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**AIMC logo**

**Notification of the Association of Investment Management Companies**

**No. SorJorKor. KorChor. 2/2552**

**Re: Performance Measurement Standards for Provident Funds**

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To standardize rules and procedures for measuring the performance of provident funds and comparisons with proper benchmarks corresponding to the investment policies and type of assets invested, by virtue of clause 25 of the regulation of the Association of Investment Management Companies, the Board of Directors of the Association of Investment Management Companies hereby issues the following performance measurement standards for provident funds:

Clause 1 The Notification of the Association of Investment Management Companies no. SorJorKor. KorChor. 1/2552 Re: Performance Measurement Standards for Provident Funds, dated 28 July B.E.2552 shall be repealed.

Clause 2 In this Notification,

"Association" refers to the Association of Investment Management Companies.

"Board of directors" refers to the board of directors of the Association of Investment Management Companies.

"Provident Fund Business Group Committee" refers to the committee of the group of provident fund management companies within the Association of Investment Management Companies.

"Sub-Committee on Performance Measurement Standards for Provident Funds" refers to the sub-committee that handles performance measurement standards for the provident fund business group of the Association of Investment Management Companies.

"SEC" refers to the Securities and Exchange Commission.

"Provident Fund" refers to a provident fund established by an employer and employees of a company and registered with the Provident Fund Registrar.

"Management company" refers to a company that is a member of the Association of Investment Management Companies that is licensed to operate a securities business involving the management of private funds that are provident funds.

"Provident Fund Committee" refers to the committee overseeing the provident fund.

"Provident Fund Member" refers to a member of the provident fund.

## **I) Principles for provident fund performance measurements**

Clause 3 The management company is responsible for disclosing provident fund performance measurements through various channels and to the public and prospective customers, that are presented fairly, accurately, and thoroughly, with the intention of presenting a truthful summary of fund performance without being misleading. When comparing the performance of several provident funds, the management company must only compare funds belonging to the same category and for the same period.

Clause 4 Calculation of provident fund performance consist of the following principles:

4.1 The provident fund performance being presented must be Total Return based on the Accrual Accounting standard.

4.2 The management company shall calculate the Total Return by determining the change in the NAV per Unit (Unit Value Growth or Percentage Change of Unit) at the end of the month, and calculate Benchmark Return on a monthly basis. Calculate the cumulative total return for longer periods by Geometric Link.

## **II) Provident Fund Classification**

### **Clause 5 Provident fund categories for performance comparison**

The management company shall classify a fund based on the investment policy jointly agreed, in writing, by the Provident Fund Committee and the management company. Fund categories include:

#### **5.1 General funds**

##### **5.1.1 Equity Fund (EQF)**

means a fund with a policy to invest or hold equity securities, averaging no less than sixty-five percent during the fiscal year ( $\geq 65\%$  of the fund's net asset value).

##### **5.1.2 Fixed Income Fund**

means a fund with a policy to invest or hold cash deposits, debt instruments, securities or other assets or other means of generating financial returns as permitted by SEC notification on Rules, Terms and Procedures for Establishment and Management of Funds, which can be further divided into the following 6 categories:

a) *Fixed income: Money Market Fund (MMF)*

Money Market Fund is a fund with a policy to invest in cash deposits, debt instruments or any other securities permitted by SEC notification, where investments must be callable or mature within 1 year from date of investment.

b) *Fixed Income - Money Market Fund - Government Related Bond (MMG)*

Money Market Fund - Government Related Bond Fund is a fund with a policy to invest in treasury bills, government bonds, Bank of Thailand bonds, bonds of the Financial Institutions Development Fund (FIDF), cash deposits, debt instruments guaranteed by the Ministry of Finance or Financial Institutions Development Fund (FIDF), whereby investments must be callable or mature within 1 year from investment date.

c) *Short-term Fixed Income Fund (SFF)*

Short-term Fixed Income Fund is a fund with a policy to invest in cash deposits, debt instruments or any other securities permitted by SEC notification, whereby the portfolio duration shall be kept at no more than 1 year at any given time.

d) *Short-term Fixed Income Fund – Government Related Bond (SFG)*

Short-term Fixed Income Fund – Government Related Bond Fund is a fund that invests in treasury bills, government bonds, Bank of Thailand bonds, bonds of the Financial Institutions Development Fund (FIDF), cash deposits, debt instruments guaranteed by the Ministry of Finance or Financial Institutions Development Fund (FIDF), whereby the portfolio duration shall be kept at no more than 1 year at any given time.

e) *General Fixed Income Fund (GFF)*

General Fixed Income Fund is a fund with a policy to invest in cash deposits, debt instruments or other securities as permitted by SEC notification, whether issued, guaranteed, certified or aval by the public and private sector.

f) *General Fixed Income Fund - Government Related Bond (GFG)*

General Fixed Income Fund - Government Related Bond Fund is a fund with a policy to invest in government debt instruments, such as government bonds, Bank of Thailand bonds, bonds of Financial Institutions Development Fund (FIDF), cash deposits, debt instruments guaranteed by the Ministry of Finance or Financial Institutions Development Fund (FIDF).

**5.1.3 Mixed Fund ("MXF")**

refers to a fund with a policy to invest in or hold securities, assets, and other means of generating financial returns. These can be further divided into 2 sub-categories:

(a) *Mixed: Flexible Fund (MXFFLY)*

Flexible Fund is a mixed fund where the investment allocation is up to the discretion of the management company to fit the prevailing investment climate.

(b) *Mixed: Limit Fund (MXFLIM)*

Limit Fund is a mixed fund where the investment allocation in equity instruments is configured to be less than sixty-five percent (< 65%) of the fund's net asset value at any given time.

**5.2 Fund with special investment policy**

5.2.1 Fund with a less diversified portfolio than general standards (Specific Fund "SPF") pursuant to clause 5.1.1, clause 5.1.2 or clause 5.1.3

refers to funds in categories described in clause 5.1.1, clause 5.1.2 or clause 5.1.3 but feature a less diversified investment portfolio than standard funds prescribed by SEC notification.

5.2.2 Index Fund (IDF)

means a fund seeking to track the performance of a market price index. The aforementioned market price index must be a SEC-accepted index.

5.2.3 Fund of Funds (FOF)

means a fund with an investment policy to invest or hold investment units and warrants of mutual funds. During a fiscal year, the average weight invested in other funds shall not be less than sixty-five percent of the fund's net asset value.

(a) *Fund of Funds: Equity Fund (FOFEQ)*

Fund of Funds - Equity Fund is a fund with an investment policy to invest or hold investment units and warrants of equity mutual funds. During a fiscal year, the average weight invested in other funds shall not be less than sixty-five percent of the fund's net asset value.

(b) *Fund of Funds: Fixed Income Fund*

Fund of Funds - Fixed Income Fund means a fund with investment policy to invest in or hold investment units and warrants of mutual funds which invest in deposits, debt instruments or any other securities permitted by SEC notification which are certified, guaranteed, or avaled by the government or private company. These are further divided into 6 sub-categories:

(1) *Fund of Funds - Money Market Fund (FOFMMF)*

Fund of Funds - Money Market is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with a policy to invest in cash deposits, debt instruments or any other securities permitted by SEC notification, whereby investments must be callable or mature within 1 year from date of investment.

(2) *Fund of Funds - Money Market Fund-Government Related Bond (FOFMMG)*

Fund of Funds - Money Market Fund-Government Related Bond is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with a policy to invest in treasury bills, government bonds, Bank of Thailand bonds, bonds of the Financial Institutions Development Fund (FIDF), deposits, debt instruments guaranteed by the Financial Institutions Development Fund (FIDF), whereby investments must be callable or mature within 1 year from date of investment.

(3) *Fund of Funds - Short-term Fixed Income Fund (FOFSFF)*

Fund of Funds - Short-term Fixed Income Fund is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with a policy to invest in deposits, debt instruments or any other securities permitted by SEC's

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notification. The mutual fund shall contain a portfolio duration not exceeding 1 year at any time

(4) *Fund of Funds - Short term Fixed Income Fund – Government Related Bond (FOFSFG)*

Fund of Funds - Short term Fixed Income Fund – Government Related Bond is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with a policy to invest in treasury bills, government bonds, Bank of Thailand bonds, bonds of the Financial Institutions Development Fund (FIDF), deposits, debt instruments guaranteed by the Financial Institutions Development Fund (FIDF), whereby the portfolio duration shall be maintained at no more than 1 year at any given time.

(5) *Fund of Funds - General Fixed Income Fund (FOFGFF)*

Fund of Funds - General Fixed Income Fund is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with a policy to invest in deposits, debt instruments or any other securities permitted by SEC's notification whether issued, guaranteed, certified or avaled by the government or private company.

(6) *Fund of Funds: General Fixed Income Fund – Government Related Bond (FOFGFG)*

Fund of Funds - General Fixed Income Fund is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with a policy to invest in government debt instruments such as government bonds, Bank of Thailand bonds, bonds of Financial Institutions Development Fund (FIDF), cash deposits, debt instruments guaranteed by Financial Institutions Development Fund (FIDF).

(c) *Fund of Funds - Mixed Fund (FOFMIX)*

Fund of Funds - Mixed Fund is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with a policy to invest in or hold securities, assets, and other means of generating financial returns, where the fund's portfolio allocation

may, or may not, limit portfolio weight in equities at no more than 65% of NAV at any given time.

(d) *Fund of Funds - Others (FOFOTH)*

Fund of Funds - Others is a fund with an investment policy to invest in or hold investment units and warrants of mutual funds with other investment policies that do not match (a) or (b) or (c).

5.2.4 *Guaranteed Fund (GRF)*

means a fund that the management company have arranged a guarantor to guarantee that any provident fund member who holds investment units for a certain designated period shall receive the principal invested or principal plus financial returns upon liquidation or sale of the units, as applicable, according to the value amount guaranteed.

5.2.5 *Foreign Investment Fund (FIF)*

means a fund with a policy that its core investments will be offshore investments, averaging no less than 80% of the fund's net asset value.

a) *Foreign Investment Fund - Equity Fund (FIFEQ)*

Foreign Investment Fund - Equity Fund is a fund with an investment policy to invest in or hold equity instruments or investment units and warrants of mutual funds. Aforementioned investments shall mainly be offshore investments accounting for no less than 80% of the fund's net asset value.

b) *Foreign Investment Fund - Fixed Income Fund (FIFFIX)*

Foreign Investment Fund - Fixed Income Fund is a fund with a policy to invest in deposits, debt instruments or any other securities permitted by SEC notification, whether issued, guaranteed, certified or avaled by the government or private company, or investment units and warrants of mutual funds investing in cash deposits, debt instruments or any other securities permitted by SEC notification, whether issued, guaranteed or aval by offshore governments or private companies. Aforementioned investments shall mainly be offshore investments accounting for no less than 80% of the fund's net asset value.

c) *Foreign Investment Fund - Mixed Fund (FIFMIX)*

Foreign Investment Fund - Mixed Fund is a fund with an investment policy to invest in or hold securities, assets, and other means of generating financial returns, where allocation in equities is limited or not limited, or investment units and warrants of mutual funds with an investment policy to mainly invest in or hold securities and assets including means of generating financial returns, where allocation in equities is specified or not specified. Aforementioned investments shall mainly be offshore investments accounting for no less than 80% of the fund's net asset value.

d) *Foreign Investment Fund: Others (FTFOTH)*

Foreign Investment Fund - Others refer to a fund that mainly invests offshore, at no less than 80% of the fund's net asset value, where the fund's investment policy does not match (a) or (b) or (c).

The categorization of provident funds and amendment of fund types under this Notification shall be subjected to the approval of the Provident Fund Business Group Committee. This committee may authorize the Sub-Committee on Performance Measurement Standards for Provident Funds to undertake the aforementioned duties.

### III) Performance Comparison

#### Clause 6 Performance benchmark

The management company must jointly agree, in writing, with the Provident Fund Committee of the fund under its management regarding which performance benchmark shall be used to measure the provident fund's performance. It should be a Composite Benchmark that is aligned with the assets of the provident fund as described in 6.1 to clause 6.3, weighted in accordance with the investment policy's allocation which had been jointly prescribed by the Provident Fund Committee and asset management company in writing:

#### **6.1 Portion of fund's assets that consist of equity instruments shall be measured against the following benchmark:**

6.1.1 SET Total Return Index (SET TRI) and/or SET Index Return. When proposing the benchmark for the Provident Fund Committee's consideration, the management company shall propose the SET Total Return Index (SET TRI), or propose both the SET Index Return and SET Total Return Index (SET TRI).

6.1.2 SET 50 Total Return Index (SET 50 TRI) and/or Set50 Index Return. When proposing the benchmark for the Provident Fund Committee's consideration, the



management company shall propose the SET 50 Total Return Index (SET 50 TRI) or propose both the SET 50 Index Return and SET 50 Total Return Index (SET 50 TRI).

6.1.3 SET 100 Total Return Index (SET 100 TRI) and/or Set100 Index Return. When proposing the benchmark for the Provident Fund Committee's consideration, the management company shall propose the SET 100 Total Return Index (SET 100 TRI) or propose both the SET 100 Index Return and SET 100 Total Return Index (SET 100 TRI).

The weight of this benchmark shall not be less than the average of (Minimum limit + Maximum limit) / 2.

**6.2 For the portion of fund assets which are fixed deposits**, the benchmark shall be the 1-year fixed deposit rate offered to the provident fund for deposit amount of 1 million baht. Use the average of rates quoted by Bangkok Bank PCL, Kasikorn Bank PLC, Siam Commercial Bank PLC, and Krungthai Bank PLC. Update the average whenever a bank changes its rate.

**6.3 For the portion of fund assets which are debt instruments**, the benchmark should be as follows:

6.3.1 If the fund assets are government and general debt securities maturing within 1 year, the management company shall apply the ThaiBMA 6-month Zero Rate Return ("ZRR") Government Bond Index.

6.3.2 If the fund assets are government debt instruments and the fund has a clearly defined target duration, use the ThaiBMA Zero Rate Return ("ZRR") Government Bond Index with the same target duration as the fund.

6.3.3 If the fund assets are government debt instruments but the fund does not have a specifically defined target duration, the management company shall use the Total Return of ThaiBMA Government Bond Index or Total Return of ThaiBMA Government Bond Index - Maturity Sub Group 1 ( $1 < TTM < 3$ ) or ThaiBMA 2-year Zero Rate Return "ZRR" Government Bond Index.

6.3.4 If the fund assets are general debt securities and the fund has a clearly defined target duration, the management company shall use the ThaiBMA Zero Rate Return ("ZRR") Composite Bond Index with the same target duration as the fund.

However, if the management company cannot obtain a benchmark that is the ThaiBMA Zero Rate Return ("ZRR") Composite Bond Index benchmark matching the target duration of the fund, the management company may

temporarily use the ThaiBMA Zero Rate Return (“ZRR”) Government Bond Index with the same target duration as the fund.

6.3.5 If the fund assets are general debt securities but the fund does not have a clearly defined target duration, the management company shall use the Total Return of ThaiBMA Composite Bond Index or Total Return of ThaiBMA Composite Bond Index - Maturity SubGroup 1 (1<TTM<3) or ThaiBMA 2-year Zero Rate Return (“ZRR”) Composite Bond Index.

However, if the management company cannot obtain a benchmark that is the Total Return of ThaiBMA Composite Bond Index - Maturity SubGroup 1 (1 < TTM <3), the management company may use the Total Return of ThaiBMA Government Bond Index - Maturity Subgroup 1 (1 <TIM<3). If the management company cannot obtain the benchmark which is the ThaiBMA 2-year Zero Rate Return (“ZRR”) Composite Bond Index, the management company shall temporarily apply the ThaiBMA 2-year Zero Rate Return (“ZRR”) Government Bond Index.

**6.4 For other fund assets not covered by clause 6.1 to clause 6.3**, the management company shall consider a performance benchmark that adheres to the following principles:

6.4.1 The benchmark must reflect the invested assets.

6.4.2 The weight of each benchmark must reflect the investment allocation set forth by the investment policy. This enables the benchmark and its weight to reflect the investment risks of the investment policy.

Clause 7 Regarding the calculation of the performance of various funds within the same category (Composite Return) and the relevant benchmarks, the Association prescribes comparisons of provident fund performance as shown below, in order to help the Provident Fund Committee assess the different types of provident funds.

7.1 The management company shall calculate the benchmark on a monthly basis.

7.2 When comparing provident fund performance, comparisons must only be made with provident funds in the same category.

7.3 The period of the performance comparison must be the same for all provident fund types. If the performance data is not yet available for a full 12 months, the management company shall show actual information for the available period as a Year-To-Date figure, or Since-Inception-To-Date (if the fund was launched during the year). Do not annualize such data.

- 7.4 When comparing provident fund performance with its benchmark, the benchmark shall be compatible with the provident fund's investment objectives and policy and comply with the Association's regulations. If the performance data is not yet available for a full 12 months, the benchmark used to compare performance must also match the aforementioned period. The management company shall show Year-To-Date or Since-Inception-To-Date data as described in Clause 7.3; do not annualize the data.
- 7.5 If the management company intends to compare or present aggregate performance of provident funds under its own management, by fund category (Composite Return) against industry averages, the management company must include every provident fund within the fund type. Additionally, the management company may present composite returns of its provident funds grouped by other features, such as Single Funds or Pooled Funds, either combined or separate, including only provident funds (under its own management and competitors' funds) with available performance data covering the entire period being measured (Asset-weighted Average) (**see Appendix A**).

In this regard, the calculation of average performance of provident funds of a certain fund type (Composite Return) under management of any management company, the management company shall compute the average group performance using average performance of individual funds weighted by the respective fund's Net Asset Value (NAV) as of the beginning of the period (Asset Weighted Average) as follows:

- Asset-Weighted Average calculation

$$C_{asset} = \frac{\sum MVB_i \times R_i}{MVB_{total}}$$

Whereby  $MVB_i$  is the net asset value of fund i at the beginning of the comparison period

$R_i$  the yield achieved by fund i

Then calculate the cumulative total return for a longer time period by the Geometric Linked method.

- If the management company intends to also provide an Equal-weighted Average method, the management company must clearly state that the figures shown are based on an Equal-weighted Average method. The management company must also provide Asset-weighted Average figures too. The Equal-weighted Average is calculated as follows:

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$$C_{asset} = \frac{R_1 + R_2 + R_3 + \dots + R_n}{n}$$

Whereby  $R_1$  is the yield achieved by the first fund in the group being measured

$n$  is the total number of funds in the same category for the composite return calculation

The management company shall calculate composite returns for each fund category described in Clause 5 of this Notification.

#### **IV) Disclosure and presentation of information on fund performance and benchmarks**

##### Clause 8 Performance presentation and benchmark

The management company shall present performance and benchmark for each fund under management that complies with performance measurement standards for provident funds as specified by the Association and requirements on provident fund performance reports. The management company shall adopt the following guidelines, as applicable.

##### **8.1 Disclosure of information in presentations to customers seeking a fund management company (Deal Pitching Disclosure)**

Present performance data in the form of composite returns for the fund type. The management company can also present composite returns of provident fund type, based on other features such as Single Funds and Pooled Funds, either combined or separate. At least disclose performance data described in the guideline below:

8.1.1 Data on returns (Yield): Show annual returns for the past 5 calendar years, including Year-to-Date return for the present year. Also show cumulative return over the past 5 calendar years, or since that fund category's inception to latest month.

8.1.2 The management company may additionally present composite return data for that fund type, where the return is adjusted for risk (Risk Adjusted Return = Information Ratio "IR"). Show data for the past 5 calendar years and/or cumulative return over the past 5 calendar years according to guidelines in Clause 8.8 and Clause 9.

However, if the customer prefers fund performance data to be presented for other time periods, the management company may also produce such data as supplementary information.

## 8.2 Disclosure of data to the Provident Fund Committee and fund members

At least disclose return data (Yield calculated from Unit Value Growth) as required by the following guidelines:

### 8.2.1 Returns (Yield calculated from Unit Value Growth): Show % Year-to-Date Return

- Report figures to provident fund members at least 2 times a year, to be included in the report covering the provident fund member's portion. Show cumulative return for the 6-month period from the beginning of the fiscal year until month 6, and cumulative return for the 12-month period from the beginning of the fiscal year until month 12, for each year.

For fund performance disclosure for the provident fund member's portion, the management company must also include the following text in the report:

*"The provident fund's performance is prepared in accordance with the Performance Measurement Standards for Provident Funds as prescribed by the Association of Investment Management Companies. Past performance is not indicative of future performance"*

- and disclose cumulative data up to the latest month (Year-to-Date) according to form KorChor. 1.2 to the Provident Fund Committee every month.

For Form KorChor. 1.2 monthly report to the Provident Fund Committee, the management company must also include the following text in the report:

*"The provident fund's performance is prepared in accordance with the Performance Measurement Standards for Provident Funds as prescribed by the Association of Investment Management Companies. Past performance is not indicative of future performance"*

### 8.2.2 The management company shall disclose cumulative return (Yield calculated from Unit Value Growth) for the past 5 calendar years or since-inception. Disclose the data to provident fund members and the Provident Fund Committee in reports covering the members' portion and the Provident Fund Committee, at the end of December of each year.

## 8.3 Performance presentation for all provident fund types: If performance data is not available for a full 12 months, the management company shall show actual

information for the available period as a Year-To-Date figure, or Since-Inception-To-Date (if the fund was launched during the year). Do not annualize such data.

**8.4 If the management company would also like to present fund performance data on an after-tax basis**, do not add tax benefits into the return or fund performance figures. However, the tax benefits may be stripped out of the benchmark associated with that tax, to display return or performance on an after-tax basis.

**8.5 Disclosure of cumulative return for each fund in form Kor Chor. 1.2** requires the management company to at least disclose the return figure after deducting management fees, custodian fees, and other expenses. However, if the management company wishes to additionally present performance data before management fees, custodian fees, and other expenses, the management company must clearly include a caption remark that this performance data is before management fees, custodian fees, and other expenses.

**8.6 Presentation of benchmark data for each provident fund under management:** The management company shall disclose the benchmark for each fund to the Provident Fund Committee every month, within the same time period as the fund performance disclosure.

**8.7 Reporting fund performance data to the Association:** The management company shall submit the net asset value per unit data at the beginning of the period and at the end of the period and benchmark returns for each fund individually. For a fund featuring multiple investment policies (Master Fund), the management company shall submit data for each sub-fund separately, and also submit the composite return for each fund type to the Association on a monthly basis, by the 20<sup>th</sup> of the following month. The report shall be submitted in the form of electronic data (see Appendix B). This will enable the Association to compute Industry Composite Returns, Risk-adjusted Industry Composite Returns using Industry Composite Information Ratios, by fund type. These statistical calculations require detailed historical data, therefore members are requested to send database of historical data since January 2009 to the Association, to comply with guidelines described in Clause 8.8.

The Association will disclose annual Industry Composite Return data for the past 5 calendar years and cumulative return data for the past 5 calendar years to the public, such as by posting such data on the Association's website. For Industry Composite Information Ratio, the Association and the SEC will jointly assess over a 3 year period or until such data may be used as supplementary information to assist provident fund

members with their investment decisions; the Association will subsequently disseminate such information to the general public.

**8.8 Data for producing risk-adjusted returns** involves high-frequency statistical data. Since provident fund classification has also been re-grouped, management companies shall start using statistical data starting from January 2009 onwards.

**V) Calculation and disclosure of risk information of provident funds**

Clause 9 To provide investors with adequate information for their decisions, the Association requests management companies to disclose risk information (except Risk-adjusted Return using Information Ratio and Tracking Error which management companies may decide whether to impose or not impose other time frames, following guidelines described in Clause 8.1.2) of provident funds under management, shown by fund type, and displayed along with fund performance data as follows:

Type of Provident Fund	Risk Disclosure
9.1 Equity Fund	- Disclose risk value by showing Risk-adjusted Return using Information Ratio (see Appendix C).
9.2 Fixed Income fund	- Disclose risk value by showing Risk-adjusted Return using Information Ratio (see Appendix C); - Duration value (see Appendix C) of provident fund; and - Disclose the ratio of investment in debt instruments compared to fund NAV, showing breakdown by Credit Rating (see Appendix C). For debt instruments without credit ratings, including cash deposits or other debt instruments guaranteed by the Fund for Rehabilitation, show the ratio of investments in such debt instruments compared to fund NAV.
9.3 Mixed Fund	- Disclose risk value by showing Risk-adjusted Return using Information Ratio (see Appendix C); - Duration value (see Appendix C) of provident fund;

Type of Provident Fund	Risk Disclosure
	<ul style="list-style-type: none"> <li>- Disclose the ratio of investment in debt instruments compared to fund NAV, showing breakdown by Credit Rating (see Appendix C). For debt instruments without credit ratings, including cash deposits or other debt instruments guaranteed by the Fund for Rehabilitation, show the ratio of investments in such debt instruments compared to fund NAV.</li> </ul>
9.4 Funds with less diversification than general standards (Specific Fund) for funds described in Clause 9.1, Clause 9.2 and Clause 9.3	
9.4.1 Funds less diversified than standard Equity Funds	<ul style="list-style-type: none"> <li>- The disclosure of risk values and information about investments shall comply with Clause 9.1.</li> </ul>
9.4.2 Funds less diversified than standard Fixed Income Funds	<ul style="list-style-type: none"> <li>- The disclosure of risk values and information about investments shall comply with Clause 9.2.</li> </ul>
9.4.3 Funds less diversified than standard Mixed Funds	<ul style="list-style-type: none"> <li>- The disclosure of risk values and information about investments shall comply with Clause 9.3.</li> </ul>
9.5 Index Fund	<ul style="list-style-type: none"> <li>- Disclose the fund's Tracking Error relative to its benchmark, instead of showing Risk-adjusted Return using Information Ratio.</li> </ul>
9.6 Fund of Funds	<ul style="list-style-type: none"> <li>- Use guidelines on risk disclosure and information about investments of the target funds as basis for performance comparison, as appropriate.</li> </ul>
9.7 Guaranteed Fund	<p>See if the Guaranteed Fund has an investment policy that can be classified according to Clause 5.1.1 to Clause 5.1.3; use guidelines on risk disclosure and information about investments prescribed by the respective Clause.</p>
9.8 Foreign Investment Fund	<ul style="list-style-type: none"> <li>- Risk values, credit rating information, and duration value of the fund shall be disclosed unless such information are not available. If the provident fund has a policy to invest offshore, at a lower portfolio weight or inconsistent with the criteria prescribed for Foreign Investment Mutual Funds, the</li> </ul>



Type of Provident Fund	Risk Disclosure
	management company shall consider disclosing the criteria on risk values and information about investments on a case-by-case. Also disclose policy concerning offshore investments.

**VI) Data accuracy**

Clause 10 The management company shall, with prudence and caution, check information of provident funds under its management when disseminating such data through various media channels, new customers, and general public, including presentations made to prospective customers. The management company shall be responsible for the accuracy of the data; data must be submitted to the Association according to guidelines prescribed by the Association. Information compiled by the Association will be returned to the management company for verification. If the management company does not object or request to amend the data within 14 days after the Association has delivered the data to the management company, the Association shall consider the data to be correct.

**VII) Information Presentation Ethics**

Clause 11 When presenting information on provident fund performance, the management company shall not distort information nor portray the information in a way that may mislead to the public and potential customers and manipulate their investment decisions.

Clause 12 The management company can decide to provide additional information about the provident fund's performance beyond the guidelines prescribed by the Association, but it must meet the Association's minimum standard requirements stated in this notification as detailed above. If the management company decide to provide supplementary information, the management company shall show such information based on fairness, accuracy, and completeness. Additionally, the management company shall clearly disclose assumptions applied and consistently present provident fund performance in the same format chosen by the management company every time.

**VIII) Disciplinary Measure**

Clause 13 If the management company disseminates provident fund performance in the way that the Association deems to breach ethics and performance measurement standards for

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provident funds set forth by the Association, the board of directors may issue disciplinary measures to punish the management company in accordance with the regulations of the Association regarding “Disciplinary Measures Against Member Company”.

**IX) Remarks**

Clause 14 For any fund under the management company's management that has not yet formed a new contract prior to the effective date of this Notification, the management company shall propose the proper benchmark for the investment policy in compliance with this Notification, at the first possible instance.

This Notification shall be effective 1 January B.E. 2553 onwards.

Announced on 28 December B.E. 2552

-signature-

(Mrs. Voravan Tarapoom)

Chairman

Association of Investment Management Companies

Calculation of Composite Return for Provident Funds

**Example 1:** Method on how to calculate the Composite Return for provident funds in the Fixed Income Fund and Mixed Fund categories.

Fund	Investment Type	January		February		March		Jan-Feb	Jan-Mar
		Fund Size	MTD % Return	Fund Size	MTD % Return	Fund Size	MTD % Return	YTD % Return	YTD % Return
A	Fixed Income	500	1.00%	600	1.50%	700	1.50%	2.52%	4.05%
B	Fixed Income	N.A.	N.A.	3,000	1.70%	3,200	1.70%	1.70%	3.43%
C	Fixed Income	10,000	0.90%	9,500	0.50%	11,000	1.00%	1.40%	2.42%
D	Mixed	1,000	1.30%	1,100	1.00%	1,200	5.00%	2.31%	7.43%
E	Fixed Income	2,000	0.50%	2,100	1.20%	2,300	0.80%	1.71%	2.52%
F	Mixed	5,000	0.80%	5,500	1.10%	8,500	N.A.	1.91%	1.91%
Asset Weighted – Fixed Income Fund		(A, C, E)	0.84%	(A, B, C, E)	0.87%	(A, B, C, E)	1.12%	1.72%	2.86%
Equal Weighted – Fixed Income Fund		(A, C, E)	0.80%	(A, B, C, E)	1.23%	(A, B, C, E)	1.25%	2.04%	3.32%
Asset Weighted – Mixed Fund		(D, F)	0.88%	(D, F)	1.08%	(D)	5.00%	1.97%	7.07%
Equal Weighted – Mixed Fund		(D, F)	1.05%	(D, F)	1.05%	(D)	5.00%	2.11%	7.22%

1. Calculation of the cumulative return of each fund

$$R_{total} = [(1+R_1)(1+R_2)\dots(1+R_i)]-1$$

$R_i$  is the yield of the fund I.

Example of calculation of cumulative return of fund A

For January - February

$$R_{total} = [(1+1.00\%)(1+1.50\%)]-1$$

$$= 2.52\%$$

For January - March

$$R_{total} = [(1+1.00\%)(1+1.50\%)(1+1.50\%)]-1$$

$$= 4.05\%$$

Calculation of the Composite Return of Fixed Income Funds, by Asset-weighted Average.

$$C_{asset} = \frac{\sum MVB_i \times R_i}{MVB_{total}}$$

$MVB_i$  is the net asset value of the Fund at the beginning of the comparison period for Fund i

$R_i$  is the yield of fund i.

$$R_{total} = [(1 + C_{asset1}) (1 + C_{asset2}) \dots (1 + C_{asseti})] - 1$$

For January

	<b>A</b>	<b>C</b>	<b>E</b>
$C_{asset1}$	=	$\frac{(500 \times 1.00\%) + (10,000 \times 0.90\%) + (2,000 \times 0.50\%)}{(500 + 10,000 + 2,000)}$	
	=	0.84%	

For February

	<b>A</b>	<b>B</b>	<b>C</b>	<b>E</b>
$C_{asset2}$	=	$\frac{(600 \times 1.50\%) + (3,000 \times 1.70\%) + (9,500 \times 0.50\%) + (2,100 \times 1.20\%)}{(600 + 3,000 + 9,500 + 2,100)}$		
	=	0.87%		

For March

	<b>A</b>	<b>B</b>	<b>C</b>	<b>E</b>
$C_{asset3}$	=	$\frac{(700 \times 1.50\%) + (3,200 \times 1.70\%) + (11,000 \times 1.00\%) + (2,300 \times 0.80\%)}{(700 + 3,200 + 11,000 + 2,300)}$		
	=	1.12%		

For January - February

$R_{total}$	=	$[(1 + C_{asset1}) (1 + C_{asset2})] - 1$
	=	$[(1 + 0.84\%) (1 + 0.87\%)] - 1$
	=	1.72%

For January - March

$R_{total}$	=	$[(1 + C_{asset1}) (1 + C_{asset2}) (1 + C_{asset3})] - 1$
	=	$[(1 + 0.84\%) (1 + 0.87\%) (1 + 1.12\%)] - 1$
	=	2.86%

1. Calculation of the Composite Return of Fixed Income Funds, by Equal-weighted Average.

$$C_{equal} = \frac{(R_1 + R_2 + R_3 + \dots + R_n)}{n}$$

$R_1$  is the yield of the first fund among the funds being included in the Composite Return calculation.

n is the total number of funds in the same investment category that is being counted in the Composite Return calculation.

(Unofficial Translation)

For January

$$\begin{aligned} C_{equal} &= \frac{(1.00\% + 0.90\% + 0.50\%)}{3} \\ &= 0.80\% \end{aligned}$$

For February

$$\begin{aligned} C_{equal} &= \frac{(1.50\% + 1.70\% + 0.50\% + 1.20\%)}{4} \\ &= 1.23\% \end{aligned}$$

For March

$$\begin{aligned} C_{equal} &= \frac{(1.50\% + 1.70\% + 1.00\% + 0.80\%)}{4} \\ &= 1.25\% \end{aligned}$$

For January - February

$$\begin{aligned} R_1 &= [(1+) (1+ ) \dots (1+ R_1 R_2 R_1)] - 1 \\ &= [(1+0.80\%)(1+1.23\%)] - 1 \\ &= 2.04\% \end{aligned}$$

For January - March

$$\begin{aligned} R_{total} &= [(1+0.80\%)(1+1.23\%)(1+1.25\%)] - 1 \\ &= 3.32\% \end{aligned}$$

2. Calculation of the Composite Return for Mixed Funds, by Asset-weighted Average.

$$C_{asset} = \frac{\sum MVB_i \times R_i}{MVB_{total}}$$

For January

$$\begin{aligned} C_{asset1} &= \frac{(1,000 \times 1.30\%) + (5,000 \times 0.80\%)}{(1,000 + 5,000)} \\ &= 0.88\% \end{aligned}$$

For February

$$\begin{aligned} C_{asset2} &= \frac{(1,100 \times 1.00\%) + (5,500 \times 1.10\%)}{(1,100 + 5,500)} \\ &= 1.08\% \end{aligned}$$

For March

$$\begin{aligned} C_{asset3} &= \frac{(1,200 \times 5.00\%)}{1,200} \end{aligned}$$

(Unofficial Translation)

$$= 5.00\%$$

For January – February

$$\begin{aligned} R_{total} &= [(1 + C_{asset1}) (1 + C_{asset2})] - 1 \\ &= [(1 + 0.88\%) (1 + 1.08\%)] - 1 \\ &= 1.97\% \end{aligned}$$

For January - March

$$\begin{aligned} R_{total} &= [(1 + C_{asset1}) (1 + C_{asset2}) (1 + C_{asset3})] - 1 \\ &= [(1 + 0.88\%) (1 + 1.08\%) (1 + 5.00\%)] - 1 \\ &= 7.07\% \end{aligned}$$

3. Calculation the Composite Return of Mixed Funds, by Equal-weighted Average.

For January

$$\begin{aligned} C_{equal} &= \frac{(1.30\% + 0.80\%)}{2} \\ &= 1.05\% \end{aligned}$$

For February

$$\begin{aligned} C_{equal} &= \frac{(1.00\% + 1.10\%)}{2} \\ &= 1.05\% \end{aligned}$$

For March

$$\begin{aligned} C_{equal} &= \frac{5.00\%}{1} \\ &= 5.00\% \end{aligned}$$

For January - February

$$\begin{aligned} R_{total} &= [(1 + R_1) (1 + R_2) \dots (1 + R_n)] - 1 \\ &= [(1 + 1.05\%) (1 + 1.05\%)] - 1 \\ &= 2.11\% \end{aligned}$$

For January - March

$$\begin{aligned} R_{total} &= [(1 + 1.05\%) (1 + 1.05\%) (1 + 5.00\%)] - 1 \\ &= 7.22\% \end{aligned}$$

## Provident Fund Management Report

Under the management of *(please specify the management company name)*Investment Policy Code of fund prescribed by a as of \_\_\_ B.E. \_\_\_  
Abbreviation management company

No.	Type / code of fund	Net asset value at beginning of period (baht)	Unit value at end of month (Baht/unit)		Unit value Growth (%)
			1 <sup>st</sup> month	2 <sup>nd</sup> month	
1	MMF00001				
2	MMF00002				
Total NAV		(Show total NAV at beginning of period for all MMF funds in that month)	Composite return – MTD (show monthly composite return of MMF funds weight by NAV at beginning of period)		
			Composite return – YTD (show cumulative composite return of MMF funds by using geometric linked)		
1	MMG00001				
2	MMG00002				
3	MMG00003				
Total NAV		(Show total NAV at beginning of period for all MMG funds in that month)	Composite return – MTD (show monthly composite return of MMG funds weighted by NAV at beginning of period)		
			Composite return – YTD (show cumulative composite return of MMG funds by using geometric linked)		
1	SFF00001				
2	SFF00002				
3	SFF00003				
4	SFF00004				
5	SFF00005				
Total NAV		(Show total NAV at beginning of period for all SFF funds in that month)	Composite return – MTD (show monthly composite return of SFF funds weighted by NAV at beginning of period)		
			Composite return – YTD (show all composite return of SFF funds by using geometric linked)		
1	SFG00001				
2	SFG00002				
3	SFG00003				
Total NAV		(Show total NAV at beginning of period for all SFG funds in that month)	Composite return – MTD (show monthly composite return of SFG funds weighted by NAV at beginning of period)		
			Composite return – YTD (show cumulative composite return of SFG funds by using geometric linked)		

Remarks: Fund Type

EQF means Equity Fund.

MMF means Fixed income Fund: Money Market Fund

(Unofficial Translation)

*MMG means Fixed Income Fund: Money Market Fund - Government Related Bond*

*SFF refers to short-term Fixed income Fund.*

*SFG refers to Short-term Fixed Income Fund.*

*GFF refers to General Fixed Income Fund.*

*GFG refers to General Fixed Income Fund - Government Related Bond*

*MXF means Mixed Fund.*

*MXFFLX IN means Mixed: Flexible Fund*

*MXFLIM means Mixed: Limit Fund*

*SPF refers to Specific Fund.*

*IDF refers to Index Fund.*

*GRF means Guaranteed Fund.*

*FOF means Fund of Funds.*

*FOFEQ refers to Fund of Funds: Equity Fund*

*FOFMMF means Fund of Funds: Money Market Funds*

*FOFMMG means Fund of Funds: Money Market Fund- Government Related Bond*

*FOFSFF means Fund of Funds: Short-term Mixed Income Fund*

*FOFSPG refers to Fund of Funds. Short-term Fixed Income Fund - Government Related Bond*

*FOFGFF refers to Fund of Funds: General Fixed Income Fund.*

*FORGFG refers to Fund of Funds: General Fixed Income Fund - Government Related Bond*

*FOFMIX means Fund of Funds: Mixed Fund*

*FOFOTH refers to Fund of Funds: Others.*

*FIF refers to foreign investment fund.*

*FIFEQ refers to Foreign investment Fund: Equity Fund*

*FIFFIX refers to Foreign Investment Fund: Fixed Income Fund*

*FIFMIX means Foreign investment Fund: Mixed Fund*

*FIFOTH refers to Foreign investment Fund Others.*

" Since fund information is confidential to the client, a fund code is used to distinguish management companies rather than the use of actual fund names.




(Unofficial Translation)

**FORMAT LAYOUT** for submitting provident fund performance data according to the Notification of the Association of Investment Management Companies, Sor Jor Kor. Kor Chor. ....


- Prepare text file according to format prescribed by the Association of Investment Management Companies.
- Separate each field with a ',' (Comma).
- Send data for individual funds as well as total of all funds within each fund type.

month and year of report

Information no.1 (Composite data of funds in same fund type)						Name file : TOTAL 
No.	description	start	length	type	remark	
1	Management Company	1	10	C	Abbreviation of management company name (English)	
2	Date month year of report	11	8	N	dd-mm-yy (31012002)	
3	Policy type	19	6	C	Abbreviation of fund type pursuant to the notification of the Association of Investment Management Companies regarding performance measurements	
4	Total number of funds	25	4	N	Number of funds within same fund type	
5	G.T. NAV at beginning of period for each fund type	29	14	N	2 decimal places (Do not include decimal points and commas)	
6	G.T. NAV at end of period of for each fund type	43	14	N	2 decimal places (Do not include decimal points and commas)	
7	Composite Return (MTD)	57	8	N	Show <u>monthly</u> Composite Return for all funds in that fund type (Do not include decimal points and commas) (Show 4 decimal places; place any "-" char in front of the numbers).	
8	Composite Return (YTD)	64	8	N	Show <u>cumulative</u> Composite Return as <u>cumulative return</u> for all funds in that fund type (Do not include decimal points and commas) (Show 4 decimal places; place any "-" char in front of the numbers).	

Note C = Character, N = Numeric

month and year of report

Information no.2 (Data for individual fund)						Name file : FUND 
No.	description	start	length	type	remark	
1	Management Company	1	10	C	Abbreviation of management company name (English)	
2	Date month year of report	11	8	N	dd-mm-yy (31012002)	
3	Policy type	19	6	C	Abbreviation of investment policy pursuant to the notification of the Association of Investment Management Companies regarding management performance	
4	Fund code	25	5	C or N	Code of fund specified by management company	
5	NAV at beginning of period	30	14	N	2 decimal places (Do not include decimal points and commas)	
6	NAV at end of period	44	14	N	2 decimal places (Do not include decimal points and commas)	
7	Unit value at beginning of period	58	7	N	4 decimal places (Do not include decimal points and commas)	

Information no.2 (Data for individual fund)					Name file : FUND MMY
No.	description	start	length	type	remark
8	Unit value at end of period	65	7	N	4 decimal places (Do not include decimal points and commas)
9	Monthly return	72	8	N	4 decimal places (Do not include decimal points and commas) (Show any "-" char in the front of the numbers)
10	Benchmark return	80	8	N	4 decimal places (Do not include decimal points and commas) (Place any "-" char in the front of the numbers)
11	Fund status	88	1	C	A = Active fund, N = Non-active fund

Note C = Character, N = Numeric

### Policy type

CODE	Category of investment policy	FUND CLASSIFICATION
EQF	means equity fund	Equity Fund
MMF	means fixed-income fund - money market	Fixed income Fund: Money Market Fund
MMG	means fixed-income fund - government money market	Fixed Income Fund: Money Market Fund - Government Related Bond
SFF	means fixed-income fund - short term	Short-term Fixed income Fund
SFG	means fixed-income fund – government short term	Short-term Fixed Income Fund - Government Related Bond
GFF	means fixed-income fund	General Fixed Income Fund
GFG	means fixed-income fund - government	General Fixed Income Fund - Government Related Bond
MXF	means mixed fund	Mixed Fund
MXFFLX	means flexible mixed fund	Mixed: Flexible Fund
MXFLIM	means limit mixed fund	Mixed: Limit Fund
SPF	means fund with less diversification than the general standards	Specific Fund
IDF	Means fund that has a policy to generate returns based on the movement of the stock market price index specified in the investment policy	Index Fund
GRF	means guarantee fund	Guaranteed Fund
FOF	means fund investing in other funds	Fund of Funds
FOFEQ	means fund of funds – equity securities	Fund of Funds: Equity Fund
FOFMMF	means fund of funds – money market	Fund of Funds: Money Market Funds

## (Unofficial Translation)

<b>CODE</b>	<b>Category of investment policy</b>	<b>FUND CLASSIFICATION</b>
FOFMMG	means fund of funds – government money market	Fund of Funds: Money Market Fund-Government Related Bond
FOFSFF	means fund of funds – short term fixed-income	Fund of Funds: Short-term Mixed Income Fund
FOFSFG	means fund of funds –government short term fixed-income	Fund of Funds. Short-term Fixed Income Fund - Government Related Bond
FOFGFF	means fund of funds – fixed-income	Fund of Funds: General Fixed Income Fund
FOFGFG	means fund of funds – bond	Fund of Funds: General Fixed Income Fund - Government Related Bond
FOFMIX	means fund of funds – mix	Fund of Funds: Mixed Fund
FOFOTH	means fund of funds – others	Fund of Funds: Others
FIF	means mutual fund invested overseas	Foreign Investment Fund
FIFEQ	means mutual fund invested overseas - equity securities	Foreign investment Fund: Equity Fund
FIFFIX	means mutual fund invested overseas – fixed-income	Foreign Investment Fund: Fixed Income Fund
FIFMIX	means mutual fund invested overseas – mixed	Foreign investment Fund: Mixed Fund
FIFOTH	means mutual fund invested overseas - others	Foreign investment Fund: Others

## 1. Formula for Calculating Information Ratio

### 1.1 Calculation of Information Ratio of funds

$$\text{Information Ratio (IR) of the Fund} = \frac{\text{Average Relative Return}}{\text{Tracking Error}}$$

When calculating Tracking Error, use n-1 as the denominator

$$\text{Average Relative Return} = \frac{\sum \text{Sub Period Relative Returns}}{\text{Number of Sub periods}}$$

Tracking Error

$$= \sqrt{\frac{\sum (\text{Sub Period Relative Returns} - \text{Average Relative Return})^2}{\text{Number of Sub periods} - 1}}$$

Sub Period Relative Return = Sub Period Return of Fund - Sub Period Return of Benchmark

The management company can convert the Tracking Error for a certain period into an annualized rate by multiplying the square root of 12.

### Example: Calculating the risk of a fund using Information Ratio

วันที่	NAV	Benchmark	Portfolio Monthly Return Rp	Benchmark Monthly Return Rb	Sub Period Relative Return a = Rp - Rb	Deviation From average (a - ā)	Deviation Squared (a - ā) <sup>2</sup>
31 DEC 2006	10.1392	2698.53					
31 JAN 2007	9.8014	2598.72	-3.3317%	-3.6987%	0.3670%	0.0029821	0.0000089
28 FEB 2007	10.1200	2692.45	3.2505%	3.6068%	-0.3563%	-0.0042502	0.0000181
31 MAR 2007	10.2116	2705.43	0.9056%	0.4821%	0.4235%	0.0035475	0.0000126
30 APR 2007	10.6911	2846.43	4.6957%	5.2117%	-0.5160%	-0.0058473	0.0000342
31 MAY 2007	11.2063	3008.66	4.8186%	5.6994%	-0.8808%	-0.0094956	0.0000902
30 JUN 2007	11.6169	3169.75	3.6638%	5.3542%	-1.6904%	-0.0175917	0.0003095
31 JUL 2007	12.7442	3508.14	9.7045%	10.6756%	-0.9711%	-0.0103985	0.0001081
31 AUG 2007	12.1502	3340.18	-4.6608%	-4.7877%	0.1269%	0.0005816	0.0000003
30 SEP 2007	12.7781	3489.12	5.1674%	4.4590%	0.7083%	0.0063958	0.0000409
31 OCT 2007	13.8340	3745.56	8.2634%	7.3497%	0.9137%	0.0084493	0.0000714
30 NOV 2007	12.9286	3496.47	-6.5446%	-6.6503%	0.1057%	0.0003693	0.0000001
31 JAN 2008	13.0290	3545.11	0.7763%	1.3911%	-0.6148%	-0.0068358	0.0000467
31 DEC 2007	11.9085	3242.34	-8.5997%	-8.5405%	-0.0592%	-0.0012799	0.0000016
29 FEB 2008	12.7869	3497.71	7.3759%	7.8761%	-0.5002%	-0.0056892	0.0000324
31 MAR 2008	12.4620	3415.02	-2.5409%	-2.3641%	-0.1768%	-0.0024554	0.0000060
30 APR 2008	12.7374	3518.28	2.2101%	3.0237%	-0.8136%	-0.0088237	0.0000779
31 MAY 2008	12.7712	3530.52	0.2651%	0.3479%	-0.0828%	-0.0015155	0.0000023
30 JUN 2008	11.8915	3257.64	-6.8880%	-7.7292%	0.8412%	0.0077248	0.0000597
31 JUL 2008	10.5381	2866.82	-11.3814%	-11.9970%	0.6157%	0.0054694	0.0000299
31 AUG 2008	10.7911	2926.55	2.4008%	2.0835%	0.3173%	0.0024854	0.0000062
30 SEP 2008	9.4973	2569.68	-11.9895%	-12.1942%	0.2047%	0.0013595	0.0000018
31 OCT 2008	7.1075	1796.31	-25.1629%	-30.0960%	4.9330%	0.0486429	0.0023661
30 NOV 2008	6.9483	1735.70	-2.2402%	-3.3741%	1.1340%	0.0106524	0.0001135
31 DEC 2008	7.6263	1946.38	9.7591%	12.1380%	-2.3790%	-0.0244771	0.0005991

(Unofficial Translation)

$$\begin{aligned} \text{Average Relative Return} &= \frac{\sum \text{Sub Period Relative Returns}}{\text{Number of Sub periods}} = 0.0687\% \\ \text{Tracking Error} &= \sqrt{\frac{\sum (a - \bar{a})^2}{n-1}} = 1.3249\% \\ \text{Annualized Tracking Error} &= \text{Tracking Error} \times \sqrt{12} = 4.5897\% \\ \text{Information Ratio} &= \frac{(\text{Average Relative Return})}{(\text{Tracking Error})} = 0.05188 \end{aligned}$$

Note: The management company can use a higher frequency data set, i.e. more than once a month, for the measurement period.

### 1.2 Calculating the Information Ratio of a Composite Return

$$\text{Information Ratio (IR) of Composite Return} = \frac{\text{Composite (Average Relative Return)}}{\text{Composite (Tracking Error)}}$$

Example: Calculating the Composite Return and benchmark performance

Date	Fund A			Fund B			Fund C			Composite MTD % Return	Composite Benchmark MTD % Return
	Fund Size	MTD % Return	Benchmark MTD % Return	Fund Size	MTD % Return	Benchmark MTD % Return	Fund Size	MTD % Return	Benchmark MTD % Return		
JAN 2007	100	-1.60%	-0.15%	500	-0.75%	1.67%	1000	-3.00%	-1.97%	-2.21%	-0.72%
FEB 2007	95	1.90%	2.76%	540	2.50%	2.37%	1200	3.60%	3.14%	3.19%	2.90%
MAR 2007	92	-0.10%	0.49%	580	0.50%	0.98%	1400	0.20%	-0.01%	0.27%	0.29%
APR 2007	98	2.10%	3.13%	650	3.40%	2.81%	1580	4.50%	3.45%	4.09%	3.26%
MAY 2007	97	2.80%	2.92%	670	5.40%	1.64%	1550	7.60%	4.19%	6.76%	3.40%
JUN 2007	100	3.00%	1.41%	620	3.20%	-0.56%	1600	4.80%	3.38%	4.29%	2.24%
JUL 2007	105	5.30%	5.36%	680	5.20%	2.71%	2000	1.50%	8.02%	2.55%	6.62%
AUG 2007	103	-2.50%	-2.80%	650	-2.20%	-1.49%	2040	6.90%	-4.11%	4.44%	-3.45%
SEP 2007	104	2.00%	2.25%	700	2.90%	1.38%	1900	4.50%	3.11%	3.99%	2.63%
OCT 2007	102	3.70%	3.44%	750	5.60%	1.50%	2300	3.10%	5.37%	3.71%	4.39%
NOV 2007	100	-3.20%	-3.95%	690	-4.00%	-2.58%	2120	2.40%	-5.33%	0.69%	-4.63%
DEC 2007	101	0.80%	1.44%	720	-0.10%	1.47%	2600	-0.90%	1.41%	-0.68%	1.42%
JAN 2008	96	-4.20%	-1.87%	730	-4.10%	1.50%	2400	-7.20%	-5.24%	-6.41%	-3.61%
FEB 2008	100	3.90%	3.25%	740	5.10%	0.96%	2600	9.80%	5.55%	8.62%	4.50%
MAR 2008	101	-1.60%	-1.73%	700	-1.20%	-0.90%	2500	-1.30%	-2.56%	-1.29%	-2.18%
APR 2008	101	1.00%	0.37%	705	2.10%	-0.39%	2540	1.70%	1.13%	1.76%	0.79%
MAY 2008	105	0.20%	-0.84%	730	-0.50%	-1.34%	2610	5.40%	-0.35%	3.99%	-0.57%
JUN 2008	104	-3.80%	-5.63%	720	-4.60%	-4.54%	2660	-1.30%	-6.72%	-2.06%	-6.24%
JUL 2008	104	-6.00%	-3.76%	740	-5.80%	0.36%	2800	-12.60%	-7.88%	-11.03%	-6.09%
AUG 2008	105	0.70%	2.46%	780	1.30%	3.09%	3000	3.80%	1.83%	3.21%	2.10%
SEP 2008	100	-6.40%	-6.13%	760	-6.50%	-2.78%	3500	-12.80%	-9.49%	-11.56%	-8.24%
OCT 2008	99	-15.70%	-13.30%	780	-14.50%	-4.86%	3900	-28.00%	-21.74%	-25.54%	-18.81%
NOV 2008	100	-1.50%	-1.23%	790	-1.60%	-0.09%	4340	-3.70%	-2.38%	-3.34%	-2.01%
DEC 2008	104	6.00%	9.73%	850	4.90%	8.61%	5000	10.60%	10.85%	9.71%	10.51%

Note: The management company can use a higher frequency data set, i.e. more than once a month, for the measurement period.

Example of risk values calculation with composite of information ratio

Date	Composite Monthly Return Rc	Benchmark Monthly Return Rb	Sub Period Relative Return a = Rc - Rb	Deviation From average (a - ā)	Deviation Squared (a - ā) <sup>2</sup>
31 DEC 2006					
31 JAN 2007	-2.2094%	-0.7202%	-1.4892%	-0.0185102	0.0003426
28 FEB 2007	3.1883%	2.8973%	0.2910%	-0.0007091	0.0000005
31 MAR 2007	0.2707%	0.2902%	-0.0195%	-0.0038138	0.0000145
30 APR 2007	4.0918%	3.2605%	0.8313%	0.0046948	0.0000220
31 MAY 2007	6.7629%	3.4015%	3.3614%	0.0299953	0.0008997
30 JUN 2007	4.2948%	2.2405%	2.0543%	0.0169246	0.0002864
31 JUL 2007	2.5467%	6.6245%	-4.0778%	-0.0443970	0.0019711
31 AUG 2007	4.4356%	-3.4506%	7.8862%	0.0752432	0.0056615
30 SEP 2007	3.9896%	2.6293%	1.3603%	0.0099848	0.0000997
31 OCT 2007	3.7143%	4.3872%	-0.6729%	-0.0103478	0.0001071
30 NOV 2007	0.6900%	-4.6296%	5.3197%	0.0495782	0.0024580
31 JAN 2008	-0.6814%	1.4202%	-2.1016%	-0.0246349	0.0006069
31 DEC 2007	-6.4092%	-3.6142%	-2.7951%	-0.0315693	0.0009966
29 FEB 2008	8.6174%	4.4960%	4.1214%	0.0375954	0.0014134
31 MAR 2008	-1.2880%	-2.1847%	0.8967%	0.0053487	0.0000286
30 APR 2008	1.7632%	0.7863%	0.9769%	0.0061500	0.0000378
31 MAY 2008	3.9913%	-0.5749%	4.5662%	0.0420438	0.0017677
30 JUN 2008	-2.0566%	-6.2352%	4.1786%	0.0381677	0.0014568
31 JUL 2008	-11.0307%	-6.0940%	-4.9368%	-0.0529862	0.0028075
31 AUG 2008	3.2143%	2.1010%	1.1133%	0.0075143	0.0000565
30 SEP 2008	-11.5550%	-8.2415%	-3.3136%	-0.0367546	0.0013509
31 OCT 2008	-25.5418%	-18.8095%	-6.7323%	-0.0709416	0.0050327
30 NOV 2008	-3.3407%	-2.0127%	-1.3280%	-0.0168984	0.0002856
31 DEC 2008	9.7059%	10.5118%	-0.8059%	-0.0116779	0.0001364

$$\begin{aligned} \text{Average Relative Return} &= \frac{\sum \text{Sub Period Relative Returns}}{\text{Number of Sub periods}} = 0.3619\% \\ \text{Tracking Error} &= \sqrt{\frac{\sum (a - \bar{a})^2}{n-1}} = 3.4792\% \\ \text{Annualized Tracking Error} &= \text{Tracking Error} \times \sqrt{12} = 12.0522\% \\ \text{Information Ratio} &= \frac{(\text{Average Relative Return})}{\text{Tracking Error}} = 0.10401 \end{aligned}$$

Note: The management company can use a higher frequency data set, i.e. more than once a month, for the measurement period.

## 2. Calculation of Duration of fund

Use the Modified Duration method:

$$\text{Modified Duration} = \frac{\text{Macaulay Duration}}{1 + \frac{\text{Yield}}{\text{frequency}}}$$

3. For Provident Funds, disclose the portfolio weighting of debt instruments relative to the fund's net asset value, classified by credit rating (Credit rating):

Rating of the instrument, issuer, person providing certification, aval, endorsement or guarantee as shown below:

1. Government instruments according to the relevant memos and notifications issued by the Association .....% NAV
2. Deposits and instruments issued, avaled, endorsed, or guaranteed by financial institutions .....% NAV
3. Financial instruments of private sector or juristic persons established by special laws and/or financial instruments issued by state-owned enterprises under Budget Law.

Rating AAA or equivalent	.....% NAV
Rating AA or equivalent	.....% NAV
Rating A or equivalent	.....% NAV
Rating BBB or equivalent	.....% NAV
Rating BB or equivalent	.....% NAV
Rating B or equivalent	.....% NAV
Rating CCC or equivalent	.....% NAV
Rating CC or equivalent	.....% NAV
Rating C or equivalent	.....% NAV
No rating or equivalent	.....% NAV