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SUSTAINABILITY OF MICROFINANCE INSTITUTIONS IN THE PHILIPPINES

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ABSTRACT

Background and Purpose: Microfinance is the most effective and widely acknowledged method of poverty alleviation across the globe, but these days, every so and often, the MFIs are digressing from their primary mission under the pretext of financial and operational sustainability of the organizations. This research aims to confirm the adherence to double bottom-line sustainability of Microfinance institutions (MFIs) and further identify the determinants of MFIs sustainability in the Philippines.

Methodology: The sample for the study was obtained from the MIX- market for the period 1999-2018. Principal component analysis and the KU model are used to measure the sustainability scores of MFIs. Later, a panel regression model is applied to identify the determinants of sustainability.

Findings: MFIs do not adhere to the double bottom line sustainability as most MFIs were unsustainable at different benchmarks set for the study. Sustainability can be achieved if MFIs start utilizing their assets and focus on improving their efficiency and portfolio quality. MFIs size also significantly influences their sustainability.

Contributions: This study highlights the need for policymakers and regulators to develop a regulatory framework to reduce operating costs and improve the portfolio quality of MFIs in the Philippines. They should also provide guidelines that would help MFIs improve their asset utilization ratio as it would help them adhere to double bottom line sustainability.

Keywords: Sustainability, microfinance, double bottom line, outreach, financial sustainability.

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1.0 INTRODUCTION

Microfinance is a type of financial service offered to low-income individuals or communities that would otherwise be unable to get them (Beisland et al., 2019; Segun, 2017). Microfinance Institutions are an essential instrument for job creation, financial development, and economic progress, because they provide economic possibilities to the unbanked poor who have been overlooked by traditional banking institutions (Bhuiyan et al., 2020; Félix & Belo, 2019). Microfinance operations include various financial activities for underprivileged and low-income households (ADB, 2000). The growing importance of microfinance services has aided their expansion, first to other developing countries and then to affluent countries (Bruhn-Leon et al., 2012; Bruton et al., 2011).

MFIs' sustainability was built based on two main pillars known as the double bottom line: social and financial sustainability (Saad et al., 2018). To begin, social sustainability (SS) is expressed in terms of outreach (depth and breadth), whereas financial sustainability (FS) is examined in terms of financial and operational sustainability. In MFIs literature, many speculations exist regarding the focus of MFIs on social and financial sustainability. For instance, Cull et al. (2007) and (Hermes et al., 2011) observed that MFIs fail to show intention to achieve their social goal of achieving financial sustainability. This leads these institutions to those activities which generate more profits (Hulme & Mosley, 1996) and focus on non-poor clients. On the contrary, Morduch (2000) argued that MFIs need to be financially sustainable to achieve increased outreach. Hence, a disagreement exists on whether a strong emphasis on financial sustainability results in facilitating or exploiting poor people. However, it has also been noticed that MFIs can only achieve social sustainability if they are financially sustainable and vice versa (Serrano-Cinca & Gutiérrez-Nieto, 2014). Microfinance enterprises have to become sustainable to assist in poverty eradication and continue long-term operations (Zerai

& Rani, 2012). Many researchers advocate the choice of a win-win situation known as a double bottom (Ahmad et al., 2020; Roy & Pati, 2019; Saad et al., 2020).

In the Philippines, institutional microfinance has advanced considerably in economic growth and financial inclusion for underprivileged populations (Kondo et al., 2008). Most of the microfinance operations in the Philippines are being run by the private sector, mainly by rural banks, which the central bank regulates, the Bangko Sentral ng Pilipinas (BSP); cooperatives are regulated by the Cooperative Development Authority (CDA); and NGOs, which are far less regulated, are monitored by the Securities and Exchange Commission (SEC) (Alinsunurin, 2014). In addition, some local commercial banks have also shifted part of their operations to microfinance.

In 2005, the United Nations held an event in New York City; the microfinance sector in the Philippines was declared "the best in implementing microfinance programs to reduce poverty" by the Consultative group to assist the poor (Habaradas & Umali, 2013). In 2012, The Economic Intelligence unit declared the MFI world ranking, and the microfinance industry in the Philippines was ranked second for its supervision system and fourth in the overall business environment (Habaradas & Umali, 2013; Okuda & Aiba, 2020). The evidence of microfinance expansion is seen in the country (Alinsunurin, 2014). This growth and expansion call for a deeper analysis of whether MFIs efficiently deliver financial services to their intended clients (Alinsunurin, 2014).

The sustainability challenges of MFIs are central in the Philippines (Sison et al., 2018). MFIs should provide services to thousands of borrowers in a sustainable way. MFIs in the Philippines continue to face challenges that could affect their ability to reach more poor people as they strive to achieve financial sustainability (Habaradas & Umali, 2013). It is important to maintain the double bottom line of microfinance to address financial and social goals. Instead, it is critical to determine the long-term sustainability of MFIs across the Philippines. This research, therefore, addresses the following issues - How can we assess the sustainability of MFIs in the Philippines based on a double bottom line? At the same time, what factors determine the sustainability of MFIs in the Philippines?

2.0 LITERATURE REVIEW

The discussion starts with the background knowledge of MFIs in the Philippines, followed by a conceptual understanding of sustainability and identification of empirical factors that determine the sustainability of MFIs.

2.1 Microfinance in Philippines

As early as the 1960s, rural banks and cooperatives pioneered the idea and practice of servicing microloans to farmworkers, and fishers profited from this early access to small amounts of credit. The government engaged rural banks, development banks, and other government financial enterprises to offer heavily discounted loans to the rural poor from the 1970s until the mid-1980s. As a community development initiative to relieve poverty, they offered much-needed micro loans for small entrepreneurial activities under microfinance (Habaradas & Umali, 2013; Seibel et al., 1998). Currently, MFIs facilitate borrowers through three different channels: microfinance through banking systems, NGOs, and cooperatives.

In the Philippines, NGOs are registered with and supervised by the Securities and Exchange Commission (SEC), Microfinance cooperatives are registered with and supervised by the Cooperative Development Authority (CDA), and Microfinance banks are enlisted and supervised by the Bangko Sentral ng Pilipinas (BSP), the central bank of the Philippines (Okuda & Aiba, 2020). With time, microfinance in the Philippines substantially impacted socio-economic development, and the 2019 growth rate of microfinance NGOs was 35.9% (BSP). In the Philippines, the microfinance NGOs and Cooperatives had 14.60 million clients and 317.90 billion pesos outstanding loans in 2019, as per the statement of the central bank of Philippines-Banko Sentral NG Philippines (BSP).

2.2 MFIs Sustainability

Microfinance Institution’s sustainability is an emerging phenomenon that evolves at many levels—institutional, social, and individual—and can be correlated with organizational, management, and financial issues (Dhan, 2003). Sustainability refers to an organization's capacity to pay costs from its income rather than relying on contributions or government assistance (Mahapatra & Dutta, 2016). Academic scholars and professionals converge to identify two levels of sustainability: 1) financial sustainability - operational self-sufficiency (OSS) and financial self-sufficiency (FSS) (Brynjolfsson & McAfee, 2014); 2) social sustainability (SS) - outreach (depth and breadth) (Brau & Woller, 2004; Iezza, 2010). In most literature, the capacity of MFIs to pay expenditures from earned revenue is referred to as financial sustainability. OSS and FSS (Brynjolfsson & McAfee, 2014) are two aspects of financial sustainability (Islam et al., 2013). According to the Micro-credit Summit Campaign, after subsidies and inflation adjustments, MFIs attain OSS and FSS by covering their operating costs with profit earned by providing operational and financial services (Barres, 2006).

The theoretical underpinning for MFIs' long-term viability offers two perspectives on how to achieve MFIs' social and financial sustainability. These are the Welfarists (Social) approach and the Institutionalists (Financial) approach (Brau & Woller, 2004; Saad et al., 2020). Institutionalist ideology encourages MFIs to focus on their institutional continuity to provide ongoing and long-term services to economically disadvantaged people. On the contrary, MFIs, according to the Welfarists, were established to assist individuals in escaping poverty, and one of their primary aims is to empower economically disadvantaged people. The MFI aims to provide financial services to a wide range of people (width), including the very poor (depth). Previously, sustainability was mostly determined by the financial perspective, but MFIs sustainability is influenced by financial and social aspects (Ahmad et al., 2020; Roy & Pati, 2019).

2.3 Determinants of MFIs Sustainability

Empirical research on the long-term sustainability of MFIs is scarce, particularly in the Philippines. Existing research on MFIs in the Philippines has mostly focused on microfinance's characteristics, effectiveness, and impact on poverty reduction. As the current study has emphasized achieving dual goals by considering both the FS and SS, the following section outlines the key factors of MFI sustainability in various areas of the globe, which aids in developing the MFI sustainability framework in the Philippines.

The financial sustainability of MFIs is determined by loan portfolio quality, sound management and high lending rates (Ayayi & Sene, 2010). Saad et al. (2020) studied MFI sustainability in Pakistan from 2006 to 2015 and used regression analysis to identify the key determinants of sustainability. The empirical results suggest that age, subsidy, efficiency, staff productivity, and profitability determine MFIs sustainability. Duwal (2012) explored the sustainability of MFIs in Nepal and identified that policymakers should focus on size, efficiency and portfolio quality to improve the sustainability of MFIs in the country. Rahman and Mazlan’s (2014) study also endorses the previously obtained results and suggests that size positively influences MFIs sustainability, whereas efficiency negatively influences MFIs sustainability.

Using panel regression, Bhanot et al. (2015) examine the sustainability of 81 MFIs from India for the year 2010. The sustainability construct was developed based on a double bottom line. The empirical findings recommend that staff productivity, portfolio quality, profitability, and size are the key factors that influence MFIs sustainability. Yenesew (2014) found a contradictory result while determining MFIs sustainability. Portfolio quality is negative, and age has a positive but statistically insignificant relationship with sustainability. Tehulu (2013) also highlighted the negative impact of portfolio quality and the inefficiency of management on sustainability. At the same time, MFI size was found to be statistically significant. Saad et al. (2017) identified the determinants of social sustainability of MFIs operating in Pakistan. MFIs' size and profitability contribute positively towards both the domains (breadth and depth) of SS and portfolio quality only contributes positively to the breadth of outreach. The findings also highlight that efficiency has a statistically insignificant impact on the SS of MFIs.

According to Nyamsogoro (2010), the operational expense ratio significantly impacts the long-term sustainability of microfinance institutions. MFIs become more productive by lowering operational expenses while maintaining a certain outstanding portfolio, leading to long-term financial sustainability (Mahapatra & Dutta, 2016). According to Bogan (2012), the capital structure of MFIs is linked to their long-term sustainability. The debt-to-equity ratio (capital structure) and OSS have a high and substantial negative connection (Dissanayake, 2012). Meanwhile, Marakkath (2013) found no correlation between capital structure and OSS. The size of a microfinance institution is positively proportional to its financial performance (Cull et al., 2007). Hartarska and Mersland (2012) looked at the influence of an MFI's size on its financial and operational sustainability. They discovered that the size of an MFI has a positive substantial impact on OSS. The operational definitions for the variable used in this study are given in Table 1.

Table 1: Operational definitions

Sr.	Variable	Operational Definition	Measurement
	Dependent Variable		
1	Sustainability Index	"Financial self-sufficiency"	FSS = "adjusted operating revenue / sum of adjusted (operating expense, financing expense, provision for loan losses)"
		"Operational self-sufficiency"	OSS = "operating revenue / sum of operating expense, financing expense, provision for loan losses"
		"Depth of outreach"	ALPB=gross loan portfolio / number of active borrowers
		"Breadth of outreach"	NAB= total number of active borrowers
	Independent Variable		
1	Profitability	"Return on assets"	ROA = "net operating income after taxes / average assets"
2	Portfolio quality	"Portfolio at risk greater than 30 days"	PAR = "unpaid balance of past due loans with overdue greater than 30 days / gross outstanding lona portfolio"
3	Staff productivity	"Borrower per staff member"	BPSM = "Total number of active borrowers / numbers of loan officers"
4	Efficiency	"Operating expense ratio"	OER = "Total operating expense / average outstanding loan portfolio"
5	Leverage	"Debt to equity ratio"	DER = "Total liabilities / total equity"
6	Size	"Total assets"	TA = "Total assets of MFIs"

3.0 DATA AND MODEL SPECIFICATION

3.1 Data Sample

Data was collected from 66 MFIs operating in the Philippines, which have reported their data on the MIX market from 1999-2018. Those MFIs that had not reported their data for at least three consecutive years were dropped from the data sample. Mix market, also known as Microfinance Information Exchange, is the database which, in collaboration with the World Bank, provides the most reliable data for MFIs. The data available on MIX follows the standards issued by CGAP (CGAP, 2003).

3.2 Econometric Model

To answer the first question, Principal component analysis (PCA) is first employed to extract the factors that measure sustainability. PCA is more like a data reduction technique in which many variables are reduced to a smaller manageable number of factors. The common factors identified are further decomposed to obtain sustainability scores of MFIs. Initially, a sustainability model is developed, including financial and social sustainability indicators. As mentioned in Table 1, FSS, OSS, depth and breadth of outreach are the indicators used to measure sustainability. Therefore, we use the following equation

$$S.I_{it} = w_1FSS_{it} + w_2OSS_{it} + w_3DOO_{it} + w_4BOO_{it} \tag{1}$$

In Equation 1, S.I. is the index which provides the sustainability score of MFIs, w represents the weight assigned to each indicator, FSS indicates financial self-sufficiency, OSS indicates operational self-sufficiency, DOO is depth, and BOO is the breadth of outreach. The depth and breadth of outreach are measured by average loan balance per borrower (ALPB) and number of active borrowers (NAB), respectively. So, we come up with the following equation:

$$S.I_{it} = w_1FSS_{it} + w_2OSS_{it} + w_3ALPB_{it} + w_4NAB_{it} \tag{2}$$

Later applying KU index, standardized scores for sustainability are obtained.

$$S = (Z_{it} - Min\ Z_{it}) / (Max\ Z_{it} - Min\ Z_{it}) \tag{3}$$

Where S is the same scaled and normalized variable. Z_{it} is the raw value of each indicator, regardless of its scale and measure. Min Z_{it} represents the lowest value, and Max Z_{it} represents the highest value in the data for each variable.

The second question is answered using the econometric model after obtaining the sustainability score of MFIs using the above equation. Using the Hausman test, fixed effect regression analysis is used to determine the factors that influence the double bottom-line sustainability of MFIs. The following equatorial model serves the above purpose:

$$S.I = \alpha_0 + \beta_1ROA + \beta_2PAR + \beta_3BPS + \beta_4OER + \beta_5DER + \beta_5TA + \varepsilon_{it} \tag{4}$$

In equation 4, S.I is the sustainability, ROA measures profitability, PAR measures portfolio quality, BPS measures staff productivity, OER measures efficiency, DER measures leverage, and TA measures MFIs size.

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4.0 EMPIRICAL ANALYSIS

4.1 Factors Extraction using PCA

We first conducted PCA to extract the double bottom-line sustainability factors for MFIs in the Philippines. Before implementing PCA, the correlation between different indicators was tested to check for possible correlation. According to Asteriou and Price (2001), factor loadings using PCA are significant if the indicators are not highly correlated. The correlation coefficients presented that indicators are not co-related. Later, the component values for the group variations are determined, which are reported in Table 2.

Table 2: Principal components/correlation

Component	Eigenvalue	Difference	Proportion	Cumulative
C 1	2.142	1.043	0.535	0.535
C 2	1.099	0.359	0.274	0.810
C 3	0.740	0.722	0.185	0.995
C 4	0.017	0.000	0.004	1.000

Components 1, 2 and 3 explain 99.5 per cent of the variations in a group, with component 1 having a cumulative proportion of 53.5 per cent, component 2 having 27.4 per cent and component 3 having 18.5 per cent, respectively. As presented in Table 3, each indicator in component 1 has a high coefficient on all factor loadings. Thus, all the sustainability indicators greatly contribute to component 1, and thus indicates that factors FSS, OSS, ALPB and NAB measure the double bottom line sustainability of MFIs. The factor loading for FSS, OSS, and NAB shows positive values, whereas ALPB has negative factor loadings. The negative value implies that an increase in loan size negatively contributes toward MFI sustainability. MFIs that provide small loan sizes per borrower focus on increased outreach and facilitating the poor people of the community. This further confirms that MFI sustainability is achieved when both financial sustainability and increased outreach are achieved.

Table 3: Principal components (Eigenvectors)

Variable	C 1	C 2	C 3	C 4
FSS	0.665	0.021	0.238	0.707
OSS	0.665	0.025	0.237	-0.707
NAB	0.196	0.756	-0.623	0.002
ALPB	-0.275	0.653	0.705	0.001

4.2 Sustainability Measurement

After identifying the factors using PCA, equation 3 is used to standardize all the sustainability factors. After normalizing each indicator, equal weights are assigned to each indicator. Several existing studies have used equal weights for the financial sustainability and outreach indicators (Bhanot et al., 2015; Bilbao-Terol et al., 2014; Saad et al., 2019). Thus, each indicator of sustainability is assigned an equal weight of 0.25, and equation 2 may be rewritten as follows:

$$S.I_{it} = (0.25)FSS_{it} + (0.25)OSS_{it} + (0.25)ALPB_{it} + (0.25)NAB_{it} \quad (5)$$

For ALPB with negative loadings, normalized values are subtracted from 100 to receive the highest positive values for MFIs targeting the required outreach (see also Gisselquist & Rotberg, 2009; Ibrahim, 2013). We then multiply each indicator with the assigned weights we have obtained from zero to 100 (by multiplying the ratio by 100). The sustainability score for each MFI is obtained, and the best performers receive the highest and most positive values. On the other hand, the worst performance receives the lowest values (see also Gisselquist & Rotberg, 2009; Ibrahim, 2013).

Table 4: Sustainability position of MFIs in Philippines

			T 50		T 75	
Year	Industry average	No of MFIs	S	UnS	S	UnS
1999	41.88	4	1	3	0	4
2000	51.82	8	6	2	0	8
2001	51.68	10	7	3	0	10
2002	48.04	16	10	6	0	16
2003	53.48	39	26	13	2	37
2004	53.29	55	38	17	4	51
2005	53.85	57	38	19	3	54
2006	53.74	58	42	15	2	55
2007	53.01	58	41	17	1	57
2008	52.85	57	43	14	2	55
2009	54.09	56	42	14	1	55
2010	53.56	47	35	12	1	46
2011	53.58	26	30	11	1	40
2012	51.34	26	17	9	0	26
2013	52.98	26	19	7	0	26
2014	52.10	26	16	10	0	26
2015	52.16	23	17	6	0	23
2016	54.31	22	16	6	0	22
2017	55.69	21	13	7	0	21
2018	55.70	18	13	5	2	16

The sustainability score of MFIs in the sample is given in Table 4. The sustainability scores for the industry are spread across each year and labelled in Column 1. In column 2, the industry average for sustainability score is presented, and column 3 provides the number of MFIs which have reported their data for the given year. The industry average value shows that the lowest value of 41.88 per cent in 1999 gradually increased in recent years. The highest industry average score of 55.70 was reported in 2018.

The total number of MFIs which have reported their data for each year are further classified as sustainable (SuS) or unsustainable (UnSuS) with a threshold of 50 per cent (T-50) and 75 per cent (T-75) in columns 4 and 5, respectively. The benchmarks of T-50 and T-75 are set to better understand the sustainability of MFIs working in the Philippines. Here, T-50 indicates the benchmark value for MFIs performing well on at least two of four indicators or having a simultaneous impact of greater than 50 per cent for all sustainability indicators. While using this threshold, MFI has a sustainability score of above 50, considered sustainable, and those below 50 are considered unsustainable. For instance, in 1999, 4 MFIs reported the data, and only 1 MFI was sustainable, while 3 MFIs were unsustainable at T-50. Similarly, in 2018, where the industry average had the highest score but was still at T-50, 5 MFIs were unsustainable. The highest number of MFIs was reported in 2006 and 2007, with 58 each. During 2006, 42 MFIs were sustainable, but the number reduced to 41 in 2007 when the benchmark was set at T-50.

Furthermore, T-75 indicates the benchmark value for MFIs performing well on at least three out of four indicators or having a simultaneous impact of greater than 75 per cent for all the sustainability indicators. While using this threshold T-75, an MFI with a sustainability score of above 75 is considered sustainable, and an MFI with a below 75 is considered unsustainable. For instance, 4 MFIs reported data in 1999, and none are sustainable at a threshold of T-75. Until 2002, all the MFI reported their data were unsustainable at T-75. Similarly, from 2012 to 2017, no MFI was sustainable at the threshold of T-75. The situation is critical, and policymakers and regulators must focus on improving their outreach while maintaining financial sustainability.

4.3 Regression Analysis

Using regression analysis, the determinants of double-bottom-line sustainability are identified. The analysis uses unbalanced panel data for the study period. The descriptive statistics of the variables are shown in Table 5. Sustainability has a mean value of 53.19 per cent, but the maximum value of 94.9 per cent shows a remarkable sustainability position of MFIs in the country. The high value of 11.76 for standard deviation indicates a large variation in the sustainability of MFIs.

Table 5: Descriptive statistics

	Mean	Maximum	Minimum	Std. Dev.	Observations
SI	53.190	94.928	0.004	11.176	666
ROA	1.720	22.93	-95.63	8.907	666
PAR	8.960	72.72	0	9.38	666
BPS	121.99	1040	18	66.434	666
OER	32.628	123.94	1.92	18.051	666
DER	4.135	101.4	-59.2	7.870	666
TA	19748287	3.58E+08	77287	37671390	666

ROA measures profitability, which indicates MFI's ability to utilize its assets and generate returns. The mean value of 1.70 and minimum value of 95.63 per cent with a negative sign means MFIs have a very low profitability level. These MFIs are not efficiently utilizing their assets and are providing high-cost loans.

This is also evident as OER shows a mean value of 32.62 and a maximum of 123.9 per cent. The portfolio quality is also very low, with a mean value of 8.96, which is relatively high. In the microfinance sector, loans are not supported by any collateral. Therefore, having a high PAR indicates low portfolio quality. BPS has a mean value of around 122, and the maximum number of BPS is around 1040. There is a large variation in the data, possibly due to the difference in size of MFIs. The variation in MFI size is also evident as TA indicates a high standard deviation value. The correlation matrix for all the explanatory variables is presented in Table 6.

Table 6: Correlation Matrix, VIF, and Hausman

	SI	ROA	PAR	BPS	OEL	DER	LTA	Centered VIF
SI	1							NA
ROA	0.722	1						1.494
PAR	-0.312	-0.446	1					1.362
BPS	0.0612	0.158	-0.100	1				1.038
OER	-0.440	-0.328	0.027	0.0423	1			1.253
DER	0.008	-0.004	-0.082	-0.057	-0.136	1		1.047
LTA	0.300	0.307	-0.305	0.020	-0.297	0.137	1	1.239
Hausman Test								
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.					Prob.
Cross-section random		48.659	6					0

Variance inflation factor shows a value below 10 which is acceptable (Gujarati, 2003). Before regression analysis, we also identified heteroscedasticity and multicollinearity problems in the data. When applying regression, white cross-section regression was applied to overcome the problems in the data. The descriptive statistics provide a large variation in the data. Therefore, the Hausman test (Table 6) was applied, which suggests the fixed effect regression model is the best fit for the study (Roy & Pati, 2019). The results of fixed effect white cross-section regression analysis are given in Table 7.

Table 7: Fixed effect regression

Variable	Coefficient	Prob.
C	45.576	0
ROA	0.959	0***
PAR	-0.131	0.006***
BPS	0.0004	0.914
OER	-0.243	0.0001***
DER	-0.013	0.780
LTA	0.958	0.002***
R-squared	0.786	
Adjusted R-squared	0.761	
F-statistic	30.824	0

Note: **** indicates significance level at 1 percent*

The positive relationship between ROA and SI shows that MFIs which efficiently utilize their assets and generate revenue can achieve sustainability. Thus, the profitability of MFIs is the key determinant of sustainability, as the relationship is significant at 1 per cent. MFIs in the Philippines should focus on reducing operational costs and improving asset management. The findings are consistent with Bhanot et al. (2015) and Saad et al. (2020).

The PAR has a statistically significant relationship with SI with a coefficient value of -0.131. This indicates that when a portfolio at risk increases, it would decrease the sustainability, and if PAR decreases, the sustainability of MFIs increases. The key source of income for MFIs is the loans they disburse to poor people; if MFIs cannot recover these loans, they become unsustainable. The increase in bad loans and poor portfolio management strongly influences MFIs' sustainability, as the relationship is significant at 1 per cent. OER and SI also have a statistically significant relationship with a coefficient value -0.234. The negative relationship indicates that the high cost of operations has a negative impact on sustainability. MFIs in the Philippines should improve their loan cost to improve their sustainability position. As discussed in Table 5, MFIs provide loans with a very high OER, which seriously damages the sustainability of institutions.

TA has a positive significant impact on the sustainability of MFIs with a coefficient value of 0.958. This indicates that MFIs which have large asset sizes are sustainable. The reason could be the economies of scale impact, which helps MFIs expand their outreach. The efficient utilization of assets helps MFIs to improve their profits, which leads towards sustainability. Kyereboah-Coleman (2007) also reports a similar result and highlights that large MFIs have better structures and formalized procedures, which help them improve their repayments. This also enables MFIs to possess more skilled human resources and acquire credit from markets (Yang & Chen, 2009). Findings further suggest that BPS and SI do not have a statistically significant relationship. DER has a negative impact on sustainability, but the relationship is not statistically significant.

5.0 CONCLUSION

Microfinance institutions begin their journey by providing small loans to underprivileged communities. Over the years, these institutions have transformed into diverse platforms. The focus of these institutions has changed from poverty alleviation to achieving financial sustainability. NGO MFIs are converted to NBFC MFIs, which puts them under the regulated institutions category. The unavailability of donor funds has pushed many MFIs to look for commercial institutions. To address the changing business demands of the sector, MFIs need to be financially sustainable and reach the marginalized poor community. This was the progressive idea behind the double-bottom-line sustainability of MFIs.

In the Philippines, MFIs have shown remarkable growth over the last decades, but the sustainability of these institutions remains questionable. The result shows that the sustainability of MFIs has not increased substantially for the study period. MFIs in the Philippines do not adhere to double-bottom-line sustainability. The best way to maintain a double-bottom-line objective is through periodic reviews and constant checks by regulators. This would facilitate policymakers to regularize the industry. Additionally, regulatory authorities need to intervene to ensure smooth operations across the country.

The result shows that large asset size helps MFIs achieve a double bottom line in the Philippines. Large MFIs can secure commercial loans from the market and develop highly skilled human resources. Efficient utilization of assets would help MFIs to reduce their dependency on external funds. The economies of scale reduce operating costs and help achieve sustainability. PAR also has a significant negative impact on sustainability. MFIs in the Philippines need to develop strong policies to properly scrutinise their borrowers and ensure systematic risk assessment of their portfolios. Due to poor loan management, MFIs in the Philippines must face a higher portfolio at risk, which influences their sustainability.

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