (2018), Bhanot and Bapat (2015) and Kumar and Sensarma (2017), contrasting those of Kar (2013), Hermes *et al.* (2011), Brett (2006) and Woller *et al.* (1999).

To ensure the financial profitability of microfinance program borrowers, several factors drive their profitability as borrowers (Bradley *et al.*, 2012; Caserta *et al.*, 2018; Harper, 2012): training in small business management; having an innovative and well-structured business idea; access to adequate microcredit and interest rates; monitoring by MFIs, social capital among borrowers and focus on microinvestment credit.

The training provides borrowers with the necessary skills to continue with their income-generating activities to obtain the desired results, while an innovative business idea that meets market needs is important for their development (Bradley *et al.*, 2012; Caserta *et al.*, 2018). Access to microcredit tailored to the needs of their microbusiness with interest rates that facilitates the investment's financial viability is crucial. These factors also interact with MFI monitoring and social capital. (Anjum *et al.*, 2020; Harper, 2012; Karaivanov, 2018; Postelnicu & Hermes, 2018). It is important for borrowers to direct their contracted microcredits toward microinvestments rather than consumer actions, as highlighted by Hossain and Wadood (2020) and Jumpah *et al.* (2018). Contracting microcredits for consumption purposes could result in the complete loss of financing and repayment difficulties due to a lack of income sources.

When analyzing the factors that contribute to mutual profitability, it is important to consider indicators that assess the level of profitability for both MFIs and borrowers. These indicators are presented in Figure 4. The findings of this research suggest the existence of several indicators for measuring the profitability of MFIs, including Operating Self-Sufficiency (OSS), Return on Assets (ROA), Profit Margin Rate (PMR) and Return on Equity (ROE) (Abdullah & Quayes, 2016; Bhanot & Bapat, 2015; Fadikpe *et al.*, 2022; Gupta & Mirchandani, 2020; Hemtanon & Gan, 2020; Kendo & Tchakounte, 2022).

OSS is commonly used as an indicator to measure financial performance. While ROE and ROA are widely employed as profitability measures in the literature, OSS is predominantly used to assess financial sustainability in the microfinance sector (Fadikpe *et al.*, 2022).

ROA is calculated by dividing the net operating income of MFIs by their assets. It serves as a profitability measure that evaluates the capability of MFIs to generate income from their assets. ROA enables comparisons of MFI performance and provides an indication of the expected return for investors on a particular investment.

The ROE is calculated by dividing the net income of a microcredit institution by its equity. It is particularly relevant for for-profit MFIs as it demonstrates the efficiency of MFIs in generating profits from each unit of capital invested by partners or shareholders. The PMR, also known as the return on sales ratio or gross profit ratio, is an index that measures the profit margin.

OSS refers to an MFI's ability to cover all its costs through its financial revenues. This measure provides an accurate assessment of an MFI's financial viability as it indicates whether an MFI can cover its expenses through its operational balance. Operational self-sufficiency, ROE, and ROA have been widely used to measure the financial sustainability of MFIs (Fadikpe *et al.*, 2022).

From these indicators, we will focus on the calculation of OSS, as it represents the most specific metric for gauging the profitability of MFIs. In computing this ratio, MFIs are required to include, in the numerator, all financial income, encompassing active interest, commissions, and other fees accrued through the execution of their activities. Conversely, within the denominator encompassing total costs, they must account for operating

costs, financial expenses (interest liabilities, commissions, and other fees incurred), as well as impairments for the loss of credits granted.

A 100% outcome for the OSS ratio signifies that an MFI has reached the break-even point. Consequently, a ratio exceeding 100% indicates that the MFI is generating additional income surpassing its overall costs, signaling positive financial performance. Conversely, a ratio below 100% implies that MFIs are incurring losses, necessitating immediate corrective measures to restore equilibrium in their financial outcomes. Such measures may involve a thorough reassessment of total costs, including the elimination or reduction of non-essential expenditures affecting operational efficiency, heightened efforts to prevent impairments or bad loans, and an augmentation of financial revenue without compromising relationships with borrowers. These actions aim to raise the OSS ratio to ensure sustained financial viability.

On the other hand, the following indicators measure the profitability of the borrowers (Anjum *et al.*, 2020; Brau *et al.*, 2009): daily per capita expenditure (DPCE), improvement in poverty rank, more and better health care, better education for children, food availability, better housing and empowerment. DPCE reflects the daily expenses of the borrowers and helps gauge their income level. Increased income enables borrowers to afford better healthcare, education for their children, improved food, housing, and results in an improvement in poverty rank and empowerment.

For the indicators of profitability measurement of Borrowers, DPCE, is used to measure their profitability and well-being which is a proxy through their daily expenses. Accounting for daily expenses will easily reach your income. The important thing for this study is to know the income from the activities financed by microcredits and not other sources of income that can be earned on the one hand. But, on the other hand, before excluding other sources of income from the calculation, it will be necessary to analyze the direct and indirect influences of income from activities financed by microcredit in obtaining other sources of income earned by Borrowers.

In the context of profitability indicators for Borrowers, the DPCE serves as a metric to gauge their economic viability and well-being, acting as a proxy through their daily expenditures. Accounting for daily expenditures provides a direct link to their income. The crux of this study lies in discerning the income specifically derived from activities financed by microcredits, distinct from other potential income sources.

It is imperative, however, to conduct an analysis of the direct and indirect influences of income from microcredit-financed activities on the acquisition of other income sources by Borrowers before excluding them from the calculation. While other sources of income may be incorporated into the calculation if they contribute to the attainment of financial objectives, the exclusion of unrelated sources of income is crucial for precision.

The relationship between expenditure levels and income is notable; higher levels of expenditure imply a corresponding increase in income. Alternatively, the OSS metric can be applied to evaluate borrowers' profitability. Yet, its calculation is deliberately confined to revenues stemming from microcredit-benefiting activities and the associated operational expenses. This exclusion extends to other family income and expenses unrelated to microcredit-funded activities, aiming to forestall potential biases in the outcome.

The key findings of this SLR are as follows: (i) identification and categorization of factors driving the profitability of both MFIs and borrowers, referred to as mutual profitability. These driving factors, when effectively considered by the involved entities, support their profitability without compromising the scope and depth of social sustainability, in line with Fadikpe *et al.* (2022); (ii) the future of microfinance lies not in subsidies but in applying market principles. Only through this approach can MFIs grow, expand their services in a financially sustainable manner, serve a larger population of financially excluded individuals, and provide ongoing support, consistent with Karaivanov (2018); (iii) as a contribution to the field of research, this study provides, for the first time, an integrated framework that presents the factors contributing to the profitability of MFIs and borrowers, along with their respective indicators, thus offering a comprehensive analysis of the mutual profitability process.

This study differs from previous ones in that the profitability factors were analyzed in an isolated and non-integrated way. Prior studies have often focused on analyzing specific profitability factors of MFIs without considering those related to the profitability of the borrowers, or vice-versa. Therefore, it is not possible to find in any of the previous studies providing a comprehensive analysis of the two groups of factors interconnected as well as their respective measurement indicators.

5. CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND FUTURE INVESTIGATIONS

The profitability of microfinance institutions (MFIs) and their borrowers is a crucial area of study, given the widespread financial exclusion that traps many in poverty. For MFIs to acheive their goal of poverty reduction, they need financial sustainability, to grow and expand their services to the financially excluded who lack creditworthiness (income and collateral).

MFIs must ensure this financial sustainability through market principles, rather than relying on government subsidies or other institutions as a permanent source of financing. While subsidies might initially seem to make microfinance more affordable for the borrowers, they can lead to long-term inefficiency, distortions, and a lack of dynamism. Competitive practices should be applied in both borrowing and lending. Although subsidies may offer a short-term financial autonomy and lower microcredit costs, they can hinder the adoption of competitive practices and effective monitoring, as the funding source reduces the pressure for debt recovery. Therefore, MFIs operating independently of subsidies tend to be more efficient, effective and have a more focused organizational structure oriented to customer needs and mutual profitability. As such, these institutions are better positioned for sustained growth, expansion, and service to the financially excluded.

Borrower profitability is inseparable from MFI profitability. Clients can only repay the microcredit if their business generates sufficient and regular income to cover the installments and

sustain operations. unless they have a collateral that can be utilized to for debt repayment. This practice of enforcing collateral is not advisable in the microfinance process because it could hinder the client's ability from pursuing income-generating activities and feeling empowered. In any case, the profitability of clients is very dependent on their dedication to the business they carry out and, the more exclusive the dedication, the higher their profitability potential. Thus, two groups of driving factors that contribute to profitability have been identified: MFIs ensuring their operational continuity in a sustained way over time and the borrowers who contribute to their profitability. Moreover, relevant indicators for measuring profitability have also been identified.

Supported by the literature reviewed in this study, it is possible to mention that the driving factors of mutual profitability above identified play a crucial role in this process because their correct and integrated application results in financial sustainability for all parties involved. Likewise, the indicators associated with these driving factors are essential elements for measuring the outcomes of their implementation. The identified driving factors have been aggregated into two groups: those pertaining to MFIs and those related to borrowers.

The driving factors of MFIs include for women-focused financing and group credit, ensuring a quality-based portfolio that ensures that MFIs fulfill their poverty reduction role, as well as financial and social sustainability. Appropriate active and passive interest rates enable MFIs to provide microcredits to their customers at recoverable prices and to finance themselves without compromising their profitability. Effective control of operating costs and low costs per credit enhance the degree of efficiency of MFIs while an increase in active customers allows wider scope and improved profitability. Avoiding clients' over-indebtedness is important because highly indebted clients face immense difficulties in meeting their repayment obligations with negative consequences for the profitability of MFIs. Client monitoring and technology are essential elements in the implementation of an efficient microfinance process. Regular monitoring of clients, for example involving weekly or biweekly visits, is important for successful debt recovery with positive impacts for the financial sustainability of MFIs. The technology is also interesting because it supports MFIs in decreasing costs associated with the logistics of the monitoring process and can expand the reach and depth of microfinance services.

The main driving factors of borrowers' profitability are: training in small business management, the generation of innovative and well-structured business ideas, access to appropriate microcredit with favorable interest rate, monitoring by MFIs, social capital and credit focused on investment rather than consumption.

With these factors that drive mutual profitability, we have been able to establish guiding principles so that MFIs and their clients have a valuable operational instrument in their day-to-day activities. Policymakers can also utilize these findings when designing microfinance poverty reduction policies. In any case, despite an exhaustive investigation carried out and the results obtained, further studies are necessary to assess the true impacts of the integrated application of these factors in different regions across the world.

Despite the results obtained, this study has limitations. Notably, it does not undertake the segregation of different sources of revenue that MFIs and borrowers can obtain. Both MFIs and borrowers can obtain revenue from different sources in addition to operating microfinance activities. If the effects of those alternative sources of revenue are not analyzed separately, they may bias the understanding of profitability based on empirical approaches. Another limitation of this study is that, other aspects of poverty, such as the general well-being of borrowers, women's empowerment, physical and mental health of borrowers are not considered. The focus of this study was on financial aspects because they are engine that will drive MFIs to be sustainable and the progressions of the borrowers to other dimensions of well-being. Consequently, other aspects are left for further studies. Future research involving the measurement of the profitability of MFIs and borrowers in the field of microfinance should work on the segregation of their sources of revenue, limiting them, on one hand, only to those arising only from microfinance activities, in order to have a more comprehensive view of its impact, and, on the other hand, to assess the impact that complementary sources of revenue from MFIs and borrowers have on their own profitability. Furthermore, further studies might delve into evaluating the true impact of income from microcredit-financed activities on the personal, familial or business aspects of borrowers, contextualized within the multidimensional nature of poverty. Future studies can also delve into the different perspectives followed by NPOs and MFIs as they target not only a diverse group of borrowers but also have differing mission statements and are supported by different stakeholders.

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