

CHAPTER V

CONCLUSION

5.1. Conclusions

The objectives of this research are to assess the attractiveness and efficiency of Indonesian managed funds and to underline outperformed and underperformed Indonesian managed funds after global economic recovery where markets and investments have already passed the “redemption era” after the global economic crisis. Thus, based on the previous chapter’s data collection and analysis, we can draw following statements of conclusion:

1. Indonesian managed funds averagely performed below than their weighted benchmark return as seen by their lower average of expected return. However, selecting best performers of these funds can be still profitable, even compared to the weighted benchmark return where the top 10 performers based on the covariance can generate 9.16%.annually. Among the top best performers, Kresna Flexima shines by generating 15.3% annually after the global economic recovery. Table 4.4. also presents the importance of syariah managed funds that generate 6.3% of return, compared to 4.45% of conservative managed funds, even though conservative managed funds’ covariance is better.
2. 47 out of 50 funds are experiencing an increase in total risk measurement when we apply the root of semi lower variance. This means that skeewness and kurtosis are able to be taken into account for most of Indonesian managed funds. Aberdeen Dana Handal and MNC

Dana Kombinasi stand out from others by significantly improve their covariance from such predicament and they are even among top 10 performers of Indonesian managed funds.

3. Equity Prima, Aberdeen Dana Handal, BNP Paribas Equitra, Cipta Dinamika, and Schroder Dana Kombinasi are those which are the closest to zero (random) influence from the systematic risk with all respective values less than 0.09. Overall, from only 2 among 50 funds which have invalid β_j , we can see that Indonesian managed funds are positively influenced by the market. However, the market influence is still inelastic to the managed funds. Thus, this signifies that Indonesian managed funds are safely composed without exaggerating effect from the financial market.
4. There are only 16 Indonesian managed funds that are able to overcome the weighted benchmark return, risk-free rate asset, total risk, systematic risk, or the CAPM beta at the same time with 9.62% annualized expected return and the top performers based on merely covariance cannot measure this. Even more, 3 of them are syariah managed funds. Thus, the 16 managed funds from Table 4.9. are important, even though their covariances are not the best.
5. All Indonesian managed funds possess kurtosis and only 1 fund does not have the skewness. This proves that what Chen and Lin (2006) discuss is true to include more sophisticated performance evaluation to include variables which measure skewness and kurtosis.

6. VaR and CVaR are among the sophisticated evaluation tool that take the skewness and kurtosis into account for investors to realize the maximum possible loss that can be suffered in a period of time that is realistically affect investors' emotion as emphasized by Chen and Lin (2006). With different angle of perspective, Indonesian managed funds investors have to be ready for maximum possible loss up to 1.2% (VaR) and 9.5% (CVaR).
7. 24 Indonesian managed funds are efficient with their own characteristics among the 50 observed funds with 11 variables (7 inputs and 4 outputs). Banker et al., (1984) in Chen and Lin (2006) also emphasizes the possibility of having efficient Decision Making Units (DMUs) with negative outputs. Thus, understanding the nature of DEA model in a research is essential. Obviously, no negative output is desirable. Thus, 8 Indonesian managed outperformed others in terms of performance in the variables and efficiency among variables and DMUs. They are: (1) Semesta Dana Maxima, (2) TRIM Kombinasi II, (3) TRIM Syariah Berimbang, (4) Minna Padi Keraton, (5) Krena Flexima, (6) Nikko BUMN Plus, (7) SAM Syariah Berimbang, and (8) Schroder Syariah Balanced Fund, where three of them are syariah managed funds and on the other hand, except, for kurtosis, VaR, and Sharpe, Indonesian managed funds should have performed better. Jensen alpha, followed by Treynor ratio, β_j , return, and the root of semi lower variance are among the most inefficient variables of Indonesian managed funds after global economic recovery.

5.2. Research Limitations and Suggestions

This research has limitations due to several predicaments. Thus, several suggestions are also given for future research:

1. The inavailability of Indonesian managed funds' transaction cost. As suggested by Chen and Lin (2006), providing transaction cost information is necessary to describe more variables that directly affect investors' choice of investment. Subscription and redemption costs are some examples of transaction costs that are going to so meaningful to be applied in DEA model.
2. STABLE program software. The expensive STABLE program software is also suggested by Chen and Lin (2006) to conduct the DEA fully. There are three advantages of having the STABLE program: (1) Standardizing the VaR and CVaR variables to include the number of skewness and kurtosis directly, (2) Conduct the DEA at weighted-standardized more than 1 runs, applicable to the types of variables, and (3) Overcoming the negative outputs in models by applying Translation Invariance Property.
3. For future researches, the author suggests several things concerning the topics that are:
 - a. Using more DEA models along with model comparison in use because of the ability of OSDEA-GUI to comprise various DEA models such as global returns to scale (GRS), increasing and decreasing global returns to scale (IRS and DRS), non-controllable models (NC), non-discretionary models (NC), and variations that

combine them at the same time. Compared to OSDEA-GUI's ability, well known international journals are still about CCR and BCC approach.

- b. Utilizing several other constraints of the linear program of DEA to analyze and comprehend the characteristics and results among decision making units. The DEA's linear programming is rich enough to be analyzed deeper in its each constraints. Lambdas, returns to scale, and variables' weights are several examples of variables inside the DEA linear programming that can be analyzed comprehensively based on research's necessity.

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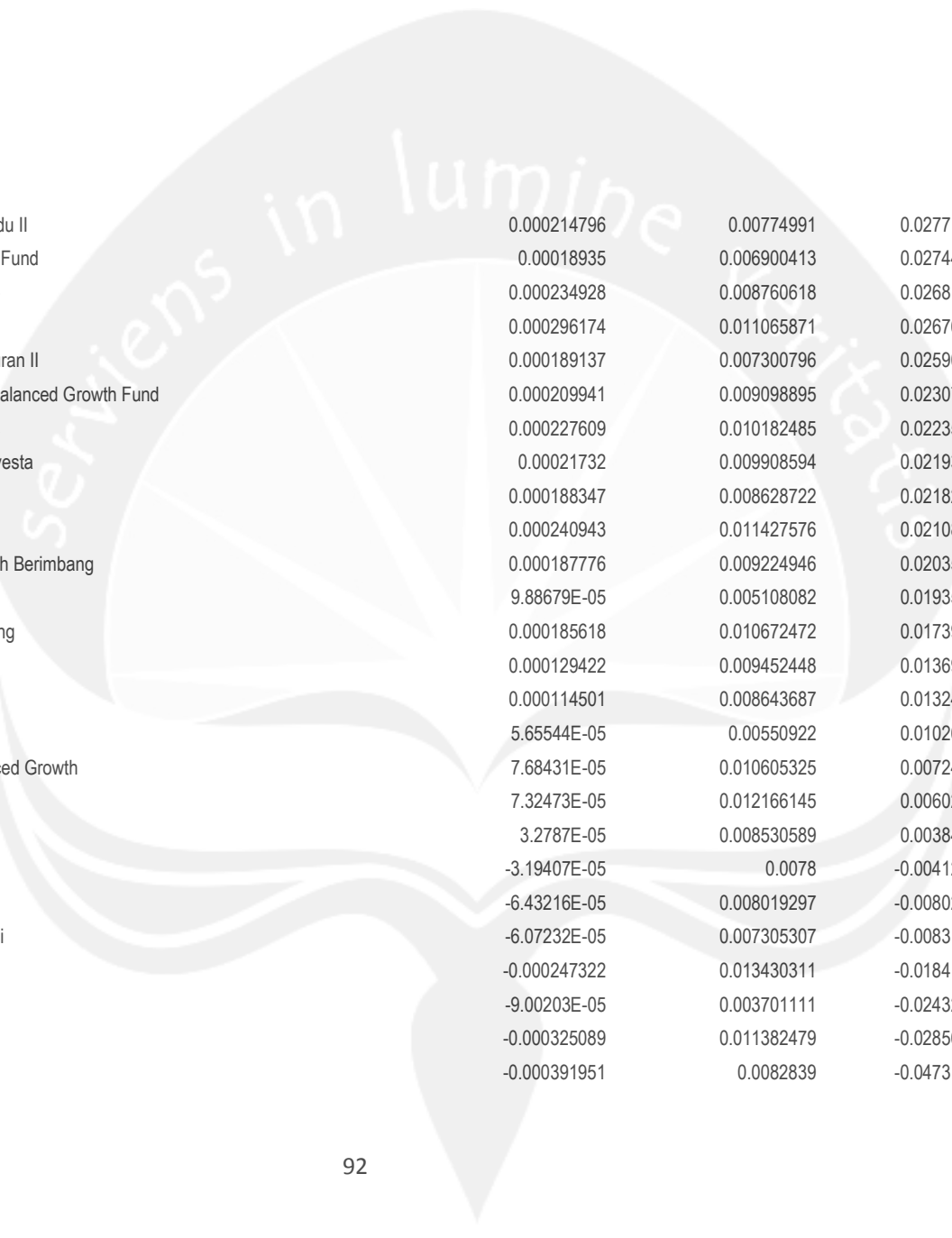
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APPENDIX I: Covariance-Ranked Indonesian Managed Funds (2011 – MID 2015)

Rank	Funds	DAILY RETURN	DAILY STDEV	COVARIANCE (DAILY)*	ANNUAL RETURN**
1	Equity Prima	0.000214738	0.001896796	0.11321095	0.052396079
2	Schroder Dana Kombinasi	0.000265987	0.003909866	0.068029779	0.064900907
3	Cipta Dinamika	0.000190846	0.002877053	0.066333945	0.046566496
4	Kresna Fleksima	0.00062687	0.009737991	0.064373682	0.152956369
5	Nikko BUMN Plus	0.000467854	0.009054557	0.051670549	0.114156354
6	Schroder Syariah Balanced Fund	0.000408613	0.00804174	0.050811531	0.099701601
7	Semesta Dana Maxima	0.000418144	0.008677319	0.0481882	0.102027227
8	TRIM Kombinasi II	0.000399848	0.008739006	0.045754365	0.097562828
9	Maybank GMT Dana Fleksi	0.000315456	0.006908668	0.045660927	0.076971311
10	SAM Syariah Berimbang	0.000444181	0.010145715	0.043780139	0.108380119
11	MNC Dana Kombinasi	0.000362103	0.008394444	0.043136022	0.088353115
12	Aberdeen Dana Handal	0.000231186	0.005488497	0.042122	0.056409497
13	Sucorinvest FF	0.000469746	0.01126106	0.041714161	0.114617943
14	First State Indonesia Balanced Fund	0.000239322	0.005926275	0.040383192	0.058394546
15	Minna Padi Keraton	0.000317371	0.007970468	0.039818305	0.077438409
16	Panin Dana Unggulan	0.000333731	0.008387876	0.039787365	0.081430484
17	BNP Paribas Equitra	0.000142488	0.003609764	0.039472999	0.034767123
18	Pratama Berimbang	0.000466379	0.012146865	0.038394997	0.113796442
19	Schroder Providence Fund	0.000351545	0.009593253	0.03664505	0.085777033
20	AAA Balanced Fund	0.000289111	0.008065481	0.035845465	0.070543059
21	TRIM Syariah Berimbang	0.000338633	0.009480286	0.035719676	0.08262639
22	Manulife Dana Stabil Berimbang	0.000154227	0.005345704	0.028850602	0.037631338
23	AXA Maestro Berimbang	0.000259872	0.009032171	0.028771842	0.063408818



24	Schroder Dana Terpadu II	0.000214796	0.00774991	0.027715961	0.052410275
25	AAA Amanah Syariah Fund	0.00018935	0.006900413	0.027440419	0.046201456
26	Cipta Syariah Balance	0.000234928	0.008760618	0.026816345	0.057322369
27	First State MS	0.000296174	0.011065871	0.026764597	0.072266357
28	Manulife Dana Campuran II	0.000189137	0.007300796	0.025906398	0.046149507
29	Aberdeen Indonesia Balanced Growth Fund	0.000209941	0.009098895	0.023073223	0.051225563
30	Batavia Dana Dinamis	0.000227609	0.010182485	0.022352967	0.055536534
31	BNP Paribas Dana Investa	0.00021732	0.009908594	0.021932445	0.053026005
32	Mandiri Investa Aktif	0.000188347	0.008628722	0.021827874	0.045956586
33	HPAM Premium I	0.000240943	0.011427576	0.021084309	0.058789978
34	Manulife Dana Tumbuh Berimbang	0.000187776	0.009224946	0.020355265	0.045817397
35	Intru Garuda Satu	9.88679E-05	0.005108082	0.019355192	0.024123769
36	SAM Dana Berkembang	0.000185618	0.010672472	0.017392185	0.045290696
37	BNP Paribas Spektra	0.000129422	0.009452448	0.013691896	0.031578951
38	Danareksa Anggrek	0.000114501	0.008643687	0.013246819	0.027938332
39	AXA Citra Gold	5.65544E-05	0.00550922	0.010265411	0.013799275
40	CIMB Principal Balanced Growth	7.68431E-05	0.010605325	0.007245713	0.018749726
41	Kresna Mrs Flex	7.32473E-05	0.012166145	0.006020585	0.017872343
42	Star Balanced	3.2787E-05	0.008530589	0.003843462	0.008000027
43	Cipta Balanced	-3.19407E-05	0.0078	-0.004121107	-0.00779353
44	PNM Syariah	-6.43216E-05	0.008019297	-0.008020851	-0.015694468
45	Mega Dana Kombinasi	-6.07232E-05	0.007305307	-0.008312199	-0.014816453
46	Prospera Balance	-0.000247322	0.013430311	-0.018415221	-0.060346601
47	Harvestindo Maxima	-9.00203E-05	0.003701111	-0.024322497	-0.021964941
48	Kresna IPB	-0.000325089	0.011382479	-0.028560492	-0.079321765
49	Net Dana Fleksi	-0.000391951	0.0082839	-0.047314809	-0.095636081

50	Harvestindo Istimewa	-7.47857E-05	0.000431709	-0.173231446	-0.0182477
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*Rank is based on Covariance (daily)

**Weighted annual return = daily return x 244 (shortest number of days in a year for mixed funds)

Managed Funds Average Daily Return (%)	0.019172517
Managed Funds Average Annual Return (%)	4.678094185
Benchmark Average Daily Return (%) (n=1099)	0.028075852
Benchmark Average Annual Return (%) (n=1099)	6.850507979

Rank	Top 10 Best Performers (Cov)	DAILY RETURN	DAILY STDEV	COV	Annual Return (%)
1	Equity Prima	0.000214738	0.001896796	0.11321095	5.239607937
2	Schroder Dana Kombinasi	0.000265987	0.003909866	0.068029779	6.490090733
3	Cipta Dinamika	0.000190846	0.002877053	0.066333945	4.656649624
4	Kresna Fleksima	0.00062687	0.009737991	0.064373682	15.29563689
5	Nikko BUMN Plus	0.000467854	0.009054557	0.051670549	11.41563536
6	Schroder Syariah Balanced Fund	0.000408613	0.00804174	0.050811531	9.970160065
7	Semesta Dana Maxima	0.000418144	0.008677319	0.0481882	10.20272269
8	TRIM Kombinasi II	0.000399848	0.008739006	0.045754365	9.756282792
9	Maybank GMT Dana Fleksi	0.000315456	0.006908668	0.045660927	7.697131113
10	SAM Syariah Berimbang	0.000444181	0.010145715	0.043780139	10.83801188
Average Annual Return (%)					9.156192908

Rank	Top 10 Worst Performers (Cov)	Daily Return (%)	Daily STDEV (%)	COV	Annual Return (%)
1	Harvestindo Istimewa	-0.00007478565	0.000431709	-0.173231446	-0.0182477
2	Net Dana Fleksi	-0.00039195115	0.0082839	-0.047314809	-0.095636081
3	Kresna IPB	-0.00032508920	0.011382479	-0.028560492	-0.079321765

4	Harvestindo Maxima	-0.00009002025	0.003701111	-0.024322497	-0.021964941
5	Prospera Balance	-0.00024732214	0.013430311	-0.018415221	-0.060346601
6	Mega Dana Kombinasi	-0.00006072317	0.007305307	-0.008312199	-0.014816453
7	PNM Syariah	-0.00006432159	0.008019297	-0.008020851	-0.015694468
8	Cipta Balanced	-0.00003194070	0.007750514	-0.004121107	-0.00779353
9	Star Balanced	0.00003278700	0.008530589	0.003843462	0.008000027
10	Kresna Mrs Flex	0.00007324731	0.012166145	0.006020585	0.017872343
Average Annual Return (%)					-0.028794917
Overall Funds					
	Maximum Return	0.00062687			
	Minimum Return	-0.000391951			
	Maximum STDEV	0.013430311			
	Minimum STDEV	0.000431709			
Middle 30 Managed Fund Performers					
	Average Daily Return	0.000233795			
	Average Annual Expected Return (%)	5.704589905			
	Maximum Return (%)	11.46179426			
	Minimum Return (%)	1.379927532			

APPENDIX II: Covariance of Syariah and Conservative Funds (2011 – MID 2015)

Rank	Funds	1=Syariah, 2=Cons	DAILY RETURN	DAILY STDEV	COVARIANCE (DAILY)*	ANNUAL RETURN**
25	AAA Amanah Syariah Fund	1	0.00018935	0.006900413	0.027440419	0.046201456
26	Cipta Syariah Balance	1	0.000234928	0.008760618	0.026816345	0.057322369
44	PNM Syariah	1	-6.43216E-05	0.008019297	-0.008020851	-0.015694468
10	SAM Syariah Berimbang	1	0.000444181	0.010145715	0.043780139	0.108380119
6	Schroder Syariah Balanced Fund	1	0.000408613	0.00804174	0.050811531	0.099701601
21	TRIM Syariah Berimbang	1	0.000338633	0.009480286	0.035719676	0.08262639
20	AAA Balanced Fund	2	0.000289111	0.008065481	0.035845465	0.070543059
12	Aberdeen Dana Handal	2	0.000231186	0.005488497	0.042122	0.056409497
29	Aberdeen Indonesia Balanced Growth Fund	2	0.000209941	0.009098895	0.023073223	0.051225563
39	AXA Citra Gold	2	5.65544E-05	0.00550922	0.010265411	0.013799275
23	AXA Maestro Berimbang	2	0.000259872	0.009032171	0.028771842	0.063408818
30	Batavia Dana Dinamis	2	0.000227609	0.010182485	0.022352967	0.055536534
31	BNP Paribas Dana Investa	2	0.00021732	0.009908594	0.021932445	0.053026005
17	BNP Paribas Equitra	2	0.000142488	0.003609764	0.039472999	0.034767123
37	BNP Paribas Spektra	2	0.000129422	0.009452448	0.013691896	0.031578951
40	CIMB Principal Balanced Growth	2	7.68431E-05	0.010605325	0.007245713	0.018749726
43	Cipta Balanced	2	-3.19407E-05	0.0078	-0.004121107	-0.00779353
3	Cipta Dinamika	2	0.000190846	0.002877053	0.066333945	0.046566496
38	Danareksa Anggrek	2	0.000114501	0.008643687	0.013246819	0.027938332
1	Equity Prima	2	0.000214738	0.001896796	0.11321095	0.052396079
14	First State Indonesia Balanced Fund	2	0.000239322	0.005926275	0.040383192	0.058394546
27	First State MS	2	0.000296174	0.011065871	0.026764597	0.072266357
50	Harvestindo Istimewa	2	-7.47857E-05	0.000431709	-0.173231446	-0.0182477

47	Harvestindo Maxima	2	-9.00203E-05	0.003701111	-0.024322497	-0.021964941
33	HPAM Premium I	2	0.000240943	0.011427576	0.021084309	0.058789978
35	Intru Garuda Satu	2	9.88679E-05	0.005108082	0.019355192	0.024123769
4	Kresna Fleksima	2	0.00062687	0.009737991	0.064373682	0.152956369
48	Kresna IPB	2	-0.000325089	0.011382479	-0.028560492	-0.079321765
41	Kresna Mrs Flex	2	7.32473E-05	0.012166145	0.006020585	0.017872343
32	Mandiri Investa Aktif	2	0.000188347	0.008628722	0.021827874	0.045956586
28	Manulife Dana Campuran II	2	0.000189137	0.007300796	0.025906398	0.046149507
22	Manulife Dana Stabil Berimbang	2	0.000154227	0.005345704	0.028850602	0.037631338
34	Manulife Dana Tumbuh Berimbang	2	0.000187776	0.009224946	0.020355265	0.045817397
9	Maybank GMT Dana Fleksi	2	0.000315456	0.006908668	0.045660927	0.076971311
45	Mega Dana Kombinasi	2	-6.07232E-05	0.007305307	-0.008312199	-0.014816453
15	Minna Padi Keraton	2	0.000317371	0.007970468	0.039818305	0.077438409
11	MNC Dana Kombinasi	2	0.000362103	0.008394444	0.043136022	0.088353115
49	Net Dana Fleksi	2	-0.000391951	0.0082839	-0.047314809	-0.095636081
5	Nikko BUMN Plus	2	0.000467854	0.009054557	0.051670549	0.114156354
16	Panin Dana Unggulan	2	0.000333731	0.008387876	0.039787365	0.081430484
18	Pratama Berimbang	2	0.000466379	0.012146865	0.038394997	0.113796442
46	Prospera Balance	2	-0.000247322	0.013430311	-0.018415221	-0.060346601
36	SAM Dana Berkembang	2	0.000185618	0.010672472	0.017392185	0.045290696
2	Schroder Dana Kombinasi	2	0.000265987	0.003909866	0.068029779	0.064900907
24	Schroder Dana Terpadu II	2	0.000214796	0.00774991	0.027715961	0.052410275
19	Schroder Providence Fund	2	0.000351545	0.009593253	0.03664505	0.085777033
7	Semesta Dana Maxima	2	0.000418144	0.008677319	0.0481882	0.102027227
42	Star Balanced	2	3.2787E-05	0.008530589	0.003843462	0.008000027
13	Sucorinvest FF	2	0.000469746	0.01126106	0.041714161	0.114617943

8	TRIM Kombinasi II	2	0.000399848	0.008739006	0.045754365	0.097562828
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APPENDIX III: Modified Covariance-Ranked Indonesian Managed Funds (2011 – MID 2015)

Rank	Funds	DAILY RETURN	DAILY SQ HV	COVARIANCE (DAILY)	ANNUAL RETURN
1	Equity Prima	0.000214738	0.001889843	0.113627457	0.052396079
2	Schroder Dana Kombinasi	0.000265987	0.004203695	0.063274649	0.064900907
3	Cipta Dinamika	0.000190846	0.003053301	0.062504898	0.046566496
4	Kresna Fleksima	0.00062687	0.010345575	0.060593094	0.152956369
5	Nikko BUMN Plus	0.000467854	0.009554207	0.048968365	0.114156354
6	Schroder Syariah Balanced Fund	0.000408613	0.00879841	0.046441698	0.099701601
7	Semesta Dana Maxima	0.000418144	0.009815194	0.042601742	0.102027227
8	Aberdeen Dana Handal	0.000231186	0.005511335	0.041947454	0.056409497
9	MNC Dana Kombinasi	0.000362103	0.00871918	0.041529472	0.088353115
10	SAM Syariah Berimbang	0.000444181	0.010856313	0.040914518	0.108380119
11	Maybank GMT Dana Fleksi	0.000315456	0.00774934	0.040707493	0.076971311
12	TRIM Kombinasi II	0.000399848	0.009873174	0.04049839	0.097562828
13	First State Indonesia Balanced Fund	0.000239322	0.006138425	0.038987513	0.058394546
14	Sucorinvest FF	0.000469746	0.012143587	0.038682613	0.114617943
15	Minna Padi Keraton	0.000317371	0.00840934	0.037740244	0.077438409
16	BNP Paribas Equitra	0.000142488	0.003788246	0.037613243	0.034767123
17	Panin Dana Unggulan	0.000333731	0.008936461	0.037344928	0.081430484
18	Pratama Berimbang	0.000466379	0.013136596	0.035502261	0.113796442
19	AAA Balanced Fund	0.000289111	0.008756112	0.033018183	0.070543059
20	TRIM Syariah Berimbang	0.000338633	0.010285979	0.032921779	0.08262639

21	Schroder Providence Fund	0.000351545	0.010744175	0.032719611	0.085777033
22	AXA Maestro Berimbang	0.000259872	0.009718751	0.026739259	0.063408818
23	Manulife Dana Stabil Berimbang	0.000154227	0.00580612	0.026562796	0.037631338
24	AAA Amanah Syariah Fund	0.00018935	0.007358527	0.025732084	0.046201456
25	Cipta Syariah Balance	0.000234928	0.009163838	0.025636392	0.057322369
26	Schroder Dana Terpadu II	0.000214796	0.008417376	0.025518192	0.052410275
27	First State MS	0.000296174	0.011832772	0.025029941	0.072266357
28	Manulife Dana Campuran II	0.000189137	0.008063858	0.023454942	0.046149507
29	HPAM Premium I	0.000240943	0.010695841	0.02252675	0.058789978
30	Aberdeen Indonesia Balanced Growth Fund	0.000209941	0.009791251	0.021441676	0.051225563
31	Batavia Dana Dinamis	0.000227609	0.01119147	0.020337699	0.055536534
32	BNP Paribas Dana Investa	0.00021732	0.010712737	0.020286104	0.053026005
33	Mandiri Investa Aktif	0.000188347	0.009380444	0.020078651	0.045956586
34	Manulife Dana Tumbuh Berimbang	0.000187776	0.010167813	0.018467709	0.045817397
35	Intru Garuda Satu	9.88679E-05	0.005674813	0.017422232	0.024123769
36	SAM Dana Berkembang	0.000185618	0.011429647	0.016240013	0.045290696
37	BNP Paribas Spektra	0.000129422	0.010684277	0.012113307	0.031578951
38	Danareksa Anggrek	0.000114501	0.009694351	0.011811143	0.027938332
39	AXA Citra Gold	5.65544E-05	0.006471466	0.008739041	0.013799275
40	CIMB Principal Balanced Growth	7.68431E-05	0.010817708	0.007103458	0.018749726
41	Kresna Mrs Flex	7.32473E-05	0.011954466	0.006127192	0.017872343
42	Star Balanced	3.2787E-05	0.009548476	0.003433741	0.008000027
43	Cipta Balanced	-3.19407E-05	0.008161618	-0.003913525	-0.00779353
44	PNM Syariah	-6.43216E-05	0.008905949	-0.007222317	-0.015694468
45	Mega Dana Kombinasi	-6.07232E-05	0.00799181	-0.007598175	-0.014816453
46	Prospera Balance	-0.000247322	0.014969522	-0.016521713	-0.060346601

47	Kresna IPB	-0.000325089	0.01505078	-0.021599492	-0.079321765
48	Harvestindo Maxima	-9.00203E-05	0.003899	-0.023088038	-0.021964941
49	Net Dana Fleksi	-0.000391951	0.008662222	-0.04524834	-0.095636081
50	Harvestindo Istimewa	-7.47857E-05	0.000503323	-0.148583733	-0.0182477

*Rank is based on Covariance (daily)

**Weighted annual return = daily return x 244 (shortest number of days in a year for mixed funds)

APPENDIX IV: Ranked CAPM Beta of Indonesian Managed Funds (2011 – MID 2015)

No	Funds	Bj	P-Value	Validity (Alpha = 5%)	Distance
1	Equity Prima	0.058201233	6.50732E-09	Valid	0.058201233
2	HPAM Premium I	-0.063965867	0.295372147	Not Valid	0.063965867
3	Aberdeen Dana Handal	0.065628658	0.024687112	Valid	0.065628658
4	BNP Paribas Equitra	0.072061548	0.000170718	Valid	0.072061548
5	Harvestindo Istimewa	-0.077463862	0.49420622	Not Valid	0.077463862
6	Cipta Dinamika	0.087502832	8.85405E-09	Valid	0.087502832
7	Schroder Dana Kombinasi	0.112102243	6.12031E-08	Valid	0.112102243
8	Intru Garuda Satu	0.14326565	1.46699E-07	Valid	0.14326565
9	Harvestindo Maxima	0.146505687	1.27611E-13	Valid	0.146505687
10	Kresna Mrs Flex	-0.152672418	0.018474661	Valid	0.152672418
11	Mega Dana Kombinasi	0.179421856	3.61815E-06	Valid	0.179421856
12	Manulife Dana Stabil Berimbang	0.187171156	3.18918E-11	Valid	0.187171156
13	First State Indonesia Balanced Fund	0.197009965	3.05952E-10	Valid	0.197009965
14	Cipta Balanced	0.206880718	4.99111E-25	Valid	0.206880718
15	Nikko BUMN Plus	0.28885853	1.5887E-09	Valid	0.28885853

16	AXA Citra Gold	0.291582437	2.74508E-24	Valid	0.291582437
17	Schroder Dana Terpadu II	0.294385155	1.9104E-12	Valid	0.294385155
18	AAA Amanah Syariah Fund	0.299249323	0.000000000	Valid	0.299249323
19	Minna Padi Keraton	0.303023122	5.18451E-13	Valid	0.303023122
20	Schroder Syariah Balanced Fund	0.307273291	6.0966E-13	Valid	0.307273291
21	Manulife Dana Campuran II	0.322508	3.5978E-17	Valid	0.322508342
22	TRIM Kombinasi II	0.32351977	6.72932E-12	Valid	0.32351977
23	Maybank GMT Dana Fleksi	0.331975697	8.22026E-20	Valid	0.331975697
24	TRIM Syariah Berimbang	0.332573524	2.91996E-11	Valid	0.332573524
25	AAA Balanced Fund	0.336514235	1.96424E-15	Valid	0.336514235
26	Net Dana Fleksi	0.34613048	1.78429E-15	Valid	0.346130476
27	PNM Syariah	0.366126908	2.83952E-18	Valid	0.366126908
28	Kresna Fleksima	0.370795083	6.52809E-13	Valid	0.370795083
29	Danareksa Anggrek	0.389822456	7.454E-18	Valid	0.389822456
30	Mandiri Investa Aktif	0.398298008	1.17196E-18	Valid	0.398298008
31	SAM Syariah Berimbang	0.40639231	2.58774E-14	Valid	0.40639231
32	Semesta Dana Maxima	0.429161767	4.68193E-21	Valid	0.429161767
33	Panin Dana Unggulan	0.434124982	2.99057E-23	Valid	0.434124982
34	Aberdeen Indonesia Balanced Growth Fund	0.441362357	1.6414E-20	Valid	0.441362357
35	Manulife Dana Tumbuh Berimbang	0.447679676	1.57526E-20	Valid	0.447679676
36	AXA Maestro Berimbang	0.448794441	1.74961E-21	Valid	0.448794441
37	MNC Dana Kombinasi	0.451349235	4.74047E-25	Valid	0.451349235
38	Cipta Syariah Balance	0.465181404	1.91858E-24	Valid	0.465181404
39	Sucorinvest FF	0.482301159	4.62849E-16	Valid	0.482301159
40	Batavia Dana Dinamis	0.48403881	9.87161E-20	Valid	0.484038807
41	BNP Paribas Dana Investa	0.493637275	4.04997E-24	Valid	0.493637275

42	BNP Paribas Spektra	0.493637275	1.16158E-23	Valid	0.493637275
43	Kresna IPB	0.496878976	8.60291E-17	Valid	0.496878976
44	SAM Dana Berkembang	0.5181455	1.51607E-20	Valid	0.5181455
45	Star Balanced	0.521362298	2.3841E-29	Valid	0.521362298
46	CIMB Principal Balanced Growth	0.535741643	3.51121E-22	Valid	0.535741643
47	First State MS	0.545361168	3.79797E-21	Valid	0.545361168
48	Pratama Berimbang	0.617396023	1.90424E-22	Valid	0.617396023
49	Schroder Providence Fund	0.633495888	2.17503E-21	Valid	0.633495888
50	Prospera Balance	0.637261559	1.15683E-19	Valid	0.637261559

APPENDIX V: Higher Moments of Indonesian Managed Funds (2011 – MID 2015)

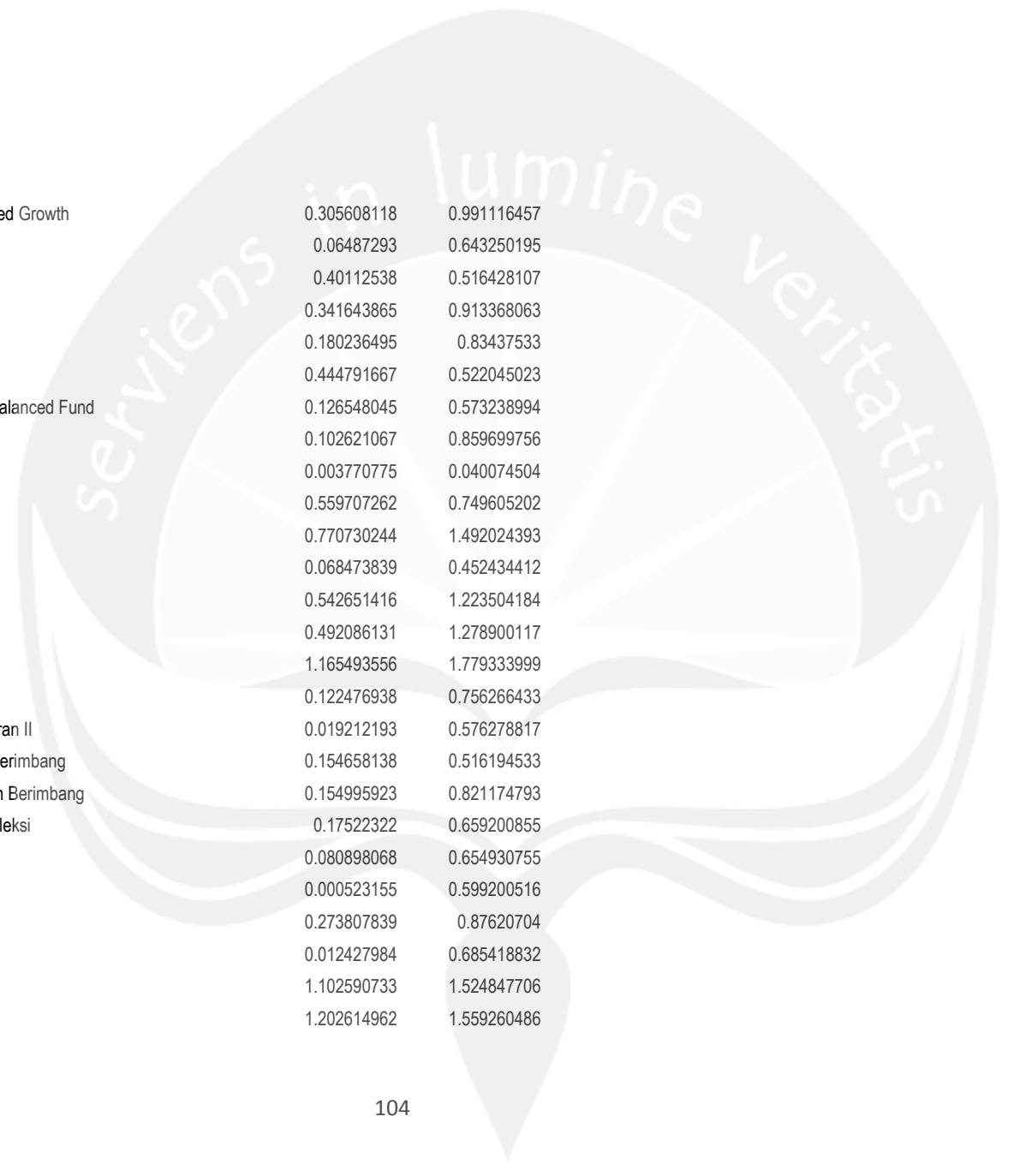
No	Funds	Skewness - DAILY	Kurtosis - DAILY	T-Stat (Skewness)	T-Stat (Kurtosis)	Skewness Validity	Kurtosis Validity
1	AAA Amanah Syariah Fund	-0.545367705	6.977802828	-7.384313633	26.92985245	Skewed	Kurtotic
2	AAA Balanced Fund	-0.573411661	8.405211106	-7.764030597	-21.33004657	Skewed	Kurtotic
3	Aberdeen Dana Handal	-0.150656681	13.32760287	-2.03990111	69.91820196	Skewed	Kurtotic
4	Aberdeen Indonesia Balanced Growth Fund	-0.554601153	9.194609527	-7.509335113	41.93770475	Skewed	Kurtotic
5	AXA Citra Gold	-1.662675702	17.46953939	-22.51273543	97.95924477	Skewed	Kurtotic
6	AXA Maestro Berimbang	-0.555928921	8.24446779	-7.52731318	35.50521478	Skewed	Kurtotic
7	Batavia Dana Dinamis	-0.790525341	9.569195654	-10.70376371	44.47366482	Skewed	Kurtotic
8	BNP Paribas Dana Investa	-0.632360216	9.635947411	-8.562197797	44.92557635	Skewed	Kurtotic
9	BNP Paribas Equitra	0.755544478	109.1372293	10.2301206	718.552439	Skewed	Kurtotic
10	BNP Paribas Spektra	-1.155643275	12.43113731	-15.64748392	63.84910142	Skewed	Kurtotic
11	CIMB Principal Balanced Growth	-0.466666153	10.60003726	-6.31868958	51.45249547	Skewed	Kurtotic
12	Cipta Balanced	-0.73930694	12.38138962	-10.01026329	63.51230795	Skewed	Kurtotic

13	Cipta Dinamika	-0.316352856	4.328920255	-4.283437919	8.996832657	Skewed	Kurtotic
14	Cipta Syariah Balance	-0.339092239	14.05943791	-4.591330614	74.87274862	Skewed	Kurtotic
15	Danareksa Anggrek	-0.894996929	9.247913405	-12.1183157	42.29857371	Skewed	Kurtotic
16	Equity Prima	-0.040233195	132.8360122	-0.544760035	878.9939577	Not Skewed	Kurtotic
17	First State Indonesia Balanced Fund	0.626672115	129.4017265	8.485180551	855.7437339	Skewed	Kurtotic
18	First State MS	-0.527548175	7.84807036	-7.14303605	32.82159149	Skewed	Kurtotic
19	Harvestindo Istimewa	0.512764367	479.2280036	6.942862352	3224.078826	Skewed	Kurtotic
20	Harvestindo Maxima	-0.687503233	11.11139646	-9.30883778	54.91441361	Skewed	Kurtotic
21	HPAM Premium I	0.80052384	22.87543223	10.83914403	134.5573123	Skewed	Kurtotic
22	Intru Garuda Satu	-0.926223638	8.463761519	-12.54112735	36.98984034	Skewed	Kurtotic
23	Kresna Fleksima	-0.751424449	16.75985741	-10.17433513	93.15467502	Skewed	Kurtotic
24	Kresna IPB	-0.610611557	12.06935919	-8.267719565	61.39985199	Skewed	Kurtotic
25	Kresna Mrs Flex	0.732440982	19.46034209	9.917297778	111.4370428	Skewed	Kurtotic
26	Mandiri Investa Aktif	-0.520651796	7.557693226	-7.049658638	30.85572901	Skewed	Kurtotic
27	Manulife Dana Campuran II	-0.547706939	7.030988354	-7.415987015	27.28992017	Skewed	Kurtotic
28	Manulife Dana Stabil Berimbang	-0.299560691	6.759716064	-4.056070934	25.45339808	Skewed	Kurtotic
29	Manulife Dana Tumbuh Berimbang	-0.747612098	8.512846803	-10.12271566	37.32214929	Skewed	Kurtotic
30	Maybank GMT Dana Fleksi	-0.847859958	8.504139424	-11.48007811	37.26320005	Skewed	Kurtotic
31	Mega Dana Kombinasi	-0.530378919	17.57490865	-7.181364514	98.67259802	Skewed	Kurtotic
32	Minna Padi Keraton	-0.384194107	10.95708359	-5.202012806	53.86971053	Skewed	Kurtotic
33	MNC Dana Kombinasi	-0.427202521	15.65403479	-5.784349472	85.66822048	Skewed	Kurtotic
34	Net Dana Fleksi	-0.513410445	7.931959865	-6.951610285	33.38952613	Skewed	Kurtotic
35	Nikko BUMN Plus	-0.610604263	12.01811829	-8.267620808	61.05294943	Skewed	Kurtotic
36	Panin Dana Unggulan	-0.642106707	10.05741431	-8.694165918	47.77892077	Skewed	Kurtotic
37	PNM Syariah	-0.735859392	7.812434769	-9.963583275	32.5803374	Skewed	Kurtotic
38	Pratama Berimbang	-0.588586278	9.661028613	-7.969495884	45.09537689	Skewed	Kurtotic

39	Prospera Balance	-1.168482987	14.31816463	-15.82133443	76.62433676	Skewed	Kurtotic
40	SAM Dana Berkembang	-0.641890505	7.961481881	-8.691238525	33.58939112	Skewed	Kurtotic
41	SAM Syariah Berimbang	-0.501842882	5.771814547	-6.794984746	18.76527319	Skewed	Kurtotic
42	Schroder Dana Kombinasi	-0.513287534	8.608033283	-6.949946068	37.9665648	Skewed	Kurtotic
43	Schroder Dana Terpadu II	-0.557112222	6.851497175	-7.543335139	26.07475914	Skewed	Kurtotic
44	Schroder Providence Fund	-0.773648474	9.046088655	-10.47524985	40.93221369	Skewed	Kurtotic
45	Schroder Syariah Balanced Fund	-0.619217107	12.41602868	-8.384239261	63.74681549	Skewed	Kurtotic
46	Semesta Dana Maxima	-0.933956027	9.979112379	-12.64582439	47.24881416	Skewed	Kurtotic
47	Star Balanced	-0.828916172	15.80289072	-11.22357803	86.6759799	Skewed	Kurtotic
48	Sucorinvest FF	-0.500644094	9.041336325	-6.778753076	40.90004026	Skewed	Kurtotic
49	TRIM Kombinasi II	-0.787601081	8.283634376	-10.66416905	35.77037382	Skewed	Kurtotic
50	TRIM Syariah Berimbang	-0.596092718	7.66419631	-8.07113356	31.57675829	Skewed	Kurtotic

APPENDIX VI: VaR and CVaR of Indonesian Managed Funds (2011 – MID 2015)

No	Funds	VaR (%)	CVaR (%)
1	AAA Amanah Syariah Fund	0.257890341	0.694824121
2	AAA Balanced Fund	0.024517553	9.526564399
3	Aberdeen Dana Handal	0.345737859	0.666532293
4	Aberdeen Indonesia Balanced Growth Fund	0.071209084	0.799601668
5	AXA Citra Gold	0.132864274	0.541620339
6	AXA Maestro Berimbang	0.25810493	0.869073636
7	Batavia Dana Dinamis	0.346224694	21.36399242
8	BNP Paribas Dana Investa	0.395434529	1.030666546
9	BNP Paribas Equitra	0.108561966	0.355611979
10	BNP Paribas Spektra	0.747561148	1.284927911



11	CIMB Principal Balanced Growth	0.305608118	0.991116457
12	Cipta Balanced	0.06487293	0.643250195
13	Cipta Dinamika	0.40112538	0.516428107
14	Cipta Syariah Balance	0.341643865	0.913368063
15	Danareksa Anggrek	0.180236495	0.83437533
16	Equity Prima	0.444791667	0.522045023
17	First State Indonesia Balanced Fund	0.126548045	0.573238994
18	First State MS	0.102621067	0.859699756
19	Harvestindo Istimewa	0.003770775	0.040074504
20	Harvestindo Maxima	0.559707262	0.749605202
21	HPAM Premium I	0.770730244	1.492024393
22	Intru Garuda Satu	0.068473839	0.452434412
23	Kresna Fleksima	0.542651416	1.223504184
24	Kresna IPB	0.492086131	1.278900117
25	Kresna Mrs Flex	1.165493556	1.779333999
26	Mandiri Investa Aktif	0.122476938	0.756266433
27	Manulife Dana Campuran II	0.019212193	0.576278817
28	Manulife Dana Stabil Berimbang	0.154658138	0.516194533
29	Manulife Dana Tumbuh Berimbang	0.154995923	0.821174793
30	Maybank GMT Dana Fleksi	0.17522322	0.659200855
31	Mega Dana Kombinasi	0.080898068	0.654930755
32	Minna Padi Keraton	0.000523155	0.599200516
33	MNC Dana Kombinasi	0.273807839	0.87620704
34	Net Dana Fleksi	0.012427984	0.685418832
35	Nikko BUMN Plus	1.102590733	1.524847706
36	Panin Dana Unggulan	1.202614962	1.559260486

37	PNM Syariah	0.147974398	0.764100434
38	Pratama Berimbang	1.099622028	1.770101663
39	Prospera Balance	0.672978432	1.474999472
40	SAM Dana Berkembang	0.256830359	1.033161077
41	SAM Syariah Berimbang	0.043933453	0.845526351
42	Schroder Dana Kombinasi	0.523855873	0.695788565
43	Schroder Dana Terpadu II	0.850042946	1.191921602
44	Schroder Providence Fund	0.124477527	0.845858522
45	Schroder Syariah Balanced Fund	0.007439621	0.306342121
46	Semesta Dana Maxima	0.53060965	1.021679456
47	Star Balanced	0.585255651	1.077709718
48	Sucorinvest FF	0.388205171	1.147096764
49	TRIM Kombinasi II	0.299014966	0.900306406
50	TRIM Syariah Berimbang	0.154398075	0.826472723

APPENDIX VII: Slacks Solution of DEA Model Among Indonesian Managed Funds (2011 – MID 2015)

No	DMU Name	STDEV of Return (%)	SQ of LV (%)	Bj	Skewness	Kurtosis	VaR (%)	CVaR (%)	Sharpe (%)	Treynor (%)	Jensen Alpha (%)	Return (%)
1	AAA Amanah Syariah Fund	0.0072	0.0023	0.0421	0.0000	0.0000	0.0000	0.0000	0.0000	0.0203	0.0092	0.0084
2	AAA Balanced Fund	0.0056	0.0000	0.0084	0.0000	0.0000	0.0000	8.9707	0.0000	0.0011	0.0010	0.0009
3	Aberdeen Dana Handal Aberdeen Indonesia Balanced	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
4	Growth Fund	0.0117	0.0000	0.0538	0.0635	0.0000	0.0000	0.0501	0.0000	0.0054	0.0022	0.0009
5	AXA Citra Gold	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
6	AXA Maestro Berimbang	0.0037	0.0000	0.0819	0.0539	0.0000	0.0000	0.0000	0.0000	0.0099	0.0034	0.0016
7	Batavia Dana Dinamis	0.0000	0.0045	0.0556	0.0000	0.0000	0.0000	12.6671	0.0000	0.0159	0.0066	0.0044

8	BNP Paribas Dana Investa	0.0000	0.0021	0.0798	0.0524	0.0000	0.0000	0.0000	0.0000	0.0204	0.0085	0.0056
9	BNP Paribas Equitra	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10	BNP Paribas Spektra	0.0000	0.0139	0.0951	0.0000	0.0000	0.1011	0.0736	0.0000	0.0113	0.0113	0.0081
11	CIMB Principal Balanced Growth	0.0409	0.0000	0.0732	0.1924	0.0000	0.0000	0.0035	0.0000	0.0242	0.0145	0.0116
12	Cipta Balanced	0.0871	0.0678	0.0000	0.1901	0.0000	0.0000	0.0620	1.1306	0.0137	0.0198	0.0174
13	Cipta Dinamika	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	Cipta Syariah Balance	0.0208	0.0000	0.1063	0.2594	0.0000	0.0000	0.1612	0.0000	0.0346	0.0095	0.0070
15	Danareksa Anggrek	0.0000	0.0224	0.0624	0.0000	0.0000	0.0000	0.0129	0.1833	0.0125	0.0129	0.0112
16	Equity Prima	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
17	First State Indonesia Balanced Fund	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
18	First State MS	0.0690	0.0651	0.1057	0.0720	0.0000	0.0000	0.0000	0.0000	0.0179	0.0058	0.0038
19	Harvestindo Istimewa	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20	Harvestindo Maxima	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21	HPAM Premium I	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22	Intru Garuda Satu	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
23	Kresna Fleksima	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
24	Kresna IPB	0.0000	0.1223	0.0217	0.1432	0.0000	0.0000	0.0159	3.3062	0.1116	0.0564	0.0536
25	Kresna Mrs Flex	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
26	Mandiri Investa Aktif	0.0070	0.0054	0.0341	0.0631	0.0000	0.0000	0.0000	0.0607	0.0149	0.0066	0.0056
27	Manulife Dana Campuran II	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	Manulife Dana Stabil Berimbang	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
29	Manulife Dana Tumbuh Berimbang	0.0087	0.0228	0.0777	0.0000	0.0000	0.0000	0.0000	0.0000	0.0126	0.0098	0.0080
30	Maybank GMT Dana Fleksi	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
31	Mega Dana Kombinasi	0.0785	0.0785	0.0000	0.4620	0.0000	0.0000	0.0792	0.4037	0.0848	0.0171	0.0164
32	Minna Padi Keraton	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

33	MNC Dana Kombinasi	0.0310	0.0000	0.1324	0.2348	1.3750	0.0000	0.2265	0.0000	0.0348	0.0021	0.0000
34	Net Dana Fleksi	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35	Nikko BUMN Plus	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
36	Panin Dana Unggulan	0.0173	0.0000	0.1057	0.0658	0.0000	0.5254	0.4071	0.0000	0.0108	0.0020	0.0000
37	PNM Syariah	0.0000	0.0182	0.0614	0.0000	0.0000	0.0000	0.0169	2.9643	0.0721	0.0328	0.0316
38	Pratama Berimbang	0.0000	0.0126	0.1097	0.0679	0.0000	0.7284	0.5182	0.2247	0.0258	0.0022	0.0000
39	Prospera Balance	0.0323	0.0518	0.0675	0.0000	0.0000	0.0000	0.0000	1.6652	0.0728	0.0501	0.0457
40	SAM Dana Berkembang	0.0022	0.0014	0.0692	0.0053	0.0000	0.0000	0.0000	0.4625	0.0360	0.0162	0.0139
41	SAM Syariah Berimbang	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
42	Schroder Dana Kombinasi	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
43	Schroder Dana Terpadu II	0.0000	0.0097	0.0068	0.0000	0.0000	0.3679	0.2364	0.0000	0.0154	0.0087	0.0068
44	Schroder Providence Fund	0.0000	0.0208	0.1879	0.0000	0.0000	0.0000	0.0335	0.0000	0.0114	0.0013	0.0000
45	Schroder Syariah Balanced Fund	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
46	Semesta Dana Maxima	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
47	Star Balanced	0.0000	0.0132	0.1203	0.1319	0.0000	0.0000	0.0146	0.0000	0.0187	0.0183	0.0144
48	Sucorinvest FF	0.0000	0.0097	0.0320	0.1083	0.0000	0.1822	0.0902	0.1241	0.0132	0.0009	0.0000
49	TRIM Kombinasi II	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50	TRIM Syariah Berimbang	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Efficient Amount		34	30	25	34	49	44	31	39	24	23	28
Inefficient Amount		16	20	25	16	1	6	19	11	26	27	22