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AIMC logo

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

**No. SorJorKor. KorChor. 1/2566**

**Provident Fund Performance Measurement and Presentation Standards**

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This notification sets standards, rules and procedures for measuring the performance of provident funds and comparing against benchmarks that correspond to the investment objectives and strategy, and ensure compliance with clause 6 of the Notification of the Capital Market Supervisory Committee, ThorNor. 11/2564 regarding Guidelines for the Management of Funds for Retail Investors, Funds for Accredited Investors, Funds for Institutional Investors, and Private Funds, dated 29 January 2021 and subsequent amendments. By virtue of clause 25 of the Regulations of the Association of Investment Management Companies, the board of directors of the Association of Investment Management Companies hereby prescribe provident fund performance measurement standards below, except if the Securities and Exchange Commission prescribes otherwise.

Clause 1 Repeal previous guideline.

Notification of the Association of Investment Management Companies SorJorKor. KorChor. 2/2552 Re: Provident Fund Performance Measurement, dated 28 December 2009 shall be repealed.

Clause 2 In this Notification,

“Provident fund” refers to a provident fund as defined by the Provident Fund Act.

“Committee of Provident Fund Management Companies” refers to the committee representing provident fund companies who are members of the Association of Investment Management Companies.

“Provident Fund Committee” refers to the committee that oversees the particular provident fund belonging to the employer.

“Board of the AIMC” refers to the Board of Directors of the Association of Investment Management Companies.

“Member company” refers to the company which is a member of the Association of Investment Management Companies licensed to operate a securities business involving the management of private funds in the category of provident funds.

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

"Fund member" refers to an employee who is a member belonging to the provident fund.

“SEC or SEC Office” refers to the Securities and Exchange Commission.

“Master fund” refers to the fund which the provident fund invests in.

“Target fund” refers to a fund which the provident fund invests in; there can typically be more than 1 target fund.

“Factsheet” refers to a document providing highlight details about the fund’s investment policy, prepared in accordance with regulations of the Securities and Exchange Commission regarding Guidelines, Conditions, and Process for the Management of Provident Funds.

In this notification, if there is reference to the type of provident fund, this shall mean the type of provident fund according to the investment policy. For example, equity fund, fixed income fund, etc.

## **I. Regulatory Objectives**

Clause 3 The requirements prescribed by this notification set standards regarding the measurement and presentation of provident fund performance, which aims to ensure that member companies present provident fund performance that is fair, accurate, and complete in accordance with international standards to serve as supporting information for provident fund members, potential clients, and general public to make their investment decisions. Aforementioned performance presentation requirements shall also be applicable to provident fund performance on factsheets, member companies’ provident fund reports in KorChor. 1.2, websites, documents, and other media, etc., including data submitted to the AIMC, unless if stated otherwise by other specific notifications issued on this matter.

## **II. Performance Measurement and Presentation Standards for Provident Funds**

Clause 4 For fund performance measurements and presentations, member companies must be thorough and careful when preparing and reviewing the provident fund performance measurement data that are ultimately published and distributed to provident fund members, potential clients, various media and general public. This also applies to information submitted to the AIMC in accordance with prescribed guidelines. The member company shall report provident fund performance with impartiality, accuracy, and thoroughness. Furthermore, member companies shall not give a misleading sense of the risk and expected returns from the investment. Member companies shall be responsible for ensuring the accuracy of the information. When comparing the performance of provident funds, the member company must only compare funds of the same type and over the same period.

For a provident fund that is Passive whose aim is to generate the same returns as an index or benchmark, the member company must specify the target benchmark. Furthermore, the benchmark must possess the qualities described in this notification. The benchmark must be disclosed and historical performance comparison against the benchmark must comply with requirements prescribed by this notification, SEC regulations, and any other relevant regulations.

For a provident fund that is Active which references a benchmark index for portfolio structure or performance comparison, the benchmark must possess the qualities described in this notification; the benchmark must be disclosed along with the justification for selecting this benchmark. Historical performance comparison against the benchmark must comply with requirements prescribed by this notification, SEC regulations, and any other relevant regulations.

For an active provident fund that does not intend to compare with any benchmark index for portfolio structure or performance comparison, or if the fund is unable to prescribe a benchmark that meets the requirements described in this notification, the member company may opt not to select a benchmark for the fund.

The member company must clearly disclose information about the benchmark, or lack of benchmark, in the fund factsheet. For cases where a benchmark is used, the member company must select a benchmark that meets the qualifications described in this notification. Disclosure of the benchmark and historical performance comparison against the benchmark must comply with requirements prescribed by this notification, SEC regulations, and any other relevant regulations.

### **III. Data Used to Measure Performance (Input Data)**

Clause 5 The valuation of the fund's investments used in the fund performance measurement must be determined according to regulations described in the notification of the Association Re: Rules and Procedures for Determining the Fair Value for Calculating Net Asset Values of Provident Funds, and other relevant AIMC notifications.

Clause 6 The valuation of the fund's investments must be booked according to accounting standards applicable to provident funds.

Clause 7 Member companies must keep supporting documents on the data used in the calculation of the fund performance for auditing purposes.

### **IV. Calculation methodology**

Clause 8 The calculation methodology for provident fund performance shall be as follows:

(1) Calculation is based on total returns.

(2) Calculation is based on time-weighted rates of return between the dates of cash inflows and outflows from the provident fund. Cash inflows or outflows shall be adjusted to ensure fund performance measurement is not distorted; member companies shall use a geometrically linked method to derive provident fund performance for the period. (For details on calculation methodology, refer to Section A of the Appendix).

### **V. Benchmark Index**

Using general principles for performance measurements and presentations of funds described in Section II above, funds with a designated benchmark must use a benchmark that complies with the following.

Clause 9 Member companies shall designate a benchmark index to compare fund performance that possess these characteristics:

(1) Must be aligned with the investment policy, objective, or investment strategy of the provident fund

(2) Based on total returns, if the benchmark index is available based on total returns.

(3) The benchmark index's constituents can be invested in, or an investment exposure can be created.

(4) Calculation methodology meets generally accepted standards and the benchmark index is regularly disclosed.

Member companies must agree with the Provident Fund Committee of every provident fund under its management regarding the performance benchmark that will be used to compare the fund. This agreement must be documented in writing. Member companies may see an example of how a benchmark is designated, according to the fund's investment assets, in guidelines described in Section B of the Appendix.

Clause 9/1 To meet the qualifications required by clause 9(1) above, for a provident fund with a policy to invest in multiple types of assets where allocation is at the discretion of the fund manager, the member company shall use a composite benchmark constructed from the various individual benchmarks applicable to each type of asset invested by the provident fund. Those individual benchmark components must comply with qualifications described in clause 9(2) to clause 9(4), and combined by using a weighted-average of the proportion of investments reflected in the fund's target investment plan. The member company must also disclose the composition of asset types in the benchmark; the weightings of those constituents must reflect the fund's target investment plan (ex ante). Also clearly state how frequently the weightings will be adjusted (rebalanced) in the fund factsheet to inform provident fund members in advance.

Clause 10 For a provident fund that adopts the strategy of a Feeder Fund or Fund of Funds, the member company may use the following benchmark.

10.1 Provident fund with a Feeder Fund strategy

- (1) Benchmark used by the master fund which is widely disclosed to investors; or
- (2) The past performance of the master fund;
- (3) Any other benchmark compatible with the provident fund's investment policy, objectives, or investment strategy.

10.2 Provident fund with a Fund of Fund strategy. Member company may use the following in a benchmark composed of the weighted-average of target funds, where weightings reflect the provident fund target investment plan.

- (1) Benchmarks used by the target funds as widely disclosed to the public;
- or

- (2) Performance of target funds; or
- (3) Any other benchmark compatible with the provident fund's investment policy, objectives, or investment strategy.

Clause 11 For a provident fund in which the member company does not designate a performance benchmark, including a fund that was previously paired with a benchmark but subsequently does not (for example, the index provider decided to discontinue the benchmark index, leaving the fund without a benchmark that qualifies), the member company shall clearly disclose to provident fund members why that provident fund does not have a benchmark. Also explain the absence of historical performance comparisons for periods prior to the day of transition from fund with benchmark to fund without benchmark.

If the member company specifies a minimum performance target, or hurdle rate, presentation performance should also include an explanation of the suitability of using such hurdle rate and clearly point out key differences between the hurdle rate used and the investment assets of the fund.

Clause 12 A member company may change the benchmark for a provident fund if the new benchmark complies with clause 9 or clause 10, or if circumstances prevent continuation of the use of the old benchmark, or done for the general benefit of all provident fund members or the fund itself. The member company must obtain consent in writing from the Provident Fund Committee, simultaneously indicating the date the benchmark change will take effect. Explain the adjustment and justification. The member company must not use the new benchmark to retroactively compare with periods prior to the new benchmark's effective date unless the new benchmark also reflects the fund's investment policy, objectives or investment strategies in the period before the effective date and the new benchmark is more relevant than the prior benchmark. Other reasons include circumstances that prevent the continued use of the old benchmark, or if the change is for the general benefit of all provident fund members or the fund itself. But there must be no ulterior motif to simply make the fund appear to perform better. In the case of a Feeder Fund, if the benchmark of the master fund has been changed, the member company shall provide the same level of disclosure as the master fund to inform the Provident Fund Committee and provident fund members as a whole.

For a provident fund with multiple types of assets with an investment policy that gives the fund manager discretion to set investment allocation across various assets as described in clause 9/1, if the member company changes the weightings of the composition of the benchmark (rebalance) at the scheduled interval, the member company shall adhere to requirements described in the first paragraph, mutatis mutandis.

## **VI. Performance Presentation**

Clause 13 The member company shall report the performance of provident funds and benchmarks for every provident fund under management, in accordance with the performance measurement and presentation standards prescribed by the AIMC. Presentation of data varies depending on situations described below. Adhere to these guidelines, unless there is a specific notification to require otherwise.

13.1 Presentation of data to a client to pitch for a provident fund management deal (Deal Pitching Disclosure).

When presenting performance using Composite Return of fund types as described in clause 18, the member company can also separately discuss Composite Return based on provident fund types from other classifications such as provident funds with one employer (Single Funds), provident funds with several employers (Group Funds), and Pooled Funds. This can be presented individually or combined. Information disclosed should at least contain:

(1) Historical performance covering at least the last 10 calendar years. If a provident fund has been operating for less than 10 calendar years, show historical performance data since inception date (examples of such disclosure available in Section C of the Appendix).

(2) Cumulative performance or trailing returns over the past 1 calendar year, 3 calendar years, 5 calendar years, and 10 calendar years. If a provident fund category's track record is shorter than any period being measured, the member company shall only show past performance for periods where data exists. Also show past performance since inception date up to date of fund performance report. The member company may additionally show past performance for period between last business day of previous calendar year to reporting date (year-to-date) (see example of presentation described in Section D of the Appendix).

13.2 When presenting performance data to the Provident Fund Committee and provident fund members, at least the following must be shown:

(1) Past performance from end of last year to latest month (year-to-date).

- **Disclosure for provident fund members 2 times a year** according to reporting format for provident fund members, which include cumulative return for 6-month period since beginning of financial year, and for 12-month period since beginning till end of financial year, for every year.

- **Disclosure for Provident Fund Committee in the form of Year-to-Date return** according to form KorChor. 1.2, every month.

(2) Past performance over at least the past 10 calendar years. If the member company have only been managing the provident fund for less than 10 years, show past performance over the past calendar years since inception instead. Data should be disclosed in the factsheet.

If the client requests to set measurement periods described in clause 13.1 and 13.2 differently from the standard configurations, the member company can report such data instead.

Clause 14 When presenting provident fund performance according to clause 13, the member company shall show performance as an annualized rate of return. If the fund has less than 1 year performance, the member company shall show Year-To-Date performance or Inception-To-Date instead. Do not annualize the return rate in this case (details of calculation described in Section E of the Appendix).

Clause 15 To provide investors with sufficient information to evaluate a fund's performance, member companies shall provide the following information along with the provident fund's performance data in accordance with clause 13.2 and 13.2(2) too.

(1) Performance and risk measurements for the benchmark that correspond to the risk of the provident fund according to (2), covering the same periods shown in the provident fund's performance presentation.

(2) The risk of a provident fund shall be represented by its standard deviation and any other applicable measurements, for the same corresponding periods that the provident fund's performance is being measured. When calculating the standard deviation for a provident fund, the member company should use data frequency that is at least monthly (details as described in Section F of the Appendix).

(3) For a provident fund that has a passive management strategy such as index funds, the member company is required to disclose the Tracking Error ("TE") which measures the deviation and the volatility of the average return of the provident fund and reference index for at



least the past 3 years as well. The calculation TE shall be based on at least monthly data; show the information in annualized TE (details as stated in Section F of the Appendix).

(4) For a provident fund that is a fixed income fund or balanced fund, disclose the portfolio duration and breakdown of investment assets by credit rating (details as explained in Section F of the Appendix). For unrated fixed income instruments, cash, or instruments guaranteed by the Fund for Rehabilitation of Financial Institutions, disclose the weighting of such investments as a percentage of NAV.

For a provident fund that adopts a Feeder Fund strategy, the member company may refer to the average portfolio duration, breakdown of investments by credit rating, breakdown of cash and instruments guaranteed by the Fund for Rehabilitation of Financial Institutions of the master fund instead.

Clause 16 If a member company went through a merger or acquired the duty to manage a provident fund from a previous company, the member company is permitted to use past performance data of such provident funds prior to the merger or transfer, to present as the member company's own performance if all requirements below are met.

(1) Persons responsible for all important investment decisions, such as research team, fund managers, others related employees, have also been employed by the member company.

(2) The decision-making process for the fund has not changed significantly and maintains a degree of independence under the member company's management.

(3) The member company has information and evidence to justify the fund performance measurements.

The member company shall disclose to provident fund members and the Provident Fund Committee that the duty to manage the fund has been transferred from another company.

Clause 17 Member companies shall at least disclose the information below in the fund performance reports described in clause 13.

(1) A statement that "this fund performance measurement report is prepared in accordance with the Provident Fund Performance Measurement and Presentation Standards of the Association of Investment Management Companies. Past performance should not be viewed as predictor of future performance."

(2) Details about the benchmark, such as benchmark name, constituents, important characteristics, etc.

(3) Provident fund performance shown is **after** deduction of management fees, custodian fees or other expenses. However, if the member company desires to additionally report fund performance **before** management fees, custodian fees, or other expenses, make sure to include a remark to highlight the figures shown are before such fees/expenses.

(4) If the fund has investments where dividend income, interest income, and capital gains are subjected to a significant withholding tax (for example, foreign investment), the member company shall disclose details about the withholding tax as well. Also specify whether the benchmark of the fund is net of withholding tax or not (if information is available).

Clause 18 If a member company wishes to present aggregate fund performance for the various funds under its management, by showing the combined performance of provident funds of the same type (Composite Return) in addition to the presentations described in clause 13, the member company shall proceed as follows:

(1) Classification of provident funds (composite) must comply with these rules:

(a) The member company shall define the fund type that is based on the investment policy or investment strategy. Every provident fund under the member company's management must be classified into at least one of the provident fund types. If the member company revises the definition of a provident fund type, the member company must not cite that the change will subsequently make it necessary to retroactively change the historical performance data of that provident fund type.

(b) If a member company has just established a provident fund which contains an investment policy, objective, or investment strategy that meets a provident fund classification type specified by the member company, the member company shall add that newly-established fund into the provident fund type promptly.

(c) If a member company dissolves a provident fund, the member company shall continue to retain the dissolved provident fund in the performance data of that provident fund type up until the last reporting period where the dissolved fund's data is still fully present throughout the period.

(d) The member company shall not transfer a provident fund from one provident fund type to another, unless the provident fund has changed its investment policy, objective, investment strategy, or definitions of provident fund types have been changed. The member company must keep supporting documents regarding the transfer of the provident fund for auditing purposes.

(2) To measure the performance of a provident fund type (composite), the member company shall obtain the result by using the weighted average method based on the net asset of funds belonging to that provident fund type (Composite Return) as of the beginning of the performance presentation period. If there is desire to additionally present equal-weighted average figures, clearly remark that such figures use equal-weighted average. Note that asset-weighted average data must still be reported (details of such calculation as stated in Section G of the Appendix).

(3) The member company shall disclose at least the following information in fund performance reports:

(a) Information about the definition of the provident fund type (composite) and the date of its classification.

(b) Information on all types of provident funds under management of the member company, if requested by the client, the Provident Fund Committee or provident fund member. The member company shall disclose to the Provident Fund Committee and provident fund member how such information may be obtained.

(c) If a member company amends the definition of a fund type (composite), the member company shall disclose the date of the amendment and the reasoning. If the member company changes the name of the fund type (composite), the member company shall inform the client, Provident Fund Committee, and provident fund member about details of the name change.

(d) The number and value of provident funds included within the same provident fund type. Also show total assets of all funds under management, or show percentage breakdown of provident fund types relative to total assets of all funds under management, as of the date of the fund performance report.

(e) In the event that a certain provident fund type contains more than 5 provident funds, the member company shall disclose information about the distribution of the individual fund's performance within that provident fund type (Internal Dispersion) using measurements such as high-low range, standard deviation, etc. This will enable the client, Provident Fund Committee and provident fund members to understand the consistency of the performance of provident funds within the same provident fund type. The member company must clearly specify the method used to show distribution information.

Clause 19 If the member company wishes to disclose information about rankings or awards related to the past performance of provident funds or other funds that a provident fund will invest in, or already invested in, the member company must present the information in

accordance with SEC notification Re: Detailed Guidelines for Advertisements and Sales Promotions of Securities and Derivatives Businesses.

## **VII. Performance Comparison**

Clause 20 If a member company wishes to show a performance comparison of its provident funds with other provident funds, or with the same provident fund category within the industry, the member company must follow these guidelines:

(1) If the member company wants to compare fund performance, the provident fund classification type must be the same.

(2) If the member company wants to compare the performance of its provident funds with the performance of the same provident fund category within the industry, the member company must be comparing funds of the same type as defined by the AIMC. The calculation must contain the performance of every provident fund that belongs under that fund type.

(3) The period used to show performance comparisons between provident funds or comparisons against the same provident fund category within the industry, must match and be sufficiently long. Presentation format must comply with clause 13, mutatis mutandis.

## **VIII. Information Presentation Ethics**

Clause 21 When presenting information on provident fund performance, member companies shall not distort information nor present the information in such a way that may mislead the Provident Fund Committee, provident fund members, general public, or potential clients, therefore subsequently distort their investment decisions.

Clause 22 A member company may choose to provide additional information about provident fund performance beyond requirements set by the association, but must at least meet the association's standards described earlier in this notification. If a member company decides to show additional information, the member company shall present such information that is fair, accurate and thorough. Furthermore, the member company shall clearly state assumptions applied and consistently present provident fund performance in the same method that the member company has chosen to present supplementary data every time.

This notification shall be effective 1 July 2023 onwards to be strictly complied by member companies are.

Notification issued 23 March 2023

-signature-

(Mrs. Chavinda Hanratanakool)

Chairman

Association of Investment Management Companies

## APPENDIX

### A) Calculation of cumulative return for a fund with cash inflows and outflows from the provident fund

Where there are cash inflows and outflows from the provident fund during the period when performance is being calculated, use the Time-Weighted Return method to estimate the rate of return for that period as shown below.

$$R = \left[ \frac{NAV_{(e)}}{NAV_{(b)}} \times \left( 1 + \frac{F}{NAV_{(f)}} \right) \right] - 1$$

Whereby

$NAV_{(b)}$  is the net asset value per unit at the beginning of the period.

$NAV_{(f)}$  is the net asset value per unit on the date when there is a cash inflow or outflow from the provident fund.

F is the amount of cash inflow per unit or cash outflow per unit from the fund during the period. The F will be positive for a dividend payment or cash outflow from the provident fund; F will be negative for a cash inflow into the fund.

$NAV_{(e)}$  is the net asset value per unit of the end of the calculation period.

## B) Examples of benchmarks for different types of provident funds

The guideline for designating a benchmark index for provident funds is intended to help member companies understand the principles described in clauses 9 through 12 of the AIMC notification, covering Provident Funds Performance Measurement and Presentation Standards. When choosing a benchmark index, member companies must follow prescribed principles. Investment assets of provident funds may vary by more than what is covered. Furthermore, universe of investible assets permitted for investment by provident funds may be enlarged in the future. Guidelines for choosing a benchmark index presently only hinge on type of asset, without consideration of other factors. A benchmark index itself may be subjected to change, hence the need to amend how we designate a benchmark. For example:

- SEC notifications prescribe the use of other benchmark indexes such as a Total Return Index rather than a plain Return Index.
- Discontinuation of an Index already being used, or the construction of a new Index to incorporate new factors. The index provider may also change the name of an Index.

For the designation of a benchmark based on type of assets, the AIMC suggest as follows:

**(1) Portion of fund's investment assets which are equities:** If a benchmark index is available that is based on total return, the standard practice is to use the benchmark index that corresponds to the fund's investment policy. Examples include SET Total Return Index (SET TRI), SET50 Total Return Index (SET50 TRI), SET100 Total Return Index (SET100 TRI), mai Total Return Index (mai TRI), Industry Total Return Index (Industry TRI), etc.

**(2) Portion of fund's investment assets which are debt securities:** Select benchmark index for performance comparison according to sub-classification of debt securities as follows:

**(a) Portion of fund's investment assets which are government debt securities**

- If the provident fund **does not specify the time-to-maturity or target duration of government bonds** earmarked for investment, use the Total Return of the ThaiBMA Government Bond Index as benchmark index for performance comparison.
- If the provident fund **specifies the time-to-maturity of government bonds** earmarked for investment, use the Total Return of ThaiBMA MTM Government Bond Index - Maturity Sub Group with tenor similar to the duration of the invested assets as benchmark index for performance comparison.

However, for a provident fund that is **required to invest in government debt securities with time-to-maturity less than or equal to 1 year**, perhaps adopt the Total Return

of ThaiBMA Short-term Government Bond Index as the benchmark index for performance comparison

- For a provident fund that **specifies a target duration for government debt securities** earmarked for investment, use the Total Return of ThaiBMA Zero Rate Return Index with tenor similar to the target duration of the invested assets as benchmark index for performance comparison.

**(b) Portion of fund's investment assets which are corporate debt securities**

- If the provident fund **does not specify time-to-maturity of corporate debt securities** earmarked for investment, use the Total Return of ThaiBMA MTM Corporate bond Index (BBB up) as benchmark index for the performance comparison.

- If the provident fund **specifies the time-to-maturity of corporate debt securities** earmarked for investment, use the Total Return of ThaiBMA MTM Corporate Bond Index - Maturity Subgroup having similar credit rating and tenor as the invested assets as benchmark index for performance comparison

However, for a provident fund that is **required to invest in corporate debt securities with time-to-maturity less than or equal to 1 year**, use the ThaiBMA Commercial Paper Index with the credit rating that corresponds to the invested assets as the benchmark index for performance comparison.

- For a provident fund that **specifies a target duration for corporate debt securities** earmarked for investment, use the Total Return of ThaiBMA Corporate Zero Rate Return Index with tenor similar to the target duration of the invested assets as benchmark index for performance comparison.

If the provident fund **specifies a target duration for corporate debt securities less than or equal to 1 year** for investment, use the ThaiBMA Commercial Paper Index with the credit rating that corresponds to the invested assets as the benchmark index for performance comparison.

- For a general fixed-income fund or a flexible fund that **does not impose specific weighting requirements between government debt securities and corporate debt securities**, the member company shall use the Total Return of ThaiBMA Composite Bond Index as the benchmark for performance comparison or use a Composite Benchmark comprising the Total Return of ThaiBMA MTM Government Bond Index and Total Return of ThaiBMA MTM Corporate Bond Index (BBB up), weighted to match the fund's investment policy.



**(3) Portion of fund's investment assets which are money market instruments:**

Use the following benchmarks:

(a) For investment in money market instruments which are government debt instruments, use the Total Return of ThaiBMA Short-term Government Bond Index as benchmark for the performance comparison.

(b) For investment in money market instruments which are corporate debt instruments, use the ThaiBMA Commercial Paper Index with the credit rating that corresponds to the invested assets as the benchmark for performance comparison.

For a provident fund predominantly investing in the money market with no foreign-country risk exposure, the member company may use the average 1-year fixed deposit rate for a 1 million Baht deposit likely quoted to the fund by Bangkok Bank Public Company Limited, Kasikorn Bank Public Company Limited, Siam Commercial Bank Public Company Limited, and Krung Thai Bank Public Company Limited as additional reference for performance comparison. However, the member company must state a risk warning that investment in provident fund that emphasizes money market investments is not equivalent to a cash deposit as there is investment risk exposure; the client or provident fund member may not fully receive back the entire sum invested. Such warnings must be displayed everywhere a deposit rate is presented as a benchmark.

**(4) Portion of fund's investment assets which are cash deposits:** Use the average 1-year fixed deposit rate for a 1 million Baht deposit likely quoted to the fund by Bangkok Bank Public Company Limited, Kasikorn Bank Public Company Limited, and Siam Commercial Bank Public Company Limited as benchmark for the performance comparison. Adjust the average as necessary, every time any bank changes its deposit rate.

**(5) Portion of fund's investment assets which are Property Funds or Real Estate Investment Trusts:** If there is a benchmark index based on total return, use the total return index that is aligned with the provident fund's investment policy for performance comparisons. For example, use the Property Fund and Real Estate Investment Trust Total Return Index (PF&REIT TRI).

**C) Presentation of provident fund performance and risk (Standard Deviation or SD) on calendar year basis with comparison to benchmark**

**Example:**

Unit : % per annum

Year	2007 <sup>1</sup>	2008	2009	2010	2011	2012	2013	2014	2015	2016 <sup>2</sup>
Provident fund return										
Benchmark return										
Standard Deviation of fund performance										
Standard Deviation of benchmark										

Calculation of SD should be based on data with at least 36 observations.

**D) Presentation of provident fund performance and risk (Standard Deviation or SD) as trailing return compared to benchmark**

**Example:**

**Example for equity fund**

	<b>Year to Date</b>	<b>1 Yr<sup>1</sup></b>	<b>3 Yrs<sup>1</sup></b>	<b>5 Yrs<sup>1</sup></b>	<b>10 Yrs<sup>1</sup></b>	<b>Since Inception Return<sup>1</sup></b>
Provident fund return						
Benchmark return						
Standard Deviation of fund performance						
Standard Deviation of benchmark						

**Note** <sup>1</sup>unit : % per year

**E) Calculation of return or financial performance as an Annualized Return**

$$\text{Annualized Return} = (1 + \text{Cumulative Return})^{\frac{\text{Number of Periods per Year}}{\text{Total Number of Periods}}} - 1$$

**F) Measuring risk as Standard Deviation, Tracking Difference and Tracking Error**

**1. Calculation for Standard Deviation and Tracking Error**

$$\text{Standard Deviation} = \sqrt{\frac{\sum(Rp - \bar{Rp})^2}{n-1}}$$

$$\text{Annualized Standard Deviation} = \text{Standard Deviation} \times \sqrt{12}$$

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

$$= \sqrt{\frac{\sum(a - \bar{a})^2}{n-1}}$$

$$\text{Annualized Tracking Error} = \text{Tracking Error} \times \sqrt{12}$$

$$\text{Sub Period relative return} = \text{Fund Sub Period return} - \text{Benchmark Sub Period return}$$

**2. Calculation for Duration of Provident Fund**

Use Modified Duration according to formula shown below:

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

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

Disclose rating of the instrument, issuer, person providing certification, aval, endorsement or guarantee in the format shown below:

- |  |      |
|--|------|
| 1. Government instruments according to the memos and notifications is- | %NAV |
| 2. Deposits and instruments issued, aveled, endorsed, or quaranteed by | %NAV |
| 3. Financial instruments issued by private sector or juristic persons  | %NAV |

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

## G) Composite Return of fund group managed by a member company

- **Asset-weighted Average**

$$C_{\text{ASSET}} = \frac{\sum (\text{MVB}_i \times R_i)}{\text{MVB}_{\text{TOTAL}}}$$

$\text{MVB}_1$  = value of net assets of provident fund i at **beginning** of period

$R_i$  = return achieved by provident fund i

- **Equal-weighted Average**

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

$R_i$  = return achieved by first provident fund of the group

$n$  = number of provident funds within the same investment type that are summed together to determine the group performance

Performance over a longer period can be calculated by aggregating such figures by Geometric Link