The Structural Equation Modeling for the Deposits of Microfinance Institutions in Indonesia

Iskandar Muda, Erlina, Aulia Abdhy Abdans, and Agung Wahyudi Atmanegara

Universitas Sumatera Utara, Dr. T Mansur no. 9, Medan, Indonesia

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Abstract: The purpose of this study is to examine the structural effects of assets and liabilities on Deposits of Microfinance Institutions in Several Provinces in Indonesia with Structural Equation Modeling. This type of research is quantitative. The data used is data from 3 quarters in the period 2018 to 2020. The analysis tool uses Structural Equation Modeling (SEM) with Partial Least Square (PLS). The results conclude that there is an effect of Fund Placement and Financing Loans on Microfinance Institution Deposits in Several Provinces in Indonesia. The originality of this research explains that Micro Finance Institutions (MFIs) in Indonesia are responsible for raising cheap funds. The Rural Bank in Indonesia, both sharia and conventional, carry out business activities conventionally or based on sharia principles, which in their activities do not provide services in payment traffic. The role of placement of assets and liabilities to deposits funds is essential for Microfinance Institutions in Indonesia.

1 INTRODUCTION

Micro Finance Institutions (MFIs) are responsible for raising cheap funds. People's Credit Banks, both sharia and conventional, carry out their duties to carry out conventional business activities or based on sharia principles, which in their activities do not provide services in payment traffic. BPR activities are much narrower than commercial banks because BPRs are prohibited from accepting demand deposits, foreign exchange activities, and insurance.

There are people's credit banks that the Deposit Insurance Corporation liquidates for years. The bank's internal improvement includes human resources (HR) both in terms of their integrity and capacity. Internal strengthening of BPRs by determining e-Banking security risks equivalent to commercial bank e-Banking handling, in accordance with concerning information technology risk management. Three basic principles must be fulfilled in strengthening the BPR ICT system, namely prevent, detect, and recover. Security standards cover the issuer/acquirer ecosystem, e-money, banking systems, communication channels, devices, and the user side. BPR security standards should encourage to increase of the security of the e-Banking system.

The resulting impact is an increase in Assets and Liabilities of Islamic and Conventional Cooperative Microfinance Institutions. The development of assets and liabilities certainly had an impact on the Indonesian economy.

Related research was conducted by Afonso, who examined the performance of Microfinance Institutions in Pakistan (Afonso, et al., 2020). The results concluded that the performance of microfinance institutions is growing rapidly, especially in terms of assets. Research conducted by Armendariz and Szafarz concluded that Microfinance Institutions have their own role and mission as an institution (Armendáriz and Szafarz, 2011). In addition, this research is also to strengthen the research conducted by Aziz (Aziz, et al., 2020), Beisland (Beisland, et al., 2020), Berguiga (Berguiga, et al., 2020), Bishev (Bishev, et al., 2020), Bondinuba (Bondinuba, et al., 2020), Fianto (Fianto, 2020), Ghosh (Ghosh and Das, 2020), Gudjonsson (Gudjonsson, et al., 2020), Hermes (Hermes, et al., 2011), Lam (Lam, et al., 2020), Moya-Davila (Moya-Davila and Rajagopal, 2020), Nair (Nair and Njolomole, 2020), Suesse (Suesse and Wolf, 2020), Uddin (Uddin, et al., 2020), Abduh (Abduh and Jamaludin, 2020). The specific objectives that you want to know from this research are (1) knowing the development of Assets and

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Liabilities of Sharia Cooperative Microfinance Institutions and (2) knowing the development of Assets and Liabilities of Conventional Cooperative Microfinance Institutions.

2 RESEARCH METHODS

The population in this study is the number of LKM actors in conventional and sharia forms in the form of cooperatives and PT. This study uses data analysis methods using SmartPLS version 3.0 software, which is run by computer media with hypothesis testing with predictive models and paired sample testing. The data used includes the annual financial reports of micro-financial institutions in Indonesia during 2018-2020.

3 RESULTS AND DISCUSSION

3.1 Development of Assets and Liabilities of Sharia Cooperative Microfinance Institutions

The development of Assets and Liabilities of Sharia Cooperative Microfinance Institutions in Indonesia during the 2018-2020 period is presented in the following table:

Table 1. Development of Assets and Liabilities of Islamic Microfinance Institutions 2018-2020 (in 000)

Quartly	Province	Assets	Liability	Deposits
2020 Quartly	Aceh	4,258809	0,001886	3,92
	Banten	12,7014	0,061309138	10,79
	Bengkulu	21,53403	10,58622328	7,83
	D.I.Yogyakarta	14,67944	0,012800215	13,52
	Jambi	4,293854	0	3,74
	Jawa Barat	61,03573	6,817863909	40,03
	Jawa Tengah	203,6357	43,40304977	87,61
	Jawa Timur	67,52296	0,357800215	57,15
	Kalimantan Selatan	4,251758	0	3,86
	Kalimantan Timur	4,359151	0,01	3,96
	Lampung	6,691816	2,189170848	3,87
	Maluku	4,281345	0,0278415	3,84
	Nusa Tenggara Barat	4,265283	0,0031485	3,88
	Papua	4,32091	0	4,00
	Riau	8,577353	0,055883	7,70
	Sulawesi Selatan	4,414876	0,002	4,02
	Sumatera Barat	5,14665	0,073798127	4,03
	Sumatera Selatan	4,255475	0,00005	3,88
	Sumatera Utara	5,657388	0,041891367	4,69
	Aceh	4,258222	0,019014	3,90
	Banten	12,70771	0,003704138	10,73
	Bengkulu	20,6481	9,424461072	7,72
	D.I.Yogyakarta	15,02468	0,013667365	13,45
	Jambi	4,279522	0	3,93
	Jawa Barat	57,91102	11,34035861	36,23
	Jawa Tengah	210,8957	40,9739525	103,90
2019 sem 3	Jawa Timur	67,83977	0,451192788	58,06
	Kalimantan Timur	4,342409	0	3,96
	Lampung	6,636058	2,093003306	3,89
	Maluku	4,271068	0,0278415	3,87
	NTB	4,255911	0,0031485	3,74
	Papua	4,31684	0	4,06
	Riau	8,583428	0,055883	7,46
	Sulawesi Selatan	4,40849	0,002	3,99
	Sumatera Barat	5,167446	0,079398127	3,88
	Sumatera Utara	5,651605	0,041891368	4,69
	Banten	12,81645	0,004997538	10,85
	Bengkulu	20,81487	12,26189149	10,41
	D.I.Yogyakarta	14,92236	0,0082563	13,50
	Jambi	4,266106	0	3,83
	Jawa Barat	55,73144	10,05027399	35,85
2019 sem 2	Jawa Tengah	192,0506	38,6997814	82,21
	Jawa Timur	46,24388	0,287010478	38,80
	Kalimantan Timur	4,319233	0	3,96
	Lampung	6,53463	1,938971902	3,97
	Maluku	4,262512	0,0279415	3,88
	Papua	4,306307	0	3,99
	Riau	8,554549	0,0279415	7,64
	Sulawesi Selatan	4,373575	0,002	3,99
	Sumatera Barat	5,067841	0,102304044	3,93
	Sumatera Utara	5,645902	0,03988625	4,69
	Banten	12,86599	0,0042623	10,74
	Bengkulu	14,1113	5,866404636	4,66
	D.I.Yogyakarta	14,8462	0,0040762	13,46
	Jambi	4,260131	0,006	3,83
	Jawa Barat	52,19997	10,28851328	31,25
2019 sem 1	Jawa Tengah	172,4325	28,80172684	70,88
	Jawa Timur	37,78527	0,314218945	31,68
	Kalimantan Timur	4,278242	0,001	3,90
	Lampung	6,341525	1,87676442	4,27
	Papua	4,267382	0	3,96
	Sulawesi Selatan	4,340563	0,002	3,96
	Sumatera Barat	5,067841	0,102304044	3,93
	Sumatera Utara	5,631331	0,03988625	4,68
	Banten	8,830633	0,00270265	7,50
	Bengkulu	14,25085	5,137289688	6,78
	D.I.Yogyakarta	10,53358	0,001315	9,68
2018 Quartly 3	Jawa Barat	46,68278	8,81969236	28,39
	Jawa Tengah	151,1587	23,59493012	64,47
	Jawa Timur	37,73718	0,344212945	32,28
	Lampung	0,100875	0	0,10
	Sulawesi Selatan	0,25	0	0,25
	Sumatera Barat	1,032227	0,094804044	0,28
	Sumatera Utara	1,373484	0,03988625	0,74
	Banten	8,80	0,00	7,78
	Bengkulu	16,08	7,73	10,36
	D.I.Yogyakarta	4,24	0,00	3,80
2018 Quartly 2	Jawa Barat	42,42	8,81	24,35
	Jawa Tengah	145,51	23,69	60,34
	Jawa Timur	25,24	0,30	20,74
	Lampung	0,10	0,00	0,10
	Sulawesi Selatan	0,00	0,00	0,00
	Sumatera Barat	0,78	0,09	0,03
	Sumatera Utara	1,37	0,04	0,74
	Banten	4,77	0,00	4,32

Quartly	Province	Assets	Liability	Deposits
	Bengkulu	13,75	6,93	7,64
2018 Quartly 1	D.I.Yogyakarta	4,24	0,00	3,80
	Jawa Barat	38,68	10,13	19,98
	Jawa Tengah	79,90	18,73	27,81
	Jawa Timur	13,16	0,31	9,82
	Lampung	0,10	0,00	0,10
	Sumatera Barat	0,78	0,09	0,03
	Sumatera Utara	1,37	0,04	0,74

Source: Data from the Financial Services Authority of the Republic of Indonesia for the 2018-2020 period.

Based on data in the first quarter of 2020, the most significant asset development was in Central Java Province and due liabilities in Central Java Province. For the development of fund placement, the most dominant is Central Java Province. Based on data in the third quarter of 2019, the most significant asset development was in Central Java Province and liabilities that were due also in Central Java Province. For the development of fund placement, the most dominant is Central Java Province. Based on data in the second quarter of 2019, the most significant asset development was in Central Java Province and liabilities that were due also in Central Java Province. For the development of fund placement, the most dominant is Central Java Province.

3.2 Development of Assets and Liabilities of Conventional Cooperative Microfinance Institutions

Based on data presented, the development of assets and liabilities of conventional cooperative microfinance institutions is as follows:

Table 2. Development of Assets and Liabilities of Conventional Microfinance Institutions 2018-2020

| Quality	Province	Assets	Liability	Deposits
2020-Quartly 1	Banten	57,07	24,40	6,24
	D.I. Yogyakarta	2,15	1,56	0,29
	Jawa Barat	247,52	161,03	11,82
	Jawa Tengah	144,45	89,20	31,75
	Jawa Timur	67,72	15,06	17,28
	NTB	1,01	0,34	0,10
2019-Quartly 3	Banten	72,26	36,85	8,60
	D.I. Yogyakarta	2,01	1,40	0,33
	Jawa Barat	268,79	181,10	23,75
	Jawa Tengah	108,26	69,16	20,72
	Jawa Timur	56,59	9,97	13,05
	NTB	1,57	0,28	0,46
2019-Quartly 2	Banten	71,36	37,83	8,86
	D.I. Yogyakarta	1,88	1,29	0,24
	Jawa Barat	220,79	148,90	22,09
	Jawa Tengah	82,12	54,77	11,78
	Jawa Timur	54,97	10,05	11,33
	NTB	1,25	0,21	0,38
2019-	Banten	69,96	36,19	5,26
Quality	Province	Assets	Liability	Deposits
Quartly 1	D.I. Yogyakarta	1,80	1,23	0,26
	Jawa Barat	190,07	120,60	21,19
	Jawa Tengah	82,82	58,92	14,62
	Jawa Timur	57,84	13,07	14,19
	NTB	1,12	0,11	0,38
2018-Quartly 3	Banten	69,49	33,19	9,32
	D.I. Yogyakarta	3,94	2,30	0,93
	Jawa Barat	187,35	122,20	33,85
	Jawa Tengah	64,02	43,63	14,10
	Jawa Timur	55,69	9,80	14,52
	NTB	1,14	0,27	0,37
2018-Quartly 2	Banten	60,86	28,81	4,83
	D.I. Yogyakarta	3,76	2,23	0,68
	Jawa Barat	154,54	109,24	12,89
	Jawa Tengah	58,45	38,91	12,24
	Jawa Timur	51,44	8,26	10,72
	NTB	1,12	0,26	0,37
2018-Quartly 1	Banten	60,10	27,06	6,10
	D.I. Yogyakarta	2,19	1,26	0,66
	Jawa Barat	153,46	107,89	14,44
	Jawa Tengah	51,42	32,31	16,01
	Jawa Timur	0,00	0,00	0,00
	Nusa Tenggara Barat	1,07	0,27	0,37

Source: Data from the Financial Services Authority of the Republic of Indonesia for the 2018-2020 period.

Based on the data summarized, the development of Assets and Liabilities of Conventional Microfinance Institutions in the first quarter of 2020 in West Java Province. Likewise, in terms of obligations that are due, West Java Province is the largest. For the most prominent placement of funds is Central Java Province. Based on the data summarized, the development of Assets and Liabilities of Conventional Microfinance Institutions in the third quarter of 2019 in West Java Province. Likewise, in terms of obligations that are due, West Java Province is the largest. For the most prominent placement of funds is West Java Province. Based on the data summarized, the development of Assets and Liabilities of Conventional Microfinance Institutions in the second quarter of 2019 in West Java Province. Likewise, in terms of obligations that are due, West Java Province is the largest. For the most prominent placement of funds is West Java Province.

Based on the data summarized, the development of Assets and Liabilities of Conventional Microfinance Institutions in the first quarter of 2019 in West Java Province. Likewise, in terms of due obligations, West Java Province is the largest, the largest placement of funds is West Java Province. Based on the data summarized, the development of Assets and Liabilities of Conventional Microfinance Institutions in the first quarter of 2019 in West Java Province. Likewise, in terms of obligations that are due, West Java Province is the largest. For the largest placement of funds is West Java Province.

3.3 Sharia Model

The resulting model is shown in Figure 1:
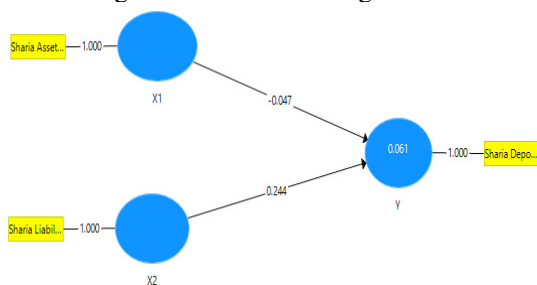
Sources: SmartPLS 3.0 Software (2020).

Figure 1. Sharia Model

Figure 1 shows that the original sample value of assets and liabilities is a maximum of 24.4%.

3.3.1 Path Coefficient

Based on the test results, the p-value of each variable is shown in Table 3 below:

Table 3. Path Coefecient for Sharia Microfinance

	Original Sample	Sample Mean	Standard Devia tion	T Statis tics	P Values
X1 ->Y	-0,047	-0,044	0,092	0,516	0,606
X2 ->Y	0,244	0,253	0,125	1,952	0,051

Sources : SmartPLS 3.0 Software (2020).

Based on table 3, it shows that the effect of assets and liabilities does not play a dominant role on deposits in microfinance institutions in Indonesia.

3.3.2 Adjusted R Square

The results of testing the Adjusted R Square value are presented in Table 4 below:

Table 4. Adjusted R Square for Sharia Microfinance

	R Square	R Square Adjusted
Y	0,061	0,040

Sources: SmartPLS 3.0 Software (2020).

Based on the table shows the variation of the independent variable explains the dependent by 4%.

3.3.3 Predictive Value

The Predictive Value presented in Table 4 below:
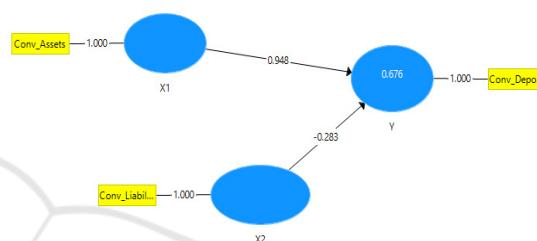
Table 5. Predictive Value for Sharia Microfinance

	SSO	SSE	Q² (=1-SSE/SSO)
X1	92,000	92,000	
X2	92,000	92,000	
Y	92,000	90,227	0,019

Sources : SmartPLS 3.0 Software (2020).

Based on the table, it shows that the Predictive value is only 1.9%.

3.4 Conventional Model

Based on the test results, the overall model is as follows:

Sources: SmartPLS 3.0 Software (2020)

Figure 2. Conventional Model

Based on Figure 2, the original sample value reaches 1, which means the sample is sufficient for the resulting model.

3.4.1 Path Coefficient

Based on the test results, the p-value of each variable is shown in Table 6 below:

Table 6. Path Coefficient for Conventional Microfinance

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
X1-> Y	0,948	0,975	0,131	7,245	0,000
X2-> Y	-0,283	-0,285	0,209	1,355	0,176

Sources: SmartPLS 3.0 Software (2020)

Based on table 6 shows that the effect of assets has a significant impact. At the same time, the liability variable does not play a dominant role on deposits in Conventional Microfinance Institutions in Indonesia.

3.4.2 Adjusted R Square

The results of testing the Adjusted R Square value are presented in Table 7 below:

Table 7. Adjusted R Square for Conventional Microfinance

	R Square	R Square Adjusted
Y	0,676	0,659

Sources: SmartPLS 3.0 Software (2020).

Table 7 shows that the variation of the independent variable explains the dependent amount of 65.9%.

3.4.3 Predictive Value

The Predictive Value can be presented in Table 8:

Table 8. Predictive Value for Conventional Microfinance

	SSO	SSE	Q² (=1-SSE/SSO)
X1	41,000	41,000	
X2	41,000	41,000	
Y	41,000	13,111	0,680

Sources : SmartPLS 3.0 Software (2020).

The table shows that the Predictive value is only 68%.

Based on the analysis results above, it shows that in Indonesia, the development of assets and liabilities of Islamic Microfinance Institutions in Indonesia is quite significant. It shows that the asset value of Islamic MFIs continues to increase. Generally, the existence of these MFIs is in rural areas. It can improve the standard of living and stretch the rural economy. From the liabilities side, the amount exceeds the MFI's asset value. It shows that the MFI can move dynamically without being burdened by existing obligations. Generally, the existence of these MFIs is in rural areas.

4 CONCLUSION

The test results show that the development of Assets and Liabilities of Sharia Microfinance Institutions in 2018-2020 experienced a significant increase compared to conventional MFIs. The development of conventional and sharia MFIs is in Central Java Province for Islamic MFIs, while the development of conventional MFIs is concentrated in West Java Province. It is a novelty in this research that financial institutions based on sharia principles have increased rapidly compared to conventional MFIs. The government should provide policies, especially in Islamic MFIs, because it has gained the trust of the Indonesian people today. In addition, the results show that the asset and liability variable cannot increase the total deposit at Islamic Microfinance Institutions. Conversely, in conventional MFIs, variable assets can increase the total deposit, while variable liabilities do not play a dominant role.

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