EFFICIENCY OF INDONESIA'S MUTUAL FUNDS DURING 2007-2011 BY USING DATA ENVELOPMENT ANALYSIS (DEA)

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Abstract

The purpose of this research was to assess the efficiency of mutual funds in Indonesia during the period 2007 to 2011. To measure their efficiencies, the output-input data consisting of a panel of 105 mutual funds that consisted of 29 equity mutual funds, 38 balanced mutual funds and 39 fixed mutual funds were empirically examined based on the most commonly used non-parametric approach, namely, Data Envelopment Analysis (DEA). The study found that based on the average score in during 2007 – 2011 performance of equity mutual fund Commonwealth Life Investra Equity had the highest index score, meanwhile Trimegah - trim capital was the lowest, performance of balanced mutual fund Reksa Dana CIMB-principal Dollar had the highest index score, meanwhile first State Indonesian Multistrategy was the lowest. Performance of equity mutual fund Brent Dana Tetap had the highest index score, meanwhile stable debenture fund had the lowest one.

Key words: *Data Envelopment Analysis, mutual funds, portfolio performance*

Mutual funds just like other instruments, always gives the investor high return along the high risk. This characteristic is a fact that in the capital market, investors need the tools and methods to evaluate the performance of an investment, so investors able to determine what investment they should invest in. In Indonesia, mutual fund was first introduced in 1995 under the Capital Market Act no. 8 (1995). PT. BDNI Reksadana, in the year of 1996, was the first company who published the first corporation mutual fund by liquidating the 600.000 stocks at Jakarta Stock Exchange (BEJ) and Surabaya Stock Exchange (BES).

Mutual fund investment is simple, accessible, and affordable (Majid et al., 2010). A mutual fund is simple and accessible because investor gives the mandatory of the fund to an investor manager, also mutual fund is affordable because a mutual fund consists of several funds gathered from several investors, or we may call it is a collective investment.

The asset managed in the first year was Rp. 2,782 trillion, and in 1997 it grew almost 200% became Rp. 4,917 trillion. Even though in 1998 the asset decreased significantly because of the heavy monetary crisis hit Indonesia, the asset growing

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rapidly in every year until it reached Rp104,038 trillion in 2004.

Entering the year 2000-2004 mutual fund experienced a rapid growth both in the number of mutual funds and in the amount of NAV. During that period, there were 246 mutual funds with the total amount of NAV was Rp104 trillion in 2004. In 2005, when the economical condition of Indonesia was down due to the depreciation of rupiah against dollar, mutual fund in Indonesia also experiencing a significant recession. Down from Rp104,038 trillion became Rp48,331 trillion. Beside this recession, the mutual experienced a significant growth in the next 5 years (Table 1).

In the world of investment, there are several methods that can be used as a tool to evaluate and compare the performance of an instrument one to another, which are Sharpe's Ratio, Treynor's Ratio. Information ratio, Jensen's Alpha. These methods, are the methods that emphasizing only on the risk and the return from the instruments. One aspect that should be taken into account is the efficiency. Basso & Funari (2001) examined that comparison of the investment fund efficiency not only on the basis of the fund risk and return, but also on the basis of investment cost (subscription cost and redemption cost). Principally, the process

of investment management comes first is the input of investment, which is in the end it will be converted into an output. Based on this principal, writer decided to find one method that takes into account the input, which are the total cost of the investment.

One of the performance measures using the total cost to find the efficiency is called data envelopment analysis (DEA) introduced by Charnes, Cooper and Rhodes (1978) that allows to measure the relative efficiency of decision making units in presence of a multiple input-multiple output structure. Following this fact, writer chooses specifically the DEA method, a non parametric method which is fit to find the productivity of an investment based on it is efficiency.

Based on the background above, the purpose of this research is to measure the efficiency of Indonesia's mutual funds during 2007-2011 by using Data Envelopment Analysis (DEA).

DEA is a non-parametric method of measuring the efficiency of decision-making unit (DMU) such as a firm or a public agency, first introduced by Charnes, Cooper and Rhodes (1978). DEA has been used in many practical field such as hospital, telecommunication company and etc, but recently the DEA method has been used in mea-

Table 1. The Mutual Fund Net Asset Value 2005-2009

Type of Product	2005	2006	2007	2008	2009
Fixed Income Funds	13.855	19.520	21.285	10.931	20.087
Equity Funds	4.928	8.250	34.799	19.891	36.507
Money Market Funds	2.079	3.800	4.828	2.301	5.219
Mixed Funds	5.455	8.471	14.232	10.002	15.657
Protected Funds	3.086	11.547	16.345	29.331	34,623.87
Index Funds	-	29.64	117.04	100.98	290.19
Stock ETF	-	-	77.95	43.70	45.13
Fixed Income ETF	-	-	504.27	688.93	629.33
Sharia Funds	-	-	0.26	774.22	3,671.45
Discretionary Funds	18,660.69	27,057.94	40,089.55	41,926.93	55,309.21
Total	48,331	79,845	132,767	115,703	171,959

Source: Bapepam (2010)

suring the performance of mutual funds by Basso &Funari (2001), Galagedera & Silvapulle (2002), Lozano & Gutierrez (2008), Majid et al. (2010), Saad et al. (2010), Soongswang & Sanohdontre (2011), and Pendaraki (2012)

DEA can be analyzed using two orientation, an input orientation and output orientation. An input orientation gives the information about how much input should be reduced while keeping the level of output produced at the moment to increase the efficiency of inefficient DMU to become DEA efficient. The other way around, an output orientation gives the information about how much output should be increased while keeping the same level of input at the moment to improve the efficiency of inefficient DMU to become DEA efficient. A simple understanding about the DEA technique described by Galadera & Silvapulle (2002), DEA defines an efficiency measure of a fund by its position relative to frontier of the best fund performance established mathematically by the ratio of weighted sum of output to weighted sum of inputs. The estimated frontier of best performance also refered to as the envelopment surface, characterizes the efficiency of funds and identifies inefficiency.

Majid et al. (2010) assessed 23 mutual funds in Indonesia for the period of 2004-2007 to find the relative efficiency using the non-parametric method called the DEA. They used the generalized output-oriented Malmquist Index, developed by Fare et al. (1989) and Fare et al. (1994) to measure the contribution from the progress of technology (technical change)and improvement of efficiency (efficiency change) to the growth of productivity of the Indonesian mutual funds.

The 23 selected mutual funds consisting of 11 fixed income, 9 balanced funds and 3 equity funds are examined in this research. There inputs and one output are assessed in this research, there are front-end load, redemption fee and expense ratio as the input, meanwhile the total return is the output. The measurement came to the result that on average, the Total Factor Productivity (TFP) had decreased 12.8 percent within the period of 2004-2007 with 2006-2007 recording the lowest growth (-19.7 percent) indicating the average of selected mutual funds are inefficient in using their inputs to generate more output. The negative growth of the total factor productivity was mainly caused by a negative change in efficiency (-5.6 percent) and a greater negative growth in technical change (-7.5 percent). This research concluded that mostly the inefficiency increased overtime was caused by the failure of mutual funds to adopt technological advances made by a few efficient mutual funds, even though the massive crisis occurred and experienced by mutual fund of Indonesia due to the unstable Indonesian macro economy, still the reason previously mentioned is the main cause and suggested that the mutual fund industry in Indonesia has a great opportunity to promote its TFP through an improvement in the technical element such as optimizing the use of information technology in providing better services to customers (investors).

Saad et al. (2010) assessed the efficiency of selected conventional and Islamic mutual funds in Malaysia for the period of 2002-2005. This research utilizes the data envelopment analysis (DEA) to examine the mutual fund, and using two inputs and one output as the variable of operation. The input and output used are from 27 mutual funds in Malaysia with 5 Islamic mutual funds. They used only 2 inputs and 1 output because of the limitation of data, the inputs are expenses ratio and portfolio turnover ratio, while the output is the return of the mutual fund. In this research, They also used the generalized input-output oriented the Malmquist index, which is constructed using the DEA, following Fare et al (1994).The results of this research mentioning that the efficiency of the Is-

lamic unit trust companies is found to be comparable to their conventional counterparts and, to a certain extent, some of the Islamic unit trust companies were found to be above average in TFP. Two Islamic unit trust companies, namely the RHB Islamic Bond Fund and KL Ittikal Fund recorded TFP performances which were above the industrial average. Two of the five unit trust companies included in our analysis were found to experience improvements in efficiency. In addition, three Islamic unit trust companies, i.e. RHB Islamic Bond Fund, HLG Dana Makmur, and Mayban Dana Yakin recorded average deteriorations in technical efficiency lower than the industry average. The

study indicates that technical efficiency is the main contributor to enhancing the efficiency of the Malaysian unit trust industry. In addition, the larger the size of the unit trust companies, the more inefficient the performance. In comparing the efficiency of unit trust companies, the study finds that some of the Islamic unit trust companies perform better than their conventional counterparts.

Soongswang & Sanohdontre (2011) assessed the performance of 138 open ended mutual funds in Thailand for the period of 2002 -2007 managed by seventeen asset management companies. This research is using several methods: the Treynor Ratio, Sharpe's Ratio, Jensen's Alpha and Data

Table 2. Equity Mutual Fund's Index Score for 2007-2011

Unit Name	2007	2008	2009	2010	2011
AIA Financial IDR Equity Fund	0,0406	0,6190	0,5501	0,8718	0,339
Avrist Link Aggressive RP Fund	0,0505	0,0001	0,4255	0,9239	0,346
Axa Citradinamis	0,0420	0,0104	0,6452	0,6540	0,312
BNI Berkembang	0,0290	0,0000	1,0000	0,9543	0,321
BNP Paribas Ekuitas	0,0391	0,0071	0,7069	0,5550	0,281
BNP Paribas Pesona	0,0307	0,0110	0,3856	0,6027	0,287
BNP Paribas Spektra	0,0235	1,0000	0,0070	0,7064	1,000
Bahana TCW Dana Prima	0,0385	0,0103	0,5567	0,5787	0,299
Batavia Dana Dinamis	0,0453	0,3127	0,2405	0,7305	0,320
Batavia Dana Saham	0,0349	0,2301	0,2317	0,5455	0,295
CIMB-Principal Equity Aggressive	0,6442	0,0088	0,6497	0,9052	0,342
Commonwealth Life Investra Equity	1,0000	0,0072	0,4259	1,0000	0,348
Dana Equitas Andalan	0,0488	0,3767	0,2672	0,6115	0,287
Dana Equitas Prima	0,0413	0,0065	0,5497	0,5971	0,284
Emco Mantap	0,0205	0,0001	0,2575	0,6954	0,306
First State IndoEquity Dividend	0,0333	0,0147	0,4604	0,6742	0,304
First State IndoEquity Sectoral	0,0358	0,0120	0,4824	0,6156	0,305
Mandiri Investa Aktif	0,0322	0,0054	0,4516	0,6121	0,282
Manulife Link Dana Ekuitas	0,0329	0,0145	0,4146	0,5952	0,297
Manulife Phinisi Dana Saham	0,5116	0,0149	0,4076	0,9088	0,330
Portfolio Panin Dana Maksima	0,0174	0,4331	0,2272	0,5264	0,190
Pratama Ekuitas	0,0228	0,0043	0,4704	0,5040	0,266
Prulink Rupiah Equity Fund	0,0452	0,0160	0,4518	0,9683	0,318
Rencana Cerdas	0,0308	0,0182	0,3872	0,6411	0,275
Schroder Dana Istimewa	0,5121	0,0206	0,2923	0,9559	0,339
Schroder Dana Prestasi	0,0333	0,0207	0,2696	0,6001	0,295
Schroder Dana Prestasi Plus	0,0333	0,0207	0,2696	0,6001	0,295
Sun Life Financial Indonesia B	0,5540	0,2113	0,2947	0,9272	0,339
Trimegah - trim Kapital	0,0305	0,0060	0,4576	0,6640	0,283

Envelopment Analysis. This study was unlike others Thai's study which mostly have been closed end fund performance measurement and used weekly return, short time-period of data plus limited evaluation method. Instead, this study uses monthly and longer time-period of data covering net asset values and dividends for the five-year period (May 1, 2002 - April 30, 2007). A larger sample consisting of the returns on the portfolio of 138 open-ended equity mutual funds was examined. There are four significant sources of data used for analyses in this study set out as follows: the AIMC, asset management companies, the SET and finally, the Bank of Thailand (BOT) are another source providing 91-day coupon rate of the Thai government bonds. This research concluded that on average, the performances of Thai open-ended equity mutual funds significantly out-perform the market for all time-periods of investment, when measured using the Treynor ratio, the Sharpe ratio and the Jensen's alpha. On the other hand, the DEA method gives different result compare to the results of the traditional methods above. According to them the evidence suggests that different metrics can give different outcomes, and can be concluded that for investors who are considering fund performance evaluation applying the DEA technique should be cautious to select their open-ended equity mutual funds.

Table 3. Equity Mutual Fund's Average Index Score for 2007-2011

Ranking	Unit Name	Index Score
1	Commonwealth Life Investra Equity	1,0000
2	BNP Paribas Spektra	0,9842
3	CIMB-Principal Equity Aggressive	0,9171
4	AIA Financial IDR Equity Fund	0,8706
5	Sun Life Financial Indonesia B	0,8364
6	BNI Berkembang	0,8287
7	Manulife Phinisi Dana Saham	0,7816
8	Schroder Dana Istimewa	0,7622
9	Prulink Rupiah Equity Fund	0,6471
10	Avrist Link Aggressive RP Fund	0,6280
11	Axa Citradinamis	0,5982
12	Batavia Dana Dinamis	0,5930
13	Dana Equitas Andalan	0,5723
14	BNP Paribas Ekuitas	0,5715
15	First State IndoEquity Dividend	0,5346
16	Bahana TCW Dana Prima	0,5333
17	dana Equitas Prima	0,5316
18	First State IndoEquity Sectoral	0,5219
19	Trimegah - trim Kapital	0,5182
20	Portfolio Panin Dana Maksima	0,5015
21	Mandiri Investa Aktif	0,4974
22	Manulife Link Dana Ekuitas	0,4869
23	Rencana Cerdas	0,4864
24	Batavia Dana Saham	0,4809
25	BNP Paribas Pesona	0,4736
26	Emco Mantap	0,4599
27	Pratama Ekuitas	0,4559
28	Schroder Dana Prestasi Plus	0,4382
29	Schroder Dana Prestasi	0,4382

Table 4. The Balanced Mutual Fund's Index Score

Unit Name	2007	2008	2009	2010	2011
AAA Amanah Syariah Fund	0,01600	0,146727	0,001705	0,330641	0,046945
AAA Balanced Fund	0,02305	0,095168	0,003023	0,326900	0,050279
Allisya Rupiah Balanced Fund	1,00000	0,086506	0,002070	0,435255	0,054796
Avrist Link Advised RP Fund	0,01835	0,135634	0,002542	0,331163	0,053564
BNI Dana Plus Syariah	0,25413	0,000692	1,000000	0,210638	0,050518
BNP Paribas	0,02058	0,112846	0,001231	0,303397	0,053950
Bahana TCW Dana Infrastuktur	0,01901	0,002488	0,090819	0,167738	0,043206
Bahana TCW Dana Selaras	0,01267	0,093878	0,002640	0,269449	0,046871
Bahana TCW kombinasi Arjuna	0,01104	0,078606	0,003358	0,261542	0,045014
Brent Dana Fleksi	0,29116	0,304728	0,001423	0,598644	0,036618
CIMB-Principal Balanced Growth	0,01896	0,002836	0,109729	0,163389	0,04654
Commonwealth Life Investra Balanced	0,25082	0,002945	0,093401	0,231395	0,049856
Danareksa Anggrek	0,01381	0,091324	0,003147	0,236387	0,050573
Danareksa Anggrek Fleksibel	0,38481	0,060626	0,003330	0,193232	0,044585
Danareksa Mawar	0,27192	0,002632	0,105210	0,239424	0,049084
Danareksa Syariah Berimbang	0,01806	0,057715	0,061165	0,160426	0,045315
Reksa Dana Prima	0,01443	0,395607	0,053171	0,342981	0,052075
First State Indonesian Balanced	0,01572	0,235560	0,001271	0,431575	0,055672
First State Indonesian Multistrategy	0,01675	0,004487	0,060409	0,192941	0,046375
Garuda Satu	0,01870	0,290400	0,000654	0,988692	0,05365
Lautandhana Balanced Fund	0,01661	0,004393	0,075668	0,232877	0,048722
Maestro Berimbang	0,01926	0,071219	0,003570	0,234250	0,04711
Mandiri Investa Aktif	0,01587	0,062152	0,046546	0,211306	0,045229
Mandiri Investa Syariah Berimbang	0,01829	0,062602	0,003336	0,264870	0,047711
Mega Dana kombinasi	0,43453	0,001489	0,166467	0,011099	0,026966
PNM Syariah	0,36409	0,060798	0,040362	0,297407	0,050316
Panin Dana Unggulan	0,01146	0,238475	0,002127	0,180114	0,038965
Pratama Berimbang	0,01430	0,003498	0,173188	0,128724	0,039339
Prospera Balance	0,01893	0,002285	0,121918	0,148620	0,032101
Prulink Rupiah Managed Fund	0,01548	0,230140	0,001448	0,473467	0,056003
Reksa Dana CIMB-principal Dollar	0,01489	1,000000	0,000800	0,500018	1,000000
Reksa Dana CIMB IPB Syariah	0,45462	0,002799	0,106907	0,229391	0,045112
SAM Dana Berkembang	0,01496	0,105356	0,002705	0,246469	0,03603
Schroder Dana Kombinasi	0,01817	0,197925	0,001026	0,431818	0,053184
Semesta Dana Maxima	0,02127	0,162483	0,003649	0,211488	0,046369
Sinarmas Danamas Fleksi	0,01623	0,374223	0,000381	1,000000	0,05425
Smartlink Rupiah Balanced Fund	0,30810	0,100815	0,002220	0,386464	0,055408
Star Balanced	0,36496	0,068210	0,003061	0,228723	0,041503
Sun Life Financial Indonesia-Balanced	0,02001	0,139799	0,002247	0,330155	0,053227

Table 5. The Balanced Mutual Fund's Average Index Score for 2007-2011

Ranking	Unit Name	Index Score
1	Reksa Dana CIMB-principal Dollar	1,0000
2	Allisya Rupiah Balanced Fund	0,6275
3	BNI Dana Plus Syariah	0,6026
4	Sinarmas Danamas Fleksi	0,5744
5	Garuda Satu	0,5375
6	Brent Dana Fleksi	0,4900
7	Reksa Dana Prima	0,3412
8	Smartlink Rupiah Balanced Fund	0,3391
9	Reksa Dana CIMB IPB Syariah	0,3334
10	PNM Syariah	0,3232
11	Prulink Rupiah Managed Fund	0,3087
12	First State Indonesian Balanced	0,2941
13	Star Balanced	0,2808
14	Schroder Dana Kombinasi	0,2791
15	Danareksa Anggrek Fleksibel	0,2729
16	Danareksa Mawar	0,2656
17	Mega Dana kombinasi	0,2546
18	Commonwealth Life Investra Balanced	0,2498
19	Sun Life Financial Indonesia-Balanced	0,2168
20	AAA Amanah Syariah Fund	0,2155
21	Avrist Link Advised RP Fund	0,2151
22	AAA Balanced Fund	0,1981
23	BNP Paribas	0,1956
24	Panin Dana Unggulan	0,1873
25	Semesta Dana Maxima	0,1770
26	Bahana TCW Dana Selaras	0,1691
27	SAM Dana Berkembang	0,1612
28	Bahana TCW kombinasi Arjuna	0,1588
29	Mandiri Investa Syariah Berimbang	0,1577
30	Danareksa Anggrek	0,1571
31	Mandiri Investa Aktif	0,1515
32	Lautandhana Balanced Fund	0,1504
33	Maestro Berimbang	0,1492
34	Pratama Berimbang	0,1427
35	Danareksa Syariah Berimbang	0,1362
36	CIMB-Principal Balnced Growth	0,1357
37	Prospera Balance	0,1287
38	Bahana TCW Dana Infrastuktur	0,1285
39	First State Indonesian Multistrategy	0,1276

RESEARCH METHOD

This research is conducted to the mutual funds on period of 2007-2011. This period is chosen because during the period of 2007-2011 there was a dynamically fluctuation in the Indonesian mutual funds. The input variables used in this research are: front-end load, redemption fee and expense ratio. The output variable used in this research is return of mutual fund. Variables input

Table 6. The Fixed Mutual Fund's Index Score

Unit Name	2007	2008	2009	2010	2011
AIA Financial IDR Fixed Income Fund	0,0423	0,0888	0,4772	0,2938	0,0873
AIA Financial USD Fixed Income Fund	0,0451	0,0815	0,7567	0,1918	0,0856
Allisya Rupiah Fixed Income Fund	0,4684	0,0907	0,2533	0,4795	0,8915
Avrist Link Assured RP Fund	0,0419	0,0907	0,3711	0,3508	0,0844
Avrist Link Assured USD Fund	0,0437	0,0758	1,0000	0,1571	0,0867
Avrist Link Rupiah Secured Fund	0,0415	0,0860	0,1312	1,0000	0,8935
Avrist Link Treasure Plus US$ Fund	0,0440	0,0828	0,8011	0,1752	0,0882
BNI Dana Syariah	0,0375	0,0793	0,2869	0,3676	0,0810
BNP Paribas Rupiah Plus	1,0000	0,0875	0,1992	0,6394	0,0606
Bahana TCW Optima Pendapatan Abadi	0,0350	0,0849	0,5458	0,1946	0,0795
Bahana TCW Pendapatan Tetap Abadi	0,0371	0,0923	0,4155	0,2923	0,0643
Brent Dana Tetap	0,4887	0,0870	0,2598	0,4624	1,0000
CIMB-Principal Income Fund A	0,0396	0,0891	0,3830	0,3425	0,0862
Commonwealth Life Investra Bond	0,0411	0,0904	0,4220	0,3165	0,9027
Dana Obligasi Stabil	0,0328	0,0895	0,3853	0,2326	0,0774
Dana Tetap Harapan	0,0370	0,0883	0,5700	0,2516	0,9011
Danareksa Melati Dollar	0,0436	0,0703	0,5785	0,2819	0,0879
Dana Pasti	0,0442	0,0918	0,2635	0,4619	0,0882
First State Indonesian Bond Fund	0,0354	0,9493	0,3628	0,2605	0,0814
I-Hajj Syariah Fund	0,0392	0,0801	0,2703	0,3630	0,0808
ITB-Niaga	0,0349	0,0852	0,2721	0,3830	0,0816
Investasi Reksa Premium	0,0310	0,0860	0,0014	0,0825	0,9399
Lautandhana Fixed Income	0,0400	0,0837	0,1135	0,9351	0,0764
Mandiri Investa Dana Obligasi Se	0,0371	0,0901	0,2501	0,4938	0,0861
Manulife Link Pasar Uang	0,0440	0,9612	0,1468	0,7959	0,0889
Manulife Link Pendapatan Tetap D	0,4638	0,0848	0,4445	0,3019	0,0875
Manulife Link Pendapatan Tetap K	0,0404	0,0932	0,4047	0,3075	0,9756
Manulife Link Pendapatan Tetap N	0,0403	0,0936	0,4428	0,2878	0,9336
Manulife Obligasi Unggulan	0,0402	0,0887	0,3273	0,3919	0,9635
Mega Dana Obligasi Republik Indonesia	0,0369	0,0733	0,6853	0,2243	0,0813
Mega RIDO DUA	0,0401	0,0792	0,3657	0,3084	0,0767
NISP Dana Idola	0,0418	0,0720	0,2800	0,5921	0,0815
PG Sejahtera	0,0396	0,0830	0,4220	0,2371	0,0811
PNM Amanah Syariah	0,0384	0,0813	0,2931	0,3334	0,0816
PNM Dana Sejahtera Dua	0,0375	0,0761	0,2686	0,4739	0,0820
Prospera Obligasi	0,0382	1,0000	0,3469	0,2217	0,0812
Prospera Obligasi Plus	0,0376	0,0673	0,7641	0,1383	0,0722
Prulink Rupiah Fixed Income Fund	0,0404	0,0891	0,4693	0,2948	0,0884

and output above is chosen by referring to the research conducted by Majid et al. (2010). The object of this research are 3 types of mutual funds, equity, balanced and fixed. There are 105 mutual funds that consist of 29 equity mutual funds, 38 balanced mutual funds and 39 fixed mutual funds used on this research.

RESEARCH FINDINDS

Equity Mutual Fund

In 2007 period, Commonwealth Life Investra Equity experienced the highest index score and meanwhile Portfolio Panin Dana Maksima hit the lowest. In 2008 period, BNP Paribas Spektra expe-

Table 7. The Fixed Mutual Fund's Average Index Score for 2007-2011

Ranking	Unit Name	Index Score
1	Brent Dana Tetap	1,000000
2	Allisya Rupiah Fixed Income Fund	0,950152
3	Avrist Link Rupiah Secured Fund	0,936547
4	Manulife Link Pasar Uang	0,886369
5	BNP Paribas Rupiah Plus	0,864562
6	Dana Tetap Harapan	0,804207
7	Manulife Link Pendapatan Tetap K	0,792647
8	Manulife Obligasi Unggulan	0,788314
9	Manulife Link Pendapatan Tetap N	0,782477
10	Commonwealth Life Investra Bond	0,771440
11	First State Indonesian Bond Fund	0,735203
12	Prospera Obligasi	0,734537
13	Manulife Link Pendapatan Tetap D	0,601628
14	Avrist Link Assured USD Fund	0,593232
15	Lautandhana Fixed Income	0,543430
16	Avrist Link Treasure Plus US$ Fund	0,518362
17	AIA Financial USD Fixed Income Fund	0,505138
18	Investasi Reksa Premium	0,496474
19	Mega Dana Obligasi Republik Indonesia	0,479127
20	Prospera Obligasi Plus	0,469791
21	NISP Dana Idola	0,464516
22	Danareksa Melati Dollar	0,462259
23	AIA Financial IDR Fixed Income Fund	0,430565
24	Prulink Rupiah Fixed Income Fund	0,427304
25	Mandiri Investa Dana Obligasi Se	0,416601
26	Dana Pasti	0,413285
27	CIMB-Principal Income Fund A	0,409233
28	Bahana TCW Optima Pendapatan Abadi	0,409011
29	Avrist Link Assured RP Fund	0,408585
30	PNM Dana Sejahtera Dua	0,408280
31	Bahana TCW Pendapatan Tetap Abadi	0,392340
32	Mega RIDO DUA	0,378583
33	PG Sejahtera	0,375453
34	ITB-Niaga	0,372854
35	BNI Dana Syariah	0,370871
36	I-Hajj Syariah Fund	0,362732
37	PNM Amanah Syariah	0,360227
38	Dana Obligasi Stabil	0,355781

rienced the highest index score and meanwhile BNI Berkembang the lowest. In 2009 period, BNI Berkembang experienced the highest index score and meanwhile BNP Paribas Spektra the lowest. In 2010 period, Commonwealth Life Investra Equity experienced the highest index score and meanwhile Pratama Ekuitas the lowest. In 2011 period, BNP Paribas Spektra experienced the highest index score and meanwhile Panin Dana Maksima hit the lowest. (Table 2) and for all performance of equity mutual fund during 2007-2011 in average, during 2007-2011 Commonwealth Life Investra Equity has the highest index score, meanwhile Trimegah - trim Kapital is the lowest. (Table 2).

Balanced Mutual Fund

In 2007 period, Allisya Rupiah Balanced Fund experienced the highest index score and meanwhile Panin Dana Unggulan hit the lowest. In 2008 period, Reksa Dana CIMB-principal Dollar experienced the highest index score and meanwhile BNI Dana Plus Syariah hit the lowest. In 2009 period, BNI Dana Plus Syariah experienced the highest index score and meanwhile Sinarmas Danamas Fleksi hit the lowest. In 2010 period, Sinarmas Danamas Fleksi experienced the highest index score and meanwhile Mega Dana kombinasi hit the lowest. In 2011 period, Reksa Dana CIMB-principal Dollar experienced the highest index score and meanwhile Mega Dana kombinasi hit the lowest. (Table 4) and for all performance of balanced mutual fund during 2007-2011. In average, during 2007-2011 Reksa Dana CIMB-principal Dollar has the highest index score, meanwhile Prospera Balance is the lowest (Table 4).

Fixed Mutual Fund

In 2007 period, BNP Paribas Rupiah Plus experienced the highest index score and meanwhile Investasi Reksa Premium hit the lowest. In 2008 period, Prospera Obligasi experienced the highest

index score and meanwhile Danareksa Melati Dollar the lowest. In 2009 period, Avrist Link Assured USD Fund experienced the highest index score and meanwhile Investasi Reksa Premium hit the lowest. In 2010 period, Avrist Link Rupiah Secured Fund experienced the highest index score and meanwhile Prospera Obligasi Plus hit the lowest. In 2011 period, Brent Dana Tetap experienced the highest index score and meanwhile BNP Paribas Rupiah Plus hit the lowest. (Table 6) and for all performance of equity mutual fund during 2007-2011 in average, during 2007-2011 Brent Dana Tetap has the highest index score, meanwhile Dana Obligasi Stabil is the lowest. (Table 7).

DISCUSSION

This research shows that that no one of Fixed mutual funds performed every year during 2007-2011, for equity mutual funds' performance eventhough Commonwealth Life Investra Equity has the highest index score (Table 3). But in 2008, 2009 and 2011 (Table 2) Commonwealth Life Investra Equity has experienced that its performance sound underperformed. Meanwhile for balanced mutual funds' performance, Eventhough in average, during 2007-2011 Reksa Dana CIMB-principal Dollar has the highest index score (Table 5), but in 2007, 2009, and 2010 Reksa Dana CIMB-principal Dollar has also experienced that its performance sound underperformed (Table 4) and Finally for Fixed Mutual funds' Performance, Eventhough in average, during 2007-2011 Brent Dana Tetap has the highest index score (Table 7) this research also founds that Brent Dana Tetap has also experienced that its performance sound underperformed in 2007, 2008, 2009, and 2010 (Table 6). The results of this study in line with that of Pendaraki (2012). It means that the portfolio manager should adjust their portfolio every year.its mean portfolio manager should adjusted their portfolio every year.

CONCLUSION AND SUGGESTION

Conclusion

This study is conducted to assess the efficiency of the mutual funds in Indonesia on period of 2007-2011 using front-end load, redemption fee and expense ratio as input variables and return of mutual fund as output variabel. There are 105 mutual funds that consist of 29 equity mutual funds, 38 balanced mutual funds and 39 fixed mutual funds used on this research. Findings from this research shows that Based on the average score in during 2007–2011 for for all performance of equity mutual fund Commonwealth Life Investra Equity has the highest index score, meanwhile Trimegah - trim Capital is the lowest. **F**or all performance of balanced mutual fund Reksa Dana CIMB-principal Dollar has the highest index score, meanwhile First State Indonesian Multistrategy is the lowest, and for all performance of equity mutual fund Brent Dana Tetap has the highest index score, meanwhile Dana Obligasi Stabil is the lowest.

Suggestion

For futher research, the characteristics of return's distribution may be developed (e.g. curtosis and skewness behaviour), and developing variable that effect return of mutual funds can be elaborated. For Practicioners this research can be used to measure the performance of mutual funds and finding from this reserach, practicioners should adjust the portfolio performance to maximize their investment.

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