Textbook
(Unofficial Translation)
Investment Product Series (P Series)
P 2 – Complex Products: Bond and Mutual Fund

For

- **Investment consultant using as a requirement for "Investment Consultant Complex Type 2"**

or

- **Investment consultant using as a requirement for "Investment Consultant Complex Type 1"**

Thailand Securities Institute
Version 1: 15 November 2017

Complex Products (Bond and Mutual Fund)

Required Readings:

1. **Knowledge about Capital Market Products: Complex Products (Bond and Mutual Fund)**

(Available in Thai only. See learning objectives and suggested readings as a guideline)

Chapter 1: Complex Bond

Learning Objectives:

1. Explain and distinguish debt securities having high risks or complex in terms of equity-like securities, structured debt securities, unrated debt securities, non-investment grade bond.
2. Distinguish differences of traditional and high-risk or complex debt securities.
3. Explain yield of high-risk or complex debt securities.
4. Calculate payoff of high-risk or complex debt securities.
5. Explain types of risks of high-risk or complex debt securities.
6. Compare yield and risks of investment in high risk or complex debt securities.
7. Compare characteristics of general and structured debt securities.
8. Identify differences between structured notes and other types of structured debt securities.
9. Analyze yield and expected principal of each type of structured debt securities.
10. Explain meaning and interpret each level of credit ratings.
11. Explain and interpret credit spread of debt securities investment.
12. Compare impacts of changes in the interest rates to subordinated bond and general bond prices.
13. Interpret risk tolerance levels of an investor for suitable investment in debt securities.

Note: The suggested readings are provided to facilitate a reader in understanding the contents of the Thai text books that are not available in translated version. TSI tries our best to find an available English textbooks, websites, sources of information for a reader to study, however, it may not cover all contents especially all learning objectives. Please refer to the learning objectives and original Thai text books for exact correctness and completeness.

Suggested Readings

- Overview of Bonds: https://www.set.or.th/en/products/bonds/files/bond_knowledge_eng.pdf
- Risks of complex bonds:
  - https://danskebank.no/PDF/Business/MiFid/Factsheet_Complex_Bonds.pdf
  - https://www.esma.europa.eu/sites/default/files/library/2015/11/investor_warning_-_complex_products_20140207_-_en_0.pdf
- Hybrid securities:
  - http://treasurytoday.com/2007/02/hybrid-securities
  - http://www.iflr.com/pdfs/web-seminars/120501-Capital-Markets%20Multi-Jurisdictional-Guide-2012-13-Hybrid-Securities-Chapter.pdf
- Priority of payment:
  - https://www.ktzmico.com/en/fixincomemarket/bond.aspx
- Basel III capital framework: Pages 10-17 of https://www.icaew.com/~/media/corporate/files/events/2014/technical/paper%20dirk%20schoenmaker%20nov%202014.ashx
- Overview of Perpetual bonds: https://www.investopedia.com/articles/investing/082313/perpetual-bonds-overview.asp
- Structured Products:
  - https://www.investopedia.com/articles/optioninvestor/07/structured_products.asp
  - http://www.londonstockexchange.com/prices-and-markets/structured-products/downloads/structuredproducts.pdf
  - https://www.sec.gov/oiea/investor-alerts-bulletins/ib_structurednotes.html
  - https://www.sec.gov/investor/alerts/structurednotes.htm
- Equity-linked notes: http://homepages.math.uic.edu/~tier/Finance/equity-link-notes.pdf
- Equity and Interest-linked notes examples: http://accounting-financial-tax.com/2010/02/what-is-structured-notes-how-does-it-work/
- Commodity-linked notes: CAIA level I : an introduction to core topics in alternative investments, Mark J. P. Anson with Donald R. Chambers, Keith H. Black, Hossein Kazemi, 2012 – Chapter 19: Commodities: Applications and Evidence
- Payoff diagrams of capital protection products: https://structuredproducts.raiffeisen.ch/our-services/product-know-how/
- Ratings Definitions:
  - https://www.standardandpoors.com/en_US/web/guest/article/-/view/sourceId/504352
  - Page 44 of https://www.fitchratings.com/site/dam/jcr:6b03c4cd-611d-47ec-b8f1-183c01b51b08/Rating%20Definitions%20-%20Jan%2024%202018.pdf
  - https://www.trisrating.com/files/8814/9803/6935/Symbol-e_2559.pdf

Chapter 2: Complex Mutual Fund

(Translation available)

Learning Objectives:

1. Explain basic characteristics of each type of high risk or complex mutual funds.
2. Distinguish type of high risk or complex mutual funds.
3. Explain common characteristics, risk and return of investment products invested in the investable areas of high risk or complex funds.
4. Calculate rate of return of high risk or complex mutual funds.
5. Explain and distinguish types of risks of each type of high risk or complex mutual funds.
6. Give advice in high risk or complex mutual funds, in accordance with investment objectives of an investor.
7. Explain usefulness, limitations and considerations of the investment in each type of high risk or complex mutual funds.

Note: An unofficial translation of the Thai text book: Knowledge about Capital Market Products: Complex Products (Bond and Mutual Fund), Chapters 2,3. The translation is intended to facilitate a reader to understand contents of the book but not to be used as a reference. TSI is not responsible for the correctness and completeness of the translation. The contradiction of the original text book and the translation, please refer to the Thai version.

Chapter 2

Investing in Mutual Fund with High Risk and/or Complexity

Mutual funds normally invest in traditional investment securities like bank deposits, debt securities and equity securities. Given current investment situation is highly dynamic, interest rate is at a low level, investment market substantially fluctuates and traditional investments have provided quite low investment returns, asset managers need to look for new investment strategies with the aim to enhance returns to their investors. Mutual funds need to employ more complex investment strategies such as hedge fund investment strategies and have more exposure to highly complex and risky securities. Mutual funds that have employed highly complex and risky investment strategies would of course be exposed to higher investment risks.This chapter would provide details about return and risks associated with mutual funds with high risk and/or complexity.

2.1 Overview of Mutual Funds with High Risk and/or Complexity

2.1.1 Characteristics of Mutual Funds with High Risk and/or Complexity

Investment units of mutal funds with high risk and/or complexity include the followings:

- Investment units of mutual funds which have policies to invest in non-investment grade and/or non-rated debt securities of more than 60% of their total net asset values (NAVs)
- Investment units of mutual funds of which return distributions are determined based on complex formulae or conditions which are difficult for general investors to understand
- Investment units of mutual funds which have net exposure to commodity products via either investment products or derivative ones of which returns are linked to commodity products

- Investment units of mutual funds with no investment limit in place such as mutual funds which hold hedge fund investment units
- Investment units of mutual funds with high risk and/or complexity in accordance with SEC notification concerning mutual funds with exposure to derivatives and structured notes

2.1.2 Differences between Mutual Funds with High Risk and/or Complexity and Traditional Ones

Given mutual funds with high risk and/or complexity have possessed distinctive features which differ from those of traditional mutual funds, and their complex features would make general investors misunderstand or not clearly understand about their risks and return, asset management companies that set up and manage such funds are required to provide clear explanation about their key features, potential investment risks and investment constraints for each group of potential investors for their investment assessment prior to their actual investments. Their key differences could be summarized as below:

Type of Mutual Fund with High Risk and/or Complexity	Differences from Traditional Mutual Funds
Mutual funds which have policies to invest in non-investment grade and/or non-rated debt securities of more than 60% of their total NAVs	This kind of fund would generally hold more position in non-investment grade and/or non-rated debt securities than traditional ones do with the aim to enhance investment returns. Non-investment grade and non-rated debt securities would provide higher interest rates, but of course higher investment risks would come along with this.
Mutual funds of which return distributions are determined based on complex formulae or	This kind of fund would generally hold position in derivative products and/or structured notes, thus making fund

Type of Mutual Fund with High Risk and/or Complexity	Differences from Traditional Mutual Funds
conditions which are difficult for general investors to understand	returns mainly link to or depend upon return distributions by derivative products and/or structured notes it holds positions in. Given return distributions by this kind of fund are determined based on complex formulae, this has made this kind of fund differ from traditional ones of which their returns mainly link to or depend upon those of financial assets they hold positions in. Thus, prior to their actual investments, it is necessary for investors to study and understand about nature and feature of returns of this kind of fund.
Mutual funds which have net exposure to commodity products via either investment products or derivative ones of which returns are linked to commodity products	This kind of fund would invest in relevant derivative products with the aim to gain exposure to investment in commodity products as they are normally traded in derivative/futures markets. Normally, return of direct holding of commodity products will differ from that of holding of position in derivative product (s) with the same underlying. It is necessary for investors to realize about potential derivative investment risks.
Mutual funds with no investment limit in place such as mutual funds which hold hedge fund investment units	This kind of mutual fund has no investment limit in place, and this differs from traditional ones that put investment limit with the aim to reduce concentration

Type of Mutual Fund with High Risk and/or Complexity	Differences from Traditional Mutual Funds
	risk. This kind of fund thus exposes investors to higher investment risks. A good example of this kind of fund is hedged fund which is riskier than normal mutual fund as it has employed aggressive investment strategies with the aim to maximize investment return regardless of market situation. Hedge fund normally employs risky and complex derivatives and high leverage to boost fund return.
Mutual funds with high risk and/or complexity in accordance with SEC notification concerning mutual funds with exposure to derivatives and structured products	This kind of fund generally holds positions in complex derivative products and/or structured ones with the aim to enhance fund returns (i.e. having both long and short positions at the same time or having high gross exposure to specific complex and risky investments). This kind of fund thus needs to employ risk management measurement such as VaR (value at risk) with the aim to control and mitigate risks associated with its holding of highly complex derivative products.

2.2 Types of Mutual Funds with High Risk and/or Complexity

2.2.1 Mutual funds which have policies to invest in non-investment grade and/or non-rated debt securities in a higher proportion than normal ones do

Mutual funds which have policies to invest in high yield debt securities are those which allocate substantial portion of their investments to non-investment grade debts and/or non-rated ones. Normally, they will allocate more than 60% of their total NAVs to such risky debt securities. Both non-investment grade and non-rated debt securities are highly risky securities as they may expose investors to credit (default) risk. In general, mutual funds that have invested in both debt securities may face the following risks:

1. Default risk or the risk that an issuer of debt securities may default its payment of principal and/or interest in accordance with specified payment schedule
2. Downgrade risk or the risk that an issuer of debt securities and/or debt securities itself is downgraded by a credit rating agency
3. Credit spread risk or the risk that spread between yield of a high-yield debt issue and that of a government debt securities with the same tenor widens

All aforementioned risks will negatively affect market values of high-yield debt securities when they are marked-to-market. This will of course affect NAVs of debt funds that hold positions in such securities.

In considering and analyzing credit risk associated with all types of debt securities (including high-yield ones), investors may do so by taking into account the so-called credit rating symbol, either “issue rating” (credit rating of debt issue itself) or “issuer rating” (credit rating of debt issuer), or both. Credit rating symbols that would provide details concerning issue rating and issuer rating (chance or probability of credit default) will vary from one credit rating agency to another. Reagrdless of credit rating agencies, credit rating symbols they assign could be interpreted in similar ways as follows:

- Principal 1: Credting rating with A is better than that with B. Likewise, credit rating with B is better than that with C.

- Principal 2: The higher number of alphabets, the higher credit rating it is.
- Principal 3: “+” has a higher credit rating than none. Likewise, none has a higher credit rating than “-“. (Some credit rating agencies (like Moody’s) would use numerical figures rather than “+” and “-“. This could be interpreted in similar ways. That is 1 has a higher credit rating than 2, and 2 has a higher credit rating than 3. Put in another way. Moody’s 1, 2 and 3 are equivalent to S&P “+”, none and “-“respectively.

Let us consider how to interpret credit rating symbols as assigned by S&P (and TRIS Rating). Equivalent credit rating symbols as assigned by Moody’s are showed in the parenthesis ().

“AAA (Aaa) is the highest possible credit rating symbol. This means probability of default (either default of principal repayment or default of interest payment) is highly unlikely. A debt issuer will not default its debt payment when it can satisfy its debt obligation in the full amount and on a timely basis. Similarly, AA+ (Aa1) is of the lower credit rating than AAA (Aaa), and BBB (Baa) is of the lowest credit rating which is still regarded as an investment grade.” Note that it does not mean that investment-grade debt securities contain no credit (default) risk. On the contrary, credit risk still exists in all investment-grade debt securities, but investors are exposed to lower probability of credit (default) risk when investing in investment-grade debt securities than they are when holding non-investment grade ones.

For credit rating in Thailand by TRIS Rating, there are 8 credit rating symbols (for both issuer and issue ratings) to rate medium-and long-term debt securities. They start from AAA which is of the highest possible credit rating to D which is of the lowest possible credit rating. Each credit rating symbol could be interpreted as follows:

Credit Rating Symbol	Interpretation
AAA	These issuer and issue ratings have exposed bondholders to the lowest possible credit risk. Debt issuers have possessed strong debt repayment capacity. They are minimally impacted by business and economic changes.
AA	These issuer and issue ratings have exposed bondholders to very low credit risk. Debt issuers have possessed strong debt repayment capacity. They may, however, be more impacted by business and economic changes than those with AAA credit ratings are.
A	These issuer and issue ratings have exposed bondholders to low credit risk. Debt issuers have possessed strong debt repayment capacity. They may, however, be more impacted by business and economic changes than those with higher credit ratings are.
BBB	These issuer and issue ratings have exposed bondholders to medium level of credit risk. Debt issuers have possessed sufficient debt repayment capacity. They may, however, be more impacted by business and economic changes than those with higher credit ratings are. Their debt repayment capacity may deteriorate when there are adverse economic and business changes.
BB	These issuer and issue ratings have exposed bondholders to high level of credit risk. Debt issuers have possessed lower-than-average debt repayment capacity. Their debt repayment capacity will deteriorate when there are adverse economic and business changes.
B	These issuer and issue ratings have exposed bondholders to very high level of credit risk. Debt issuers have possessed low debt repayment capacity. They may lose their ability and willingness to repay debt when economic and business environments turn unfavorable.
C	These issuer and issue ratings have exposed bondholders to the highest level of credit risk. Debt issuers have possessed no debt repayment

Credit Rating Symbol	Interpretation
	capacity. They could not satisfy their debt obligations unless economic and business environments become highly favorable.
D	Debt issuers already default their debt repayment. Debt issuers could not satisfy their debt obligations in accordance with required schedule.

Note: Credit rating from AA to C may have (+) or (-) to further segregate credit ratings.

Note that medium-and long-term debt issues with a credit rating lower than BBB are regarded as non-investment grade debt securities or junk bond or high yield bond or speculative bond. No matter how they are called, investors of this kind of debt securities are exposed to high level of credit risk.

For short-term debt securities (those with term to maturity of not exceeding 270 days), TRIS Rating will mainly take into account their default probability rather than their recovery after default in assigning their respective credit ratings. Credit rating symbols of short-term debt securities that may be assigned by TRIS Rating are as follows:

T1: Debt issuers have possessed very strong marketing and financial positions and sound financial liquidity. Bondholders are exposed to very low level of default risk. Debt issuers of this level of credit rating with "+" will have lower chance to default their debt payments.

T2: Debt issuers have possessed strong marketing and financial positions and satisfactory financial liquidity.

T3: Debt issuers have possessed acceptable financial liquidity.

T4: Debt issuers have possessed quite weak financial liquidity.

D: Debt issuers have already defaulted their short-term debt repayment. They fail to satisfy their short-term debt obligations in accordance with required schedule.

Short-term debts with a credit rating lower than T3 are regarded as high-yield or speculative debt securities. They have exposed investors to high level of credit risk.

Mutual funds which have policies to invest in non-investment grade and/or non-rated debt securities could be either those directly holding such debt securities or those with policies to invest in investment units of foreign funds with policies to invest in such highly risky debt securities (indirect investment in non-investment grade and/or non-rated debt securities via a foreign fund). They could be either a pure debt fund or a mixed one.

Level of credit risk associated with mutual funds which have invested in high-yield debt securities may vary, depending upon the fund proportion which is allocated to such risky debt securities. Those entirely investing in high-yield debt securities would of course have higher credit risk than those partially investing in them (the remaining is invested in investment grade debt securities and money market instruments). Investors could see whether mutual funds they would like to invest have positions in high-yield debt securities (and if yes, the proportion of investing in them) from the funds' investment policies which are included as a part of the fund fact sheet. The fund fact sheet could be downloaded from website of the management company of such funds.

Returns and Risks Associated With Mutual Funds Which Have Policies to Invest In Non-Investment Grade and/or Non-Rated Debt Securities

In general, non-investment grade and non-rated debt securities would pay interest at a higher rate than their investment-grade counterparts do. Logically, those risky debt securities would expose investors to higher price volatility risk than investment-grade ones do. Note that risk and return level of

high-yield debt securities are still lower than those of equity securities. Thus, potential risk and expected return of mutual funds investing in high-yield debt securities are higher than those of mutual funds investing in investment-grade debt securities, but are lower than those of mutual funds investing in equity securities.

Potential risk and expected return of mutual funds which have invested in non-investment grade and/or non-rated debt securities also depend upon the fund proportion which is allocated to such risky debt securities. The higher the proportion of the funds allocated to those two highly risky debt securities, the risker they are.

Benefits of Investing in Mutual Funds Investing in Non-Investment Grade and/or Non-Rated Debt Securities

A key benefit from investing in mutual funds holding non-investment grade and/or non-rated debt securities is to earn a higher interest rate than that of funds holding investment-grade debt securities. Investing in those two types of debt securities mutual funds allows investors to earn a positive real return (inflation-adjusted return), thus making holding investment units of such funds an interesting investment alternative in the low interest rate environment. Note however that higher returns always come along with higher risk (especially higher credit risk associated with both non-investment grade and non-rated debt securities).

Why Investing in Mutual Funds that Invest in Non-Investment Grade and/or Non-Rated Debt Securities

Investing in non-investment grade and non-rated debt securities is particularly interesting in the current low interest rate environment as they could provide a much higher return for investors. Let us consider returns from investing in US non-investment grade and non-rated debt securities during the period from

2005 to 2015. During this timespan, US high-yield debt securities provided an average annual return of approximately 10%. with the highest return of 46% in 2009, but investors also suffered a large loss of 23% in 2008. During the same period, US investment grade debt securities provided a return in a range of 0.4% to 13% and their average annual returns were 5%. We can see that high-yield debt securities could provide an attractive return for investors but this comes along with significant risk. Thus, most investors who invest in these risky debt securities are normally institutional investors and high net-worth ones with high level of risk tolerance.

In the current low interest rate environment, investing in mutual funds which hold positions in non-investment grade and/or non-rated debt securities are very attractive for investors with high risk tolerance who wish to earn high interest. Normally, these two risky debt securities would provide a high return during the economic expansion period as debt issuers will have stronger financial positions as results of better corporate performances. It is less likely they will default their debt payments during this period. These two risky debt securities are thus appropriate for investors who wish to see high investment returns and can bear above-average risk. Still, investors should understand the potential returns and risks associated with these kinds of debt securities.

Investing in Mutual Funds that Invest in Non-Investment Grade and/or Non-Rated Debt Securities

- ***Points to Consider When Investing in Mutual Funds which Invest in Non-Investment Grade and/or Non-Rated Debt Securities***

As this kind of fund is much riskier that plain-vanilla ones, investors should consider the following factors:

- <u>Investment Environment</u>

Investors should take into account relevant factors like domestic and global economic situations and political environments prior to any investing. Changes in those factors would of course affect investment choice which depends upon risk tolerance level of each investor.

- Investment Policy

Investors should take into account factors like the fund proportion allocated to each type of debt securities, whether it invests in non-investment grade and/or non-rated debt securities, securities limit as well as time and objective of holding some particular financial instruments such as derivatives and etc.

- Personal Factors

Personal factors like investment objective, risk tolerance level, age, investment literacy as well as investment constraint and condition of each investor shall be considered prior to any investing.

What Needs to Consider When Investing in Mutual Funds Holding High-Yield Debt Securities

High-yield debt securities would expose investors to substantial default risk. In case there is any default, fund return would be adversely affected. In case there is any debt default, funds could not sell such debt securities in the secondary market. It is thus necessary for the fund to segregate these defaulting debt securities from the non-defaulting ones. When the asset managers take necessary legal actions to collect them, the result is uncertain. It cannot be known for sure how long it will take to achieve this and how much such debts could be collected. Thus, unitholders would suffer investment opportunity loss and they may face the risk of losing all or partial investment principals.

Two main risks facing investors of non-investment grade and non-rated debt securities are credit risk and trading liquidity risk. To alleviate them, investors may consider asset diversification which proves to be helpful.

2.2.2 Complex Return Mutual Fund

Complex return mutual fund is the one that makes return distribution to investors based on complex formulae or distributuion conditions which are difficult for normal invesors to understand. It could also hold derivatives and/or structured instruments, thus making its return linked to return distribution of such derivatives and/or structured products. Normally, complex return fund could make its return distribution linked or related to many types of reference/underlying assets such as individual stocks, stock indices, commodity indices, interest rates, foreign exchange rates, etc.

Return of complex return fund could come in various forms, and this allows investors to select complex return fund (s) that really satisfies their investment needs, although this would come along with higher investment risk. Investors thus need to evaluate and select those that could really fulfill their investment needs and match their risk tolerance levels.

Complex return fund is highly popular among investors, expecially during the volatile investment period as it could provide high return while restraining investment risk. Example of this is the complex return fund, with the policy to return their investors' investment principals.

Figure 2-1 Investment in Complex Return Fund

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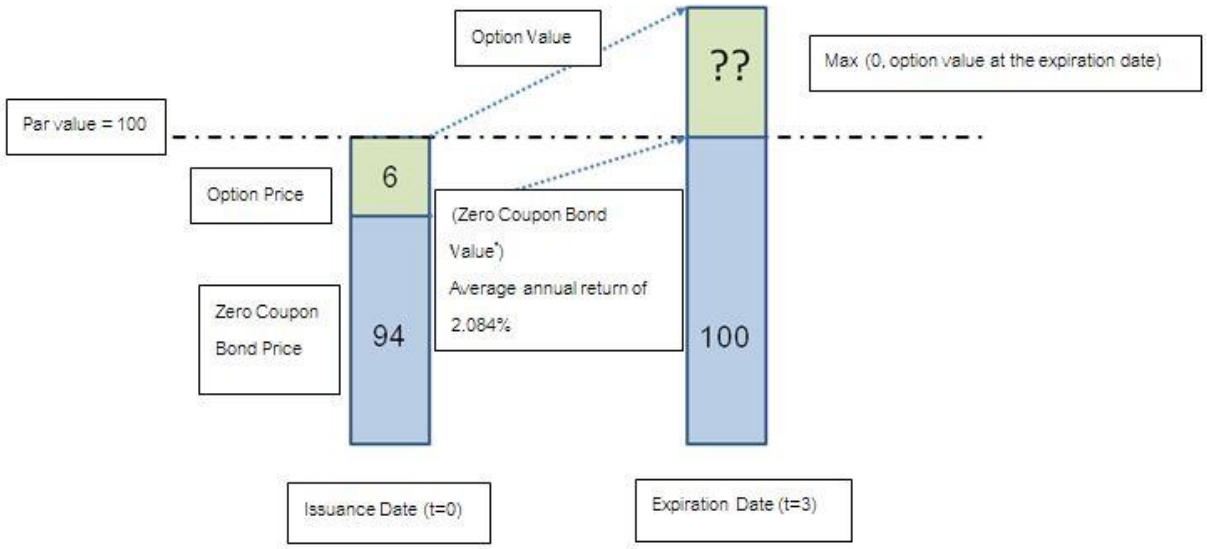


Note * Return of zero-coupon bond is 2.084% per year.

See the example of a complex return fund as showed in Figure 2.1. If this fund has a 3-year term, with the 3-year zero coupon rate of 2.084% per year, total return from the initial investment amount of THB 94 for a 3-year investment period is THB 6 [94 * $(1+ 0.02084)^3$ - 94 = THB 6]. It can be seen that when the fund expires 3 years later, total value of such zero-coupon debt is THB 100 (94+6 = THB 100). Such return of THB 6 could be used to reinvest in option with the selected underlying (i.e. SET50 Index). It can be seen that this kind of investment structure has lowly exposed investors to risk of principal loss. This is because if the zero coupon bond does not default, unitholders will receive principal in full at maturity. In addition, investors would have a chance to obtain higher return if at the expiration date, the option is in-the-money.

Note that complex return fund may not always be principle protected. For example, if investor invests the amount of THB 90 for a period of 3 years in zero coupon bond. The 3-year return from zero coupon bond will be THB 5.74 [90 * $(1+ 0.02084)^3$ – 90 = THB 5.74]. The zero coupon bond value will becomeTHB 95.74 after 3 years [90 + 5.74= THB 95.74]. As such, if the option is at the money or out-of-the-money upon 3-year expiration, the maximum loss to investor will

be THB 4.26 [100 – 95.74 = THB 4.26]. However, in this case, investors will have a chance to earn the higher return than the previous example because investors would allocate higher amount of money (THB 10) to invest in option at the beginning.

Characteristics and Types of Complex Return Mutual Fund

Unlike normal funds which have invested in traditional assets like equity and debt, complex return mutual fund would invest in complex securities and products, normally in derivatives and structured instruments, both plain vanilla options and exotic ones. Complex return mutual fund could be categorized as follows:

- *Categorized by Principal Protection*
    - Entire principal protection: This kind of complex return mutual fund invests with the aim to ensure their investors will get back at least their total investment principals. It normally invests in debt securities. As such, investors will get back at least their intitial investment proceeds, provided that they hold fund units until its expiration and the debt securities issuer does not default.
    - Partial principal protection: This kind of complex return mutual fund would expose investors to risk of partial principal loss even if they hold fund units until its expiration and the debt securities issuer does not default. However, investors of this kind of fund would have an opportunity to obtain higher return than that of complex return fund with entire principal protection.

- *Categorized by Underlying Assets*

Complex return fund could invest in either derivatives or structured instruments, with many kinds of financial assets as their potential underlyings. They include foreign exchange rate, inflation rate, interest rate, debt instruments, equity securities, stock index, and commodity products such as gold, oil,etc.

- *Categorized by Types of Invested Options*
  - Plain Vanilla Option: This type of complex return mutual fund will invest in plain vanilla option (s) which could be either call or put option, and the fund return depends on the underlying (s) of such option (s). For example, a complex return fund invests in call option with gold as the underlying. The fund's return would increase if the global gold price rises over the option's strike price.
  - Exotic Option: Complex return fund could also invest in exotic option (s). Examples are as follows:
    - Range Accrual Options
      - This type of complex return fund would generate a high return when the underlying moves within the specified range. The underlying could include interest rate (such as LIBOR or London Interbank Offer Rate), exchange rate and commodity price (such as gold and oil). However, the fund wil pay no return if the underlying does not move within the specified range. Underlying movement will be considered on a daily basis.
      - Example of this type of complex return fund is the one which invests in a range-accrual option with gold as the underlying.
        - Fund return will be made based on the following basis:
          1. 6% per year if the gold price at the end of the day closes in the range between $1,000 - $1,200 per ounce. Normally, the fund will pay the rate of return at the rate higher than bank deposit rate with equivalent term. In this particular example, investment period is 3 months, and 3-month bank deposit rate is 1%.
          2. 0% per year if the gold price at the end of the day closes below $1,000 per ounce or higher than $1,200 per ounce.
        - Investment period is 3 months (90 days).

- Closing price for a public holiday will be that at the end of the preceding business day.
- Return calculation formula is as follows:

  Fund return = [(Number of days the gold price closes within the specified range)/ (90 days)]*6% per annum * Principal Amount

- If the daily gold price closes within the specified range for 60 days out of 90 days, investment return = 60/90 * 6% per annum * Principal Amount = 4% per annum * Principal Amount. Thus, the fund return is relatively attractive compared to the 3-month bank deposit rate of 1% per annum.

Figure 2-2 Complex return fund that invests in range accrual option with gold price as the underlying

- Binary (digital) Options
  - This type of complex return fund will pay return in two ways. It will pay a fixed return if the option is in-the-money, and will pay no return if the option is out-of-the money. Example of this is a Cash or Nothing call option which will pay a specified return if the underlying rises above the strike price at the expiration.
  - Example of this is the 1-year Cash or Nothing call option with the SET Index as the underlying. The current SET Index is 1,500. The call option will pay a return of 3% if the SET Index stays at 1,600 or above at the expiration, but nothing if the SET Index at the expiration closes below 1,600.
  - This type of investment would pay a handsome return if the investor could correctly predict direction of the SET Index movement within the specified investment period.

- Complex return fund which invests in Knock In option or Knock Out option
  - A knock-in option is anoption contract that begins to function as a normal call or put option only once a certain price level is reached before expiration. Knock In option does not allow its holder to buy or sell the underlying unless the underlying price rises above or falls below the pre-specified barrier during the contract period. Only after the knock-in is activated, option holder can then buy or sell the underlying at the pre-specified strike rate as specified in the contract specification.

- Example of this is a 1-year Knock In option with SET50 Index as the underlying. The specified barrier is that if the SET50 Index closes at the level above 1,100 on any single day during the 1-year contract period, the call option (right to buy the SET50 Index as the underlying at the strike rate of 1,000) becomes active. The potential return to holder of such Knock In option is as follows:

  Case 1: If the SET50 Index never rises above 1,100 during the 1-year contract period, holder of Knock In option will earn nothing.

  Case 2: If the SET50 Index closes above 1,100 at the end of any single day during the 1-year contract period and closes above 1,000 at expiration, return to Knock In option holder is equal to the difference between Closing Index of SET50 and the strike rate of 1,000.

Figure 2-3 Examples of Knock in option

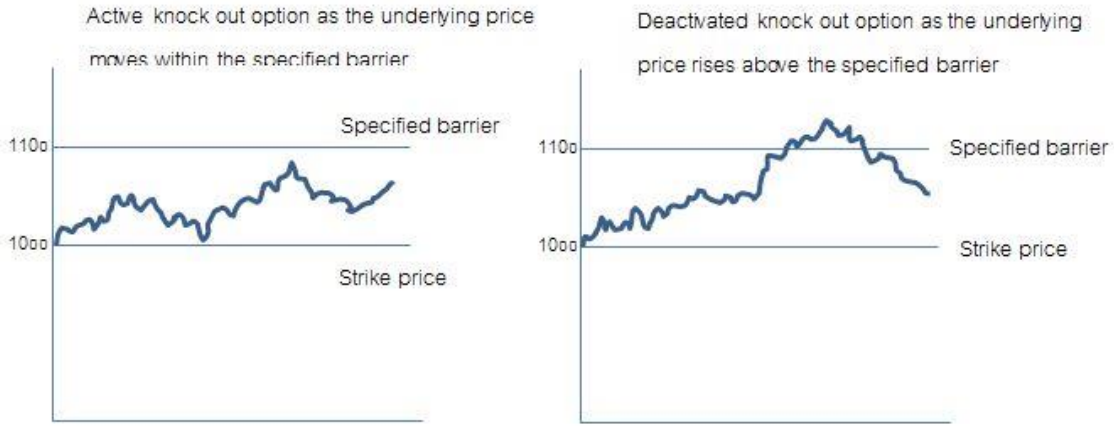
- A Knock Out option is the option that ceases to exist when the price of the underlying security hits a specific barrier price level. Once the price movement of the underlying is out of the pre-specified barrier during the contract period, right to buy or sell the underlying at the pre-specified strike rate shall be extinguished.

  Example of this is a 1-year Knock Out option with the SET50 Index as the underlying. The specified barrier is such that in case the SET50 Index never closes above 1,100 on any single day during the 1-year contract period, holder of Knock Out option will have the right to buy the SET50 Index at the strike rate of 1,000. The potential return to option holder is as follows: Case 1: In case the SET50 Index never rises above 1,100 during the 1-year contract period, return to Knock Out option holder is Max [0 (in case closing SET50 Index at the contract

expiration date is lower than the strike price, (closing SET 50 Index – strike price of 1,000)]

Case 2: In case the SET50 Index closes above 1,100 on any single day during the 1-year contract period, option holder will end up with nothing.

Figure 2-4 Examples of Knock Out option



- Complex return fund which invests in Asian Option
  - This is a complex return fund which invests in option that uses average price of the underlying during the contract period rather than its single closing price at the contract expiration date to determine return to option holder.
    - Advantages of Asian Option
      + Avoidance of risk of price manipulation as an average price rather than a single price is used to determine return to option holder.
      + Average price volatility is lower than daily price volatility. Thus, Asian option price is lower than a comparable Plain Vanilla one.

- Common underlying of Asian option is commodity product with high price volatility such as oil.

- Example of complex return fund which invests in call Asian option is the one that invests in option with 12-month average Brent oil price as the underlying and with a strike price of $55 per barrel. The contract period is 12 months, and the current Brent oil price is $50 per barrel. If average Brent oil price at the contract expiration is lower than $55 per barrel, such call Asian option will expire and be worth nothing. On the contrary, if average Brent oil price is greater than $55 per barrel at the contract expiration, the complex return fund will earn a return which is equivalent to average Brent oil price which is above $55 per barrel.

Benefits and Points to Consider when Investing in Complex Return Fund

Complex return fund could invest in either derivative contracts or structured instruments so that its return could be linked to many types of underlyings and its risk could be appropriately adjusted and controlled. Investor thus should invest in complex return fund which well aligns with his/her risk tolerance level. It is necessary for investors to understand how to determine and calculate fund return as this type of fund normally invests in risky and complex options with the aim to enhance potential fund return. Investors need to really understand the fund's return distribution condition to appropriately assess whether potential fund return is commensurate with its risk level and appropriate within the prevalent market condition.

Return and Risk of Complex Return Fund

- ***Return of Complex Return Fund***

Return of complex return fund is mainly linked to return distribution conditions of derivative contracts or structured notes the fund invests in.

- ***Risk of Complex Return Fund***
    - Default Risk: This risk arises when debt issuer defaults its payment.
    - Liquidity Risk: This risk arises as unitholder of complex return fund will normally not be allowed to redeem his/her units until the fund expiration. This thus exposes investors to trading liquidity risk.
    - Counterparty Risk: This risk arises when option writers and/or counterparties to the fund could not perform its contractual obligations. For example, the fund would like to exercise its rights but option writers could not fulfill their contractual obligations. Thus, the fund will not earn expected investment return upon contract expiration.

Investment Strategies for Complex Return Fund

In investing in complex return fund, investors should take into account the followings:

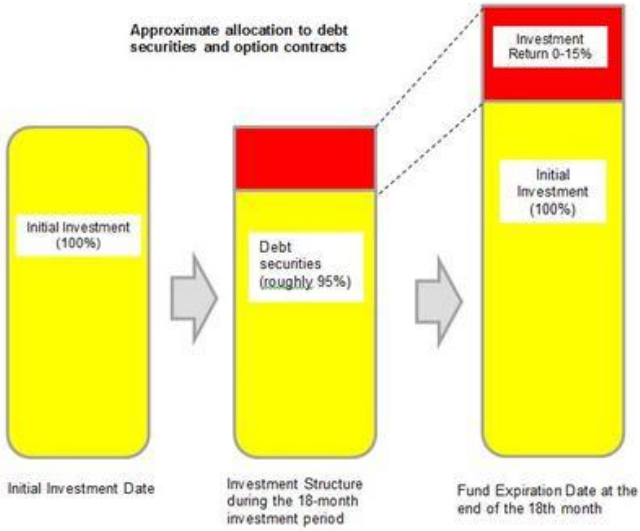
- Investors should study details and information in the prospectus to ensure they really understand return distributuion conditions of complex return fund.
- Select the underlying asset (s) they really understand as return of complex return fund is mainly linked or related to return of the underlying asset (s).
- Select complex return fund with return distribution condition corresponding to the investors' view.
- Select mutual fund with expected return higher than that of government securities with similar terms.

- Evaluate maximum loss from investing in a complex return fund with that of direct investment in the underlying asset.

Examples of Complex Return Funds

- *Example 2-1 Krung Sri Gold Linked Complex Return Fund 18M3 Open-Ended Fund (KFGLCR18M3) which was offered from 8 to 15 August 2012*

Figure 2-5
Portfolio Structure of KFGLCR18M3 , information of which was obtained from the fund's prospectus



- Portfolio consists of 2 portions, namely

Portion 1: Approximately 95% of the entire portfolio is allocated to investment grade domestic and/or foreign debt securities

Portion 2: Approximately 5% of the entire portfolio is allocated to option contractsCombined amount of invested debt securities and interest at the fund expiration date is equal to the initial invested capital.

- Invested option contracts will yield a return of 0 -15% of the entire invested capital. Its return will be determined based on closing price of SPDR Gold Trust Fund at the initial investment date, its daily closing prices and its closing price of each of the three inspection dates.

Figure 2-6
Return distribution conditions of KFGLCR18M3 under different scenarios, information of which is obtained from the fund's factsheet

Return Distribution Conditions under Different Scenarios

- Determined based on change in closing prices of SPDR Gold Trust Fund taking into account the closing price at the initial investment date, its daily closing prices and its closing price of each of the three inspection dates.

Price Movement of SPDR Gold Trust Fund (GLD UP Equity)	Investment Return on Every Six Months (if any)
Return Distribution Conditions: Comparing GLD UP Equity closing price at the initial investment date with that of each of the three inspection dates.	
Scenario 1: There is no daily closing price of SPDR Gold Trust Fund which rises above 115% or falls below 85% of its closing price at the initial investment date (a more than 15% change from the closing price at the initial investment date)	
1.1 At each inspection date, if there is any difference between closing price of SPDR Gold Trust Fund at each respective inspection date and that at the initial investment date, the fund return is equal to an absolute value of difference between closing price of SPDR Gold Trust Fund at each respective inspection date and that at the initial investment date divided by 3.	Return falls in the range between 0.01% and 5% per every six months.
1.2 At each inspection date, if there is no difference between closing price of SPDR Gold Trust Fund at each respective inspection date and that at the initial investment date.	No return distribution is made.

Price Movement of SPDR Gold Trust Fund (GLD UP Equity)	Investment Return on Every Six Months (if any)
Scenario 2: There is any daily closing price of SPDR Gold Trust Fund which rises above 115% or falls below 85% of its closing price at the initial investment date (a more than 15% change from the closing price at the initial investment date)	0.60% per every six months
Investment return will fall in the range between 0-15%*	

*Note: There is an exception to this in case there is any default in debt securities held by the fund as this would affect their principal repayment. Complex return is linked to change in daily closing prices of SPDR Gold Trust Fund, an NYSE listed ETF fund.

Details of the Fund

Krung Sri Gold Linked Complex Return Fund 18M3 will invest 95% of the proceeds in government debt securities and/or investment grade domestic and/or foreign corporate debt and the remaining will invest in option contracts of which NYSE listed ETF fund called SPDR Gold Trust Fund being the underlying. Its Bloomberg ISIN code is GLD US EQUITY. From now on, the underlying will be called “unit price of SPDR Gold Trust Fund”. Unit price inspection will be conducted every six months. In each inspection, closing price of SPDR Gold Trust Fund at the end of each 6-month inspection period will be compared with that at the initial investment date. Thus throughout the fund term of 1 year and 6 months, there would be 3 inspection periods.

First inspection period (first six months from month 1 to month 6)

Second inspection period (second six months from month 7 to month 12)

Third inspection period (third six months from month 13 to month 18)

Each Inspection Period	Unit Price of SPDR Gold Trust Fund	Return to the Fund
Scenario 1	All closing unit prices of SPDR Gold Trust Fund in each inspection period falls within the range between 85% and 115% of that at the initial investment date	(1) No difference between closing unit price of SPDR Gold Trust Fund at the end of each inspection period and that at the intial investment date - No investment return but all initial investment principals will be returned upon fund expiration. (2) There is a difference between closing unit price of SPDR Gold Trust Fund at the end of each inspection period and that at the initial investment date - Fund return is equal to the absolute value of the difference between closing unit price of SPDR Gold Trust Fund at the end of each inspection period and that at the initial investment date divided by 3. Fund return will come along with all initial investment principals. Fund return (in THB) will be determined as the percentage of the initially invested capital on the basis of 6-month inspection period.
Scenario 2	If there is any daily closing price of SPDR Gold Trust Fund in any inspection period which falls outside the range between 85%	A fixed return of 0.60% of the initially invested capital (in THB) on the basis of 6-month inspection period and return of all investment principals upon fund expiration

Each Inspection Period	Unit Price of SPDR Gold Trust Fund	Return to the Fund
	and 115% of its closing unit price at the initial investment date	

Example: How to Determine Amount of Principal Repayment and Investment Return of Krung Sri Gold Linked Complex Return Fund Open-Ended Fund 18M3

Assume that the initial portfolio of this fund is allocated as follows:

Portion 1: Domestic/foreign debt securities Approximately 95% of the entire portfolio

Portion 2: Option contracts Approximately 5% of the entire portfolio

Repayment of initial investment principal and fund return depend upon the movement of unit price of SPDR Gold Trust Fund during the investment period of 1 year and 6 months.

Assume that unit price of SPDR Gold Trust Fund at the initial investment date is $157. Thus,

- If the closing price goes up to be higher than 115% of that at the initial investment date , the closing price shall be higher than $180.55; and
- If the closing price goes down to be lower than 85% of that at the initial investment date, the closing price shall be lower than $133.45.

Scenario 1: Fund return can be illustrated as in the table below:

Unit Price of SPDR Gold Trust Fund at the End of Each Inspection Period (Needed to be Compared with that at the Initial Investment Date)	**Closing Price of Unit of SPDR Gold Trust Fund**				**Fund Return**
	Initial Investment Date	**Inspection Date**	**Difference 1/**	**% of Change at the End of Inspection Period 2/**	
At the end of the first inspection period (the last date of the first six months) with all closing prices fall in the range between 85% and 115% of closing price at the initial investment date	157.00	157.00	0.00	0.00%	0.00%/3 =0.00%
At the end of the second inspection period (the last date of the second six months) with all closing prices fall in the range between 85% and 115% of closing price at the initial investment date	157.00	158.41	1.41	0.90%	0.90%/3 = 0.30%
At the end of the third inspection period (the last date of the third six months) with some closing prices fall outside the range between 85% and 115% of closing price	157.00	128.74	-28.26	-18.00%	0.60%

Unit Price of SPDR Gold Trust Fund at the End of Each Inspection Period (Needed to be Compared with that at the Initial Investment Date)	**Closing Price of Unit of SPDR Gold Trust Fund**				**Fund Return**
	Initial Investment Date	**Inspection Date**	**Difference 1/**	**% of Change at the End of Inspection Period 2/**	
at the initial investment date					
Total Fund Return throughout the Fund Tenor					**0.90%**

Type of Invested Securities	**Investment Allocation**	**Return at the Fund Expiration Date (throughout the period of 1 year and 6 months)**	**Principal Return+Fund Return at the Fund Expiration Date**
Debt securities	95%	Approximately 5.26% 3/	100.00
Option contracts	5%	0.90% 4/	0.90
Investment Principal Return + Fund Return			100.00+0.90 = 100.90

Scenario 2: Fund return can be illustrated as in the table below:

Unit Price of SPDR Gold Trust Fund at the End of Each Inspection Period (Needed to be Compared with that at the Initial Investment Date)	**Closing Price of Unit of SPDR Gold Trust Fund**				**Fund Return**
	Initial Investment Date	**Inspection Date**	**Difference 1/**	**% of Change at the End of Inspection Period 2/**	
At the end of the first inspection period (the last date of the first six months) with all closing prices fall in the range between 85% and 115% of closing price at the initial investment date	157.00	165.95	8.95	5.70%	5.70%/3 =1.90%
At the end of the second inspection period (the last date of the second six months) with some closing prices fall outside the range between 85% and 115% of closing price at the initial investment date	157.00	182.12	25.12	16.00%	0.60%
At the end of the third inspection period (the last date of the third six months) with all closing prices fall in the range between 85% and 115%	157.00	144.05	-12.95%	-8.25%	8.25%/3 = 2.75%

Unit Price of SPDR Gold Trust Fund at the End of Each Inspection Period (Needed to be Compared with that at the Initial Investment Date)	**Closing Price of Unit of SPDR Gold Trust Fund**				**Fund Return**
	Initial Investment Date	**Inspection Date**	**Difference 1/**	**% of Change at the End of Inspection Period 2/**	
of closing price at the initial investment date					
Total Fund Return throughout the Fund Tenor					**5.25%**

It can be seen that Krung Sri Gold Linked Complex Return Open Ended Fund 18M3 has a position equivalent to holding 3 call options and 3 put options with tenors of 6, 12 and 18 months and a strike price of $157 per ounce. Their underlying is investment unit of SPDR Gold Trust Fund. Such knock out option will work at any closing price higher or lower than closing price at the initial investment date by more than 15%. This complex return fund is thus appropriate for any investors who expect a volatile gold price, but gold price shall not deviate by more than 15% from closing price at the initial investment date during the investment period of 1 years and 6 months.

- *Example 2.2: Tisco China Linked Complex Return Open-Ended Fund 3 which was registered on 31 July 2014*

Tisco China Linked Complex Return Open-Ended Fund 3 allocated approximately 93% of the entire portfolio to government debt securities and/or domestic and/or foreign corporate debt securities and the remaining to option contracts with average rate of change in Hang Seng China Enterprise Index as the underlying. Return distribution conditions are as follows:

- Rate of change of the underlying will be determined every three months for eight consecutive periods.

- Counterparties or the issuer specified floor mechanism for change in Hang Seng China Enterprise Index for each contract period to be 0. In other words,
  1. If rate of change (closing index at the end of each period relative to closing index at the initial investment date) is higher than 0, such rate of change applies.
  2. If rate of change (closing index at the end of each period relative closing index at the initial investment date) is 0 or lower, rate of change is 0.

This complex return fund will return all principal investments along with all returns at the fund expiration date.

1. Return Determination Formula

$$PR \times \frac{1}{N} \sum_{i=1}^{N} Max\left[\frac{S_i^j}{S_0^j} - 100\%, 0\%\right]$$

Where:
PR = participation rate as specified by counterparties or issuer
N = number of return determination periods (8 periods)
Sjo = Hang Seng China Enterprise Index at the initial investment date
Sji = Hang Seng China Enterprise Index at the last business day of each return determination period
Rate of change is equal to Hang Seng China Enterprise Index at the last business day of each return determination period divided by Hang Seng China Enterprise Index at the initial investment date minus 1.
Return distribution conditions consist of:
Condition 1: Rate of change > 0%, return = such rate of change
Condition 2: Rate of change <=0%, return = 0%
Returns of all 8 return determination periods are added up and divided by 8.
Return = (Sum of returns of all 8 return determination periods)/8
Total return = Average of 8 returns x Participation Rate (as specified by counterparties or the issuer)

2. Table Showing Date of Calculating Option Value

Assume that the date the fund invests in option contracts is 2 July 2014.

Period	Initial Investment Date	Last Business Day of Each Return Determination Period
1	2 July 2014	30 September 2014
2	2 July 2014	31 December 2014
3	2 July 2014	31 March 2015

Period	Initial Investment Date	Last Business Day of Each Return Determination Period
4	2 July 2014	30 June 2015
5	2 July 2014	30 September 2015
6	2 July 2014	31 December 2015
7	2 July 2014	31 March 2016
8	2 July 2014	30 June 2016

Note: Date for determining return in each 3-month period is the last business day of each period. Additional return distribution conditions are as below:

1) In case the last day of each return determination period is a public holiday in Hong Kong or in any other countries that are involved in index calculation, day of return determination in such period shall be moved to the immediately preceding business day.
2) In case of any incidences that affect index calculation and thus index calculation in any day of return determination being impossible, such day of return determination shall be moved to the next business day.

3. Example of Fund Return Calculation

Assume investment proceeds of THB 10,000 is allocated as follows:

Portion 1: Approximately THB 9,300 is allocated for investing in domestic and/or foreign debt securities and/or bank deposits, with the aim of growing to THB 10,000

Portion 2: The remaining is put in option contracts with average rate of change in Hang Seng China Enterprise Index as the underlying. Fund return will be determined on a 3-month basis for 8 consecutive return determination periods.

1) Table showing investment return from such THB 10,000 investment proceeds which are separated into 2 portions

Type of Invested Securities	Investment Allocation	Rate of Return at the Fund Expiration Date (Approximately 2 years)	Principal Return+ Investment Return
Portion 1: Domestic and/or foreign debt securities and/or bank deposits	93%	Approximately 7% for the period of 2 years (or approximately 3.50% per year)	100%
Portion 2: Option contracts	7%	Return calculation is showed in the table below.	

2) Table showing return calculation in each return determination period

Assume the followings:

1. Closing level of Hang Seng China Enterprise Index at the initial investment date is 9,500.
2. Participation rate as specified by counterparties or issuer (PR) is 60%.

Scenario 1: Hang Seng China Enterprise Index level in every return determination period is lower than that at the initial investment date

Period	Hang Seng China Enterprise Index in Each Return Determination Period	Rate of Change relative to the Closing Level at the Initial Investment Date (9,500 index points)	Rate of Return
1	9,430	-0.74%	0.00%
2	9,300	-2.11%	0.00%
3	9,450	-0.53%	0.00%
4	9,200	-3.16%	0.00%
5	9,300	-2.11%	0.00%
6	9,150	-3.68%	0.00%
7	9,380	-1.26%	0.00%
8	9,410	-0.95%	0.00%
Average rate of change			0.00%

Total return = 0.00%x60% (Assume PR = 60%) = 0.00% for 2 years (or 0.00% per year)

Taking into account returns from both portions, total return is showed as follows:

Principal + Fund Return upon Fund Expiration
Portion 1: Principal Amount = THB10,000 Portion 2: Total return upon fund expiration (0.00%) = THB 0.00 Total = THB 10,000

Scenario 2: Hang Seng China Enterprise Index level in some return determination periods are higher than that at the initial investment date and some are lower

Period	Hang Seng China Enterprise Index in Each Return Determination Period	Rate of Change relative to the Closing Level at the Initial Investment Date (9,500 index points)	Rate of Return
1	9,950	4.74%	4.74%
2	9,300	-2.11%	0.00%
3	9,850	3.68%	3.68%
4	12,500	31.58%	31.58%
5	9,740	2.53%	2.53%
6	9,450	-0.53%	0.00%
7	11,410	20.11%	20.11%
8	12,115	27.53%	27.53%
Average rate of change			11.27%

Total return = 11.27%x60% (Assume PR = 60%) = 6.76% for 2 years (or 3.38% per year)

*11.27% comes from (Period 1 Return + Period 2 Return + … + Period 8 Return)/8

=

(4.74%+0.00%+3.68%+31.58%+2.53%+0.00%+20.11%+27.53%)/8

Taking into account returns from both portions, total return is showed as follows:

Principal + Fund Return upon Fund Expiration

Portion 1: Principal Amount	= THB10,000
Portion 2: Total return upon fund expiration (6.76%)	= THB 676
Total	= THB 10,676

Scenario 3: Hang Seng China Enterprise Index level in every return determination period is higher than that at the initial investment date

Period	Hang Seng China Enterprise Index in Each Return Determination Period	Rate of Change relative to the Closing Level at the Initial Investment Date (9,500 index points)	Rate of Return
1	10,115	6.47%	6.47%
2	10,750	13.16%	13.16%
3	11,800	24.21%	24.21%
4	12,350	30.00%	30.00%
5	13,430	41.37%	41.37%
6	12,620	32.84%	32.84%
7	13,820	45.47%	45.47%
8	14,630	54.00%	54.00%
Average rate of change			30.94%

Total return = 30.94%x60% (Assume PR = 60%) = 18.56% for 2 years (or 9.28% per year)

*30.94% comes from (Period 1 Return+Period 2 Return+ … + Period 8 Return)/8

=

(6.47%+13.16%+24.21%+30.00%+41.37%+32.84%+45.47%+54.00%)/8

Taking into account returns from both portions, total return is showed as follows:

Principal + Fund Return upon Fund Expiration	
Portion 1: Principal Amount	= THB10,000
Portion 2: Total return upon fund expiration	
(18.56%)	= THB 1,856
Total	= THB 11,856

It can be seen that Tisco China Linked Complex Return Open-Ended Fund 3 holds position in 8 separate options with respective tenors of 3,6,9,12,15,18, 21 and 24 months with Hang Seng China Enterprise Index as the underlying. Its strike price and participation rate are 9,500 and 60% respectively. This fund is thus appropriate for investors who foresee that Hang Seng China Enterprise Index will rise relative to the index level at the initial investment date during the 2-year investment period.

- *Example 2-3: 2-Year KTAM Equity Index Linked Complex Return Open-Ended Fund which was offered from 8 to 12 October 2012*

2-Year KTAM Equity Index Linked Complex Return Open-Ended Fund invested at least 80% of the entire portfolio to domestic and/or foreign government and/or corporate debt securities so that their values will eventually grow to match the value of initial investment and the remaining is allocated to invest in option contracts of which the underlying is SET50 Index. Return distribution conditions are as follows:

The option is knocked out	
Return Distribution =	A fixed return of 1.75% for the 1-year investment period
The option is not knocked out and the final price of the underlying at the last date of each 1-year return determination period appreciates by less than 30% from the initial price	
Return Distribution =	P * [(Final Price - Initial Price) / Initial Price]

Where:

P = participation rate as specified by counterparties or the issuer. In this case, P =65%

Final Price = the closing price at the last date of each 1-year return determination period

Initial Price = the price at the initial investment date

The option is not knocked out and the final price of the underlying at the last date of each return determination period is equal to or lower than the initial price	
Return distribution = 0%	

Distribution Conditions

Knock Out option will distribute return once a year. The option is knocked out when any daily closing price in each 1-year return determination period increase by more than 30% from the initial price.

Example

Scenario 1: The option is knocked out as there are some daily closing prices which increases by more than 30% of the initial price in some 1-year return determination period

	First Return Determination Period	Second Return Determination Period
Initial price	100.00	100.00
Highest daily closing price of the underlying in each 1 –year return determination period	130.00	116.00
Whether the option is knocked out	Yes	No
Final price of the underlying at the expiration date	No need to consider	115.00
Total return	1.75%	9.75%

Return in each return determination period

First return determination period = The option is knocked out. Thus, this would yield a fixed return of 1.75% in the 1-year return determination period.

Second return determination period = The option is still active. At the end of the calculation date, the closing price grows by lower than 30% (15%) from the initial price. Return determination is as follows:

Return = P* [(Final Price-Initial Price)/Initial Price]

= 65% * (115.00-100.00)/100.00]

= 9.75% (of the second return determination period)

Thus, 2-year return = 1.75%+9.75%

= 11.50%

In considering whether relevant knock out level is reached in any 1-year return distribution period, such will be considered only at the first time the specified knock out level is reached. In other words, when the specified knock out level is reached at the first time on any single day in any 1-year return distribution period, it is no longer necessary to consider the knock out level during the remaining of such 1-year return distribution period. However, this consideration of knock out level will be repeated during the next 1-year return distribution period.

Return Determination in Each 1-Year Return Determination Period

Return Distribution in every 1 year	Whether the option is knocked out	Return in each 1-year return determination period
Scenario1: Any daily closing price during each 1-year determination period increases by more than 30% of the initial price	Yes	1.75%
Scenario 2: Closing price at the last date of each 1-year return determination period increases by less than 30% from the initial price	No	0.01%-19.49%
Secnario 3: Closing price at the last date of each 1-year return determination period is equal to or less than the initial price	No	0%

Thus, for the fund to yield a return of higher than 1.75%, the closing price of the underlying should increase by more than 2.695% but less than 30% of the initial price.

Scenario 2: The option is not knocked out and the closing price of the underlying at the last date of each return determination period is lower than the initial price

	First Return Determination Period	**Second Return Determination Period**
Initial Price	100.00	100.00
Highest daily closing price in each 1-year return determination period	110.00	115.00
Whether the option is knocked out	No	No
Final Price at the expiration	90.00	98.00
Return	0.00%	0.00%

Returns in the first and second return determination periods = the option is not knocked out and the final price is lower than the initial price. Thus, return in each 1-year return determination period is 0%.

Thus, 2-year return = 0%. Only principal will be returned.

Scenario 3: The option is knocked out and there is a daily closing price in every 1-year return determination period that increases by more than 30% of the initial price

	First Return Determination Period	**Second Return Determination Period**
Initial Price	100.00	100.00
Highest daily closing price in each 1-year return determination period	130.00	135.00
Whether the option is knocked out	Yes	Yes

	First Return Determination Period	**Second Return Determination Period**
Final Price at the expiration	No need to consider	No need to consider
Return	1.75%	1.75%

Returns in the first and second return determination periods = The option is knocked out and fixed return of 1.75% is recognized in each 1-year return determination period.

Thus, 2-year return = 3.50% (1.75%+1.75%)

It can be seen that 2-Year KTAM Equity Index Linked Complex Return Open-Ended Fund holds a position equivalent to long 2 call options with tenors of 1 year and 2 years respectively. Their underlying is SET50 Index. The option is knocked out when there is a daily closing price in any 1-year return determination period higher than the initial price by 30% or more. Participation rate is 65%. This fund is thus appropriate for any investors who foresee that the SET50 Index will rise during the 2-year investment period, but such index increase shall be less than 30% from the initial price.

2.2.3 Commodities Fund that Invests in Derivatives Contracts

At present, investors are keener to invest in commodities fund as prices of most commodities would increase in commensurate with inflation / price index. Some investors invest in commodities fund to hedge against purchasing power risk. Most commodities are traded in derivatives / futures markets. Thus, most commodities funds would hold derivatives / futures contracts with the aim to get exposure to commodities markets. This kind of fund thus exposes investors to risks related to derivatives / futures contracts.

Many investors misunderstand that investing in commodities fund would provide return that corresponds to that of direct investment in the underlyings.

For instance, investors may misunderstand that investment in oil fund that holds oil futures would provide return close to global oil price movement. Similarly, investors may misunderstand that investment in gold fund that holds gold futures would provide return that closely tracks global gold price movement. Return discrepancy may occur as holding commodities derivatives / futures would add the so-called rollover costs. This is because when derivatives / futures the fund holds nearly expire, it needs to close positions in the nearly expired contracts and open the new ones to maintain its continuous exposure to commodities market. It is thus necessary for investors to have clear understanding about commodities fund so that they can select the one (s) that well corresponds to their investment objectives. In Thailand, a popular kind of commodities fund which holds position in derivatives / futures contracts is oil fund. Details of which is as follows:

Oil Fund

- ***Types and Characteristics of Oil Fund***

Oil fund normally invests in exchange traded funds (ETFs) which hold oil futures so that their returns are highly correlated with global oil price movement. Oil fund in Thailand normally invests in core foreign funds such as:

- DB Oil Fund (DBO) which is an ETF registered and traded in New York Stock Exchange (NYSE). DBO has held oil futures with the US West Texas Intermediate (WTI) as the underlying. DBO's investment policy is to invest in oil futures using the so-called Optimum Yield strategy to ensure it could obtain the most optimum rollover cost. The strategy works as follows:
  - In case oil price is in Contango (futures price is higher than spot price at the expected contract expiration date), DBO would switch to the new oil futures contract that minimize the rollover loss.

- In case oil price is in Backwardation (futures price is lower than spot price at the expected contract expiration date), DBO would switch to new the oil futures contract that maximize the rollover gain.
- Thus, DBO may have positions in long-term WTI oil futures contract, thus making short-term returns of oil funds that hold DBO not move in tandem with that of the global oil price which are monitored by most investors. This is because most investors would normally monitor price movement of front-month contracts. In the long-run DBO returns would deviate from those of front-month contracts due to possible change in rollover costs as previously mentioned.

- United States Oil Fund (USO) which is another ETF registered and traded in NYSE. USO normally holds front-month WTI oil futures until their expiration is approaching. Then, USO will roll their positions over to the next front-month WTI oil futures. This thus makes short-term returns of oil funds that hold USO move in tandem with oil price movement that is closely monitored by most investors. Nevertheless, long-term returns of oil funds that hold USO still deviate from those of front-month contracts due to the rollover costs to be incurred.

- ***Benefits and Points to Consider When Investing in Oil Fund***

Unit price of oil funds normally moves in tandem with global oil prices. This thus allows us to use oil funds for short-term investment or speculation of global oil prices.

The followings should be taken into consideration when investing in oil funds:

- When selecting oil fund (s), make sure you select those with the underlying you really want to invest. In case you would like to invest in WTI, make sure you select oil fund (s) that hold positions in WTI oil

futures. Likewise, if you wish to invest in Brent crude oil, make sure you select oil fund (s) that hold Brent oil futures positions.

- Understand and accept basis risk (risk that oil futures price may deviate from spot ones)
- Long-term investment in oil fund will expose investors to rollover risk which the difference between the price of expired futures and that of the new ones. They could be either of these:
  - Negative rollover yield which can occur during the Contango market.
  - Transaction costs to be incurred from closing position in the nearly expired contracts and having position in the new ones.

- ***Risks and Returns of Oil Fund***

Oil Fund Return

Unit price of oil fund that holds ETFs with oil futures as the underlying usually moves in tandem with global oil prices. Investors thus could use this kind of fund for oil price speculation. Investing in oil fund allows investors to obtain potential return in the form of capital gain and dividend (if any).

Risk of Oil Fund

- Market risk which arises when the global oil price decrease. Change in global oil price normally depends upon its supply and demand in both spot and futures markets. They are normally related to factors like global trend in switching from oil to alternative energies, potential advent of electric cars, reduction in costs of oil drilling and production, reduction of oil production capacity by OPEC and etc.
- Basis risk which occurs when oil futures and spot prices do not move in tandem. Spot oil price may increase while oil futures price may decline.
- Foreign exchange risk

- Leverage risk which arises when holding positions in oil futures

- ***Who Should Invest in Oil Fund and Appropriate Investment Horizon***

Who Should Invest in Oil Fund

Investors in oil fund should clearly understand about the fund they wishes to invest in. What they need to know is what the underlying is and what the contract delivery month is.

Appropriate Investment Horizon

Note that investors in oil fund should do so on a short-term basis as oil fund would normally hold positions in oil futures. It thus needs to close its position in the nearly expired contracts and open its position in the new ones. This might incur the negative rollover yield and transaction costs to the fund itself.

- ***Factors that Affect Global Oil Prices***

Global Oil Supply

- Unity of the OPEC Group and other major oil exporters such as Russia. This has a major impact on global oil prices. If they can work together to reduce or restrain global oil supply, this would have a positive impact on global oil prices.
- Costs of oil drilling and production. In case such costs dwindle and thus helps to increase global oil supply, this would negatively impact global oil prices.
- Concerns regarding war in the Middle East. War in this region could disrupt global oil supply, and this will have a positive impact on global oil prices.
- Natural disaster which will disrupt oil production in some major oil export countries such as Mexico.

- Potential terrorism which will halt oil production in some major oil export countries such as Libya.

Global Oil Demand

- Global economic expansion which would boost global oil demand and prices.
- Strategic oil reserves of superpower nations such as the US.
- Policy concerning alternative energies of each country. For example, policy to promote use of electric cars would of course negatively affect global oil demand and prices.

- ***Where We Can Get Information regarding Oil Fund***
  - Information concerning projected oil production as well as oil demand and supply growth which could be obtained from IEA and the OPEC Group.
  - News regarding cooperation between the OPEC Group and major oil export countries such as Russia in controlling global oil production and supply.
  - Report about national oil reserves of countries like the US and China.
  - Policy to expand or restrain oil production of the OPEC Group and major oil export countries like Russia and the US.
  - Amount of investment by oil exploration businesses.
  - Relevant oil fund data such as:
    DBO at https: / / www. invesco. com/ portal/ site/ us/ financial-professional/etfs/product-detail?productId=dbo
    USO at http://www.uscfinvestments.com/uso

2.2.4 Hedge Fund

Hedge fund differs from normal mutual fund in that the former does not put investment limit on any particular type of investment securities while the latter

does so with the aim to reduce concentration risk and achieve diversification benefit. Thus, hedge fund has exposed investors to higher level of risk than normal ones have. Hedge fund is thus appropriate for those who are able to bear significant level of risk. At present, investment units of hedge fund are offered particularly to only ultra high net worth investors.

Hedge fund will generally employ sophisticated and risky investment strategies with the aim to achieve desired expected returns. Normally, hedge fund will employ aggressive investment strategies like using complex derivative instruments and high level of leverage to enhance potential fund return. The main aim of hedge fund is to achieve the highest possible investment return regardless of investment situation and market condition. A fund of hedge funds is a mutual fund that holds investment units of various hedge funds. It has thus exposed unitholders to significant risks.

Despite its high management fee compared to those of normal funds, hedge fund has gained more popularity among investors. This is because its return has **low** correlation with those of traditional financial assts such as equity, debt, commodity and etc. Hedge fund could generate a good return for investors by relying on fund manager skills as well as its employment of sophisticated quantitative models ("**Blackbox**") . Hedge fund managers will make their investment decisions using complex investment analysis tools or analysis of special investment signs which rarely occur. Thus, it is usually seen that hedge fund managers will not provide details and explanation to the public how they can achieve abnormal returns for their funds so that others could not replicate their employed investment tools and strategies for fear that their successful strategies would no longer work. Practically, hedge fund managers would provide brief and not in-depth details about their investment principals and methodologies. In-depth details about fund strategies and methodologies which have helped to generate abnormal fund returns, especially the employed quantitative models, will not be provided. Investors of hedge fund, thus, have to believe and trust that the sophisticated strategies and tools employed could generate good level of return for them. As most hedge funds have low return

correlation with those of traditional financial assets, they are a good vehicle for achieving both portfolio investment diversification and return enhancement. In investing in hedge fund, investors need to conduct good due diligence to ensure that hedge fund (s) they invest in are actually and legally established and do not engage in Ponzi Scheme like Bernard L. Madoff Investment Securities LLC in which investors lost their investments for the total amount of $18,000 million.

Characteristics and Types of Hedege Funds

- ***Nature of Hedge Funds***

Hedge Fund Structure

Structure of hedge fund is similar to that of a typical mutual fund in that it could invest in equity, debt and derivatives. Nevertheless, investment procedures of hedge fund vary and are far more sophisticated than those of general mutual funds as hedge fund would have fewer investment restrictions than general ones have. For example, hedge fund is not prohibited from short selling and it can employ higher leverage than normal mutual funds do.

Form of Hedge Fund

Typical hedge fund will be in the form of limited partnership which includes the followings:

- **General Partner**: He shall be responsible for administering hedge fund in the areas of fund marketing and management. General partner is also responsible for other tasks such as appointment of fund manager (s) and fund transactions management.
- **Limited Partner**: Fund investors could act as limited partner who shall bear and be responsible for the fund obligations for the amount of not exceeding their respective invested capitals.
- Nevertheless, hedge fund could also be operated in another form apart from limited partnership.

Fee Structure of Hedge Fund

Fee structure of hedge fund differs substantially from those of typical mutual funds. Normally, hedge fund would collect management fee at the rate higher than those of normal funds as well as fund performance fee. On the contrary, normal mutual funds would not collect fund performance fee. Fee structure of hedge fund consists of the followings:

- **Management Fee**: Management fee of hedge fund would normally be higher than those of general ones. In many countries, this fee would be at the rate of approximately 2% of total asset value per year.
- **Fund Performance Fee**: In many countries, fund performance fee would be collected at the approximate rate of 10%-20% of total fund profit, but fund profit would be determined based on the "High Water Mark basis[1]. That is fund performance fee would be determined based on the fund's net asset value in excess of the High Water Mark. Some hedge funds would also require that fund performance fee will be paid when fund performance exceeds a required hurdle rate such as rate of return from short-term government securities.
- Term Structure of Hedge Fund: Term structure of hedge funds varies from one to another. They can include:
  - **Subscription and Redemption Period**: As hedge fund is more complex than normal funds are, it sometimes does not allow unitholders to buy or sell its units on a daily basis like normal ones do. Typically, hedge fund would allow its unitholders to buy or sell its units once a month or once every three months. Some require its unitholders to inform in advance from 15 to 180 days prior to the next redemption date so that fund manager could have sufficient time to prepare sufficient proceeds to be returned to unitholders without affecting overall fund performance.
  - **Lock-Up Period**: As hedge fund may require some time before its investment strategies could work, it is thus necessary to institute a lock-up period which is normally a period of 1 year. Some hedge funds require a lock-up period of more than 1 year. Fund's lock-up period could be either:

[1] High Water Mark is the highest net asset value per share ever (prior to deduction of fund performance fee) at the end of each past calculation period. It is used as the basis for determining fund performance fee.

- Hard Lock-Up in which no redemption is allowed until the end of lock-up period.
- Soft Lock-Up in which some redemption is allowed before the end of lock-up period but unitholders are subject to a fine of 2%-10% of total redemption amount.

- **Gates**: Some hedge funds may limit the redemption amount by specifying that each round of redemption shall not exceed 10%-25% of total invested amount by each investor. This is to prevent massive fund redemption by unitholders during the period of market crash which is hard for funds to dispose their assets or close their positions. For example, during the period of 2008 to 2009, many hedge funds instituted gates to alleviate effects from urgent dispostion of assets and closure of positions under abnormal market situation.

- ***Types of Hedge Funds***

Hedge Funds by Investment Strategies

- Long/ Short Equity: Hedge fund manager would long undervalued securities and short overvalued securities. Normally, hedge fund that employs this strategy would have a positive equity exposure. This strategy could be classified into:
  - No Leverage: In case hedge fund has a long equity position of 70% and a short equity position of 30%, this fund has a net equity exposure 40% (70% - 30%). As gross equity exposure is 100% (70% + 30%), this fund has no leverage (leverage = 100% - 100% = 0%).
  - Leverage: In case hedge fund has a long equity position of 80% and a short equity position of 30%, this fund has a net equity exposure of 50% (80% - 30%). As gross equity exposure is 110% (80% + 30%), this fund has a leverage position of 10% (leverage = 110% - 100% = 10%).

- Market Neutral: This strategy would work in similarly to Long/Short. They however differ in that hedge fund manager would minimize net equity exposure to achieve Market Neutral. The main aim of Market Neutral is to reduce effect from market risk so that fund performance would be dominated by fund manager's stock selection capability. Market Neutral could be achieved by the followings
  - Achieving net equity exposure of 0% by having a long equity position of 50% and a short equity position of 50%. Thus, net equity exposure is 0% (50% - 50%). At the same time, gross equity exposure is 100% (50% +50%).
  - Achieving zero beta exposure where hedge fund would simultaneously have both long and short positions such that portfolio beta is 0 or closest to 0.

- Tactical Trading Strategy: This strategy would rely on hedge fund manager to correctly predict asset price movement. This strategy includes:
  - Global Macro: Assets that Global Macro Fund would invest include equity, debt securities, foreign currency, commodity products, options, futures, forward and many kinds of derivatives. They could be traded either in organized exchange or in OTC market. In employing this strategy, fund manager would assess and predict movement of factors that may affect the macroeconomy such as change in interest rates, exchange rate movement, expected return from stock market as well as political situation in each country. This kind of hedge fund would gain investment return from price movement of the fund's underlying assets and simultaneously employing substantial level of leverage. This kind of hedge fund is normally a global fund.
  - Managed Futures Fund: This kind of hedge fund would employ futures contract as a main investment instrument as well as have

a position in commodity trading advisor (CTA) which has invested in futures, options and swap with commodity products as their underlyings. This kind of hedge fund would normally invest in one single financial instrument such as interest rates, exchange rate and commodity price with the aim to correctly predict its price movement.

- Long-only Leverage Strategy: This kind of fund is similar to normal active funds but it will have higher risk thanks to its relatively higher leverage.

- Relative Value Strategies: This kind of fund would have a long or short position in at least two assets that are highly correlated. If such assets are highly correlated, the portfolio would have a low volatility and its beta would be very low. They include:
  - Relative Value Arbitrage: This fund would invest in various assets. In employing this strategy, fund manager would long undervalued securities and simultaneously short overvalued securities. Securities that this fund would invest include equity and debt securities of the same company, two series of debt securities with different dates of maturity and coupon rates of the same company and stocks of two different companies in the same industry.
  - Convertible Arbitrage: This is a form of Relative Value Arbitrage strategy. In employing this strategy, hedge fund manager will invest in convertible bond of a company and simultaneously short sell stock of the same company in case he predicts that price of convertible bond will appreciate and/or stock price will decline in the future. Hedge fund manager could also gain a handsome return in case he foresees that volatility of the underlying asset which is reflected in option volatility of the convertible bond is lower than it should be, thus making convertible bond price lower than it should actually be, or in case hedge fund manager foresees that

market interest rates are on a downward trend, thus resulting in a potential increase in convertible bond price in the future. Given Convertible Arbitrage would generate a relatively low level of return, hedge fund manager would thus use high leverage with the aim to generate investment return that could really satisfy investors.

- Capital Arbitrage Strategy: This strategy aims to seek for high returns by capitalizing on deviation of stock and bond prices of the same company from their respective actual values. This strategy could apply to firms that are under busness restructuring as their stock and bond prices may react to market news in a different way. Stock price may suddenly react to lower-than-expected profit, but bond price would not much affected by such news.
- Fixed Income Arbitrage: This strategy aims to seek for potential high returns by indentifying mispriced debt securities using sophisticated mathematical models in creating a term structure of interest. Such term structure of interest would be used to predict returns from debt securities of different maturities.

- Event Driven Strategies: This strategy is employed to seek for potential high returns from investments in companies under special situation. They include:
  - Distressed: This is an investment in a financially distressed company. Hedge fund could invest in a financially distressed firm in the following ways:
    - Investing in a financially distressed firm with the aim to take part in the company restructuring and/or debt restructuring processes. In some occasions, hedge fund manager would like to act as the company's executive director to take part in its business turnaround exercises.
    - Investing in a financially distressed firm with no aim to participate in the business restructurings exercise. On the

contrary, hedge fund manager has invested in such firm hoping that their securities prices will go up in the future thanks to their improving business and financial fundamentals. This strategy could be employed in the following ways:

- Buying debt securities of a financially distressed firm which is extremely low due to its poor financial position or its business is in the crisis. Although such investment is highly risky, its potential return could also be substantially high. Portfolio of distressed securities would normally be well diversified so that profitable investments could make up for losing ones.
- Investing in debt securities of firms that are just out of bankruptcy at a very cheap price. When their operations could be successfully turned around, their debt securities price would strongly rise.

  - Short selling of shares of companies with very little or no hopes of turnaround.

- Risk Arbitrage in Mergers and Acquisitions: This strategy would be employed based on speculation about potential corporate merger. It is employed to seek for potential high return from securities price movements of the acquirer and the acquiree. That is hedge fund manager would long securities of the acquiree and short securities of the acquirer. However, hedge fund may face the risk of deal collapse (due to changing business situation or state disapproval) in which respective securities prices will revert to the normal level.

- Quantitative or Black-Box Strategies: This quantitative-based strategy relies on sophisticated algorithm trading models for making appropriate trading decisions.
- Multi-strategy: In this investment practice, many investment strategies, mainly low risk ones, are employed with the aim to preserve initial capital.

- ***Benefits from and Points to Consider in Hedge Fund Investment***

Hedge fund investment could generate types of investment return that differ from those of normal funds and their returns are lowly correlated with those of traditional investments. Thus, hedge fund investment would help to create diversification benefit for investors. Note that hedge fund investment has unique characteristics investors should take into account. They are as follows:

- Hedge fund is less regulated than mutual funds. Thus, hedge fund investors are not so well protected as general mutual fund investors are.
- Hedge fund's offering memorandum usually states that it can employ various investment strategies. This makes it more challenging for fund investors in monitoring whether there is any significant change in fund's strategy. Thus, investors may need to use significant fund return change as a warning signal for potential change in fund investment strategy.
- Hedge fund manager skills and capabilities. We need to see whether past successful fund performance could still be achieved in the future.
- Most hedge funds aim to achieve an absolute return regardless of market situation. Thus, they should have quite long track record of absolute return, or still have an absolute return or better performance than traditional funds during the bear market.
- Fund of hedge funds is an alternative to direct hedge fund investment. Fund of hedge funds helps to diversify risk as each hedge fund employs different investment strategies and it requires lower minimum initial investment than hedge fund does.

As well, hedge fund investors should conduct sufficient hedge fund due diligence to ensure it does not engage in any Ponzi Scheme and appropriate fund (s) is selected.

- ***Risk and Return of Hedge Fund***

Hedge Fund Return

Normally, hedge fund return is lowly correlated with those of its invested assets. Hedge fund return varies, depending upon employed investment strategies which could be described as follows:

- Equity Hedge or Long/Short Equity: Potential return from this strategy comes from hedge fund's ability to freely short sell assets. Typical mutual funds could not generate return from this as they have no policy to short sell assets.
- Event Driven Strategies: This strategy seeks potential returns from short-term opportunities in case there is any event that will affect securities price such as corporate restructuring, treasury stock exercise, change in company's credit rating, financial performance announcement, business spin off etc.
- Tactical Trading Strategies: This strategy seeks potential returns from accurate speculation of market or industry trend and direction. Potential high return comes from accurate speculation of securities price movement and its timing.
- Relative Value Strategies: This strategy seeks potential returns from short-term deviation of securities market price from its actual value as securities prices will revert to its normal level in the long-run.
- As the main aim of hedge fund is to achieve an absolute return, hedge fund investors usually expect to see good return even under the bearish market.

Hedge Fund Risks

Key hedge fund risks are as follows:

- Concentration Risk: As hedge fund institutes no investment limit or constraints, this would expose investors to concentration risk.

- Leverage: As hedge fund could employ high leverage in the form of margin loan or utilization of various financial instruments with low collateral, this would of course expose investors to risk of high leverage.
- Liquidity Risk: Hedge fund investors are exposed to risk of low trading liquidity as hedge fund's assets are normally lowly traded or illiquid ones. Hedge fund also imposes on its investors particular redemption constraints and lock-up period. Hedge fund investors should take into account about this.
- Pricing Risk: Hedge fund investors will face this risk because hedge fund normally invests in complex financial instruments and it is difficult to accurately value them.
- Counterparty Risk: Counterparties to hedge fund are securities brokers and dealers. In case they face financial difficulties and they cannot transact with the fund, the fund performance would of course be affected.
- Settlement Risk: Hedge fund trading normally involves high trading volume, and in many cases it involves arbitrage trading and strategy. Thus in case of any settlement disruption, hedge fund would of course bear substantial risk. This thus turns a riskless investment into a speculative one.
- Short Squeeze Risk: This risk may arise for hedge fund that involves in many short-sale transactions. In case securities lenders would like hedge fund to earlier return such borrowed securities, this would of course affect hedge fund return.
- Financial Squeeze Risk: This risk may arise in case hedge fund could not obtain loans, or could do so but at an unreasonable financial cost, whether its credit line is fully used or it defaults its debt repayment. This risk could also arise when hedge fund is required to post more collateral. In either case, hedge fund could not satisfy its debt obligations, and this may expose the fund to risk of bankruptcy

- Fund Manager Risk: Hedge fund performance depends mainly on fund manager skills and capability. Change in fund manager would absolutely affect fund performance.
- Low Regulation Risk: As hedge fund is less regulated than typical mutual funds are, hedge fund investors should seriously care about fund due diligence to ensure it does not engage in any Ponzi Scheme.

- ***Hedge Fund Strategies***

Types of Hedge Fund Strategies

The following issues need to be taken into account when employing hedge fund strategies:

- Hedge fund investment could help investors to realize portfolio diversification as hedge fund that could generate consistently sound return would help to reduce overall portfolio volatility. In case returns from traditional assets are poor or very volatile, investment in hedge fund that could provide consistent returns (like debt investment) is an interesting alternative. In the low interest rate environment (interest rate is lower than inflation), hedge fund investment can be more interesting than direct debt investment.
- Use of hedge fund for portfolio return enhancement by:
  - Achieving low portfolio volatility and return enhancement by using Long/Short strategy.
  - Employing Tactical Trading strategy like Global Macro or Commodity Trading Advisors which could help to enhance overall portfolio return while their returns have low correlation with those of normal funds.
- Portfolio allocation. Although hedge fund return normally has low correlation with those of traditional financial assets, their correlation could spike up in some period such as during the 2008 Sub-Prime Crisis when asset value substantially and swiftly deteriorated. Hedge

fund investors thus should take into account the followings when deciding to invest in hedge fund:

- Portfolio weight for each strategy
- Level of portfolio concentration
- Correlation of each strategy
- Portfolio gross and net exposures which should be appropriate for investor's risk tolerance level. If overall portfolio's gross and net exposures are substantially high, so does portfolio risk.

In general, hedge fund investment is appropriate for ultra high net worth investors and they can use hedge fund to achieve portfolio diversification or enhance overall portfolio return. Note that hedge fund investment should not account for substantial portion of the overall portfolio (not to exceed 20% of the entire portfolio value).

2.2.5 Complex Return Fund that Invests in Derivatives and Structured Securities

Some mutual funds would employ derivatives to achieve their required investment objectives. Their purposes of doing so could be for hedging and non-hedging purposes. This section would mainly provide details about usage of derivatives for speculation purposes.

Uses of Derivatives for Hedging Purposes

Some mutual funds have employed derivatives to reduce portfolio risk. Examples of this include use of currency derivatives to hedge against foreign exchange risk and use of interest derivatives to hedge against interest rate risk by reducing portfolio duration. Note that in using derivatives for hedging purposes, total derivatives exposure shall not exceed total risk exposure.

Uses of Derivatives for Non-Hedging Purposes

Some mutual funds have employed derivatives for non-hedging purposes. Thus, they would face higher risks such as leverage risk, counterparty risk and etc. Normally complex return fund would utilize derivatives for non-hedging purposes, thus being exposed to significant leverage risk. Unlike complex return fund, typical mutual fund that employs derivatives would not hold position in exotic derivatives and of course it does not significantly expand its gross exposure. In other words, its exposure to derivatives would not exceed 100% of its NAV. Its maximum gross exposure would not exceed 200% of its NAV. Such 200% gross exposure is the sum of maximum gross exposure to invested securities of 100% of its NAV and maximum gross exposure to derivatives of 100% of its NAV.

On the contrary, those holding position in exotic derivatives would be more exposed to risks than those holding position in non-exotic ones. Significant risk arises due to the combination of their positions in exotic derivatives and their unlimited gross exposure. What is restricted is their net exposure to complex derivative instruments. Risk measure called Value at Risk (VaR) is employed to curb maximum risk exposure to derivatives in accordance with type of fund. For those with benchmark, relative VaR shall be less than twice of their benchmark VaR. For those with no benchmark, relative VaR shall not exceed 20% of their total NAVs.

Characteristics, Benefits and Points to Consider when Investing in Funds Holding Derivatives and Structured Instruments

- *Characteristics of Complex Return Fund that Invests in Derivatives and Structured Securities*

This kind of mutual fund would hold position in derivatives and structured instruments with the aim to enhance portfolio return. It would have a combination of long and short positions with significant gross exposure. This kind of fund thus exposes investors to higher derivative risk than normal one does. This kind of fund is generally an open-ended fund which allows the fund manager to employ

unlimited types of derivative instruments for the purpose of fund management. Investors in this type of fund will not know prior to their fund investment what types of derivatives employed and their associated risk.

- *Benefits and Points to Consider when Investing in Complex Return Fund Holding Position in Derivatives and Structured Instruments*

Key benefit of investing in fund which has position in derivatives and structured securities is its capacity to employ various investment strategies such as zero-beta strategy, absolute strategy, hedge fund strategy and etc. This allows investors to have more investment choices and simultaneously achieve portfolio diversification.

Although complex return fund with position in derivatives and structured instruments is an interesting investment alternative, especially in the low interest rate environment with highly volatile equity market, investors need to take into account significant risk they are facing. Given its significant gross exposure, this kind of fund thus exposes investors to higher derivative risk than normal one does. This kind of fund is thus appropriate for those with sound understanding of complex return fund investment and high risk tolerance level.

Return and Risk from Investing in Fund with Position in Derivatives and Structured Securities

- *Fund Return*

Return of fund with position in derivatives and structured instruments consists of basic return from traditional financial assets (such as debt and equity securities) it holds and additional return from derivative strategies. Normal strategies include alpha searching strategy by having long position in undervalued securities and simultaneously having short position in overvalued ones using futures with the aim to achieve an absolute return portfolio with zero beta and etc.

- *Fund Risk*

Fund with position in derivatives and structured instruments may face the following risks:

- Default Risk: This risk arises when corporate debt issuer has deteriorating financial performance and condition, thus being unable to satisfy its debt obligations when due. This thus exposes investors to default risk.
- Counterparty Risk: This risk arises when counterparty (s) could not fulfill or perform its obligations as required under derivative contracts.
- Structured Notes Risk: In investing in structured notes, investors face different types of risks such as risk that the underlying index does not move in the expected direction, liquidity risk, risk of significant change in securities index calculation methodology and etc. All these risks would of course affect return from investing in structured products.
- Derivatives (Basis) Risk: This risk arises when derivatives price does not move in tandem with those of the underlyings, thus exposing the fund to short-term investment loss.

Apart from basic risk prevalent in basic financial instruments, mutual fund with position in derivatives and structured securities also faces risk that is unique to each investment strategy. For example, mutual fund that invests in risky debt securities will face higher credit risk. Sectorial equity fund will be more exposed to risk of economic fluctuation that may significantly affect particular industry (s) / sector (s). Fund of hedge funds will face securities concentration risk, liquidity risk and risk of complexity of fund strategies. Investors thus need to realize that potential high return from investing in complex return fund comes along with higher risk. Complex return fund is thus appropriate for investors with high risk tolerance and medium to long-term investment horizons.

Investment Strategies for Complex Return Fund

Complex return fund is normally open-ended fund which allows fund manager to employ derivatives and/or structured products to achieve required return in

accordance with the fund investment policy. This thus exposes the fund to significant derivatives risk. It is thus necessary for investors to study details in the fund prospectus to evaluate potential fund derivatives risk. For example, investors can look for figure like expected gross leverage from the fund prospectus. This figure can tell investors about risk level associated with the fund's complex derivatives risk. In general, the higher the figure, the higher the fund's derivatives risk. Thus, investors who do not wish to bear high derivatives risk should avoid investment in the fund with high expected gross leverage. After investing in the fund with high derivatives risk, investors could still monitor this risk by looking at the figure called average actual leverage and actual VaR. All those figures are disclosed in the most recent fund prospectus, 6-month fund report and annual fund report.

Conclusion

Each type of fund with high risk and/or complexity has its own unique characteristics which differ from those of normal mutual funds. This type of fund thus exposes investors to higher investment risks. It would normally invest in complex securities / assets and employ sophisticated investment strategies that may cause their investors to misunderstand or lack of clear understanding about its risk and return. For example, those with policies to invest in non-investment grade debt securities would expose investors to higher default risk. Those holding derivatives and structured products would expose investors to higher risk as they simultaneously hold long and short positions and have a significant gross exposure. Those with net exposure to commodities by having a position either in commodities or in commodities derivatives / futures may expose investors to the so-called basis risk which occurs when there is any difference between commodities futures and spot prices. A fund of hedge funds would expose investors to high concentration risk as it may have no investment limit in place. A complex return fund normally imposes complex return distribution conditions and this may expose investors to risk of misunderstanding about return distribution formulae and/or conditions which apply. It is thus necessary for investors to study and consider about details and characteristics of this type of investment. They must study all offering documents to gain a clear understanding about asset risk and return prior to any investing. They may need to study documents and media prepared by asset management companies to provide details and explanation about risk and return of this type of complex investment. Investors may need to evaluate whether fund investment policies correspond to their actual investment objectives, and hold such investment in accordance with investment horizon recommended by asset managers.

Chapter 3: Investment Consulting for High Risk and Complex Bond and Mutual Fund

(Translation available)

Learning Objectives:

1. Explain the conduct of investment consulting in high risk and complex bond and mutual fund.
2. Explain the process of investment consulting to a client in high risk and complex bond and mutual fund.
3. Explain channels of investment and sources of information for investment decision making.
4. Apply the conduct of investment consulting in high risk and complex bond and mutual fund.

Chapter 3

Provision of Investment Recommendations for Debt Securities and Mutual Funds with High Risk and/or Complexity

Providers of investment recommendations (ICs) for debt securities and mutual funds with high risk and/or complexity need to possess knowledge and full understanding about their investment nature, risks and returns so that they can provide their clients with the most useful investment advice. Moreover, ICs need to know and understand guidelines and procedures for providing recommendations for such complex and risky securities to ensure their performance of duties is in line with relevant SEC notifications and requirements. This chapter will describe about scope of investment recommendation services for risky and/or complex investment products, investment recommendation procedures, channels and sources of investment information and some case studies related to provision of investment recommendations for such complex and risky products so that they can be used by ICs as useful references and guidelines.

3.1 Guidelines in Making Investment Recommendations for Debt Securities and Mutual Funds with High Risk and/or Complexity

3.1.1 Scope of Investment Recommendation Services for Investment Products with High Risk and/or Complexity

In providing investment services regarding financial products with high risk and/or complexity, apart from general guidelines for client treatment, ICs shall also follow additional specific investment recommendation guidelines and procedures to ensure their clients obtain complete product information that does not mislead them. This in turn allows investors to make appropriate investment decisions that correspond to their investment objectives and risk tolerance levels.

Note that any investment product that possesses any of the following characteristics is regarded as those with high risk and/or complexity:

(1) Investment units with high risk and/or complexity which include the followings:

(a) Investment units which are offered to institutional investors or high net worth investors in accordance with relevant notifications of the Capital Market Supervisory Board re: rules, conditions and procedures in setting up and managing mutual funds for institutional investors and ultra-high net worth investors.

(b) Investment units of mutual funds with high complexity in accordance with relevant notifications of the Office of SEC re: additional rules in case mutual funds invest in derivatives and structured notes.

(c) Investment units of mutual funds that make return distributions based on any formulae or return distribution conditions that are not easy for general investors to understand.

(d) Investment units of mutual funds with net exposure to commodities either via direct investment in commodities or via derivatives / futures contracts with commodities as the underlying.

(e) Investment units of mutual funds with policies to invest in non-investment grade debt issue of more than 60% of their NAVs.

(f) Investment units of foreign investment funds with characteristics or conditions similar to that in (a), (b), (c), (d) or (e) above

(2) Debt securities with high risk and/or complexity which include the followings:

(a) Hybrid securities with term to maturity / tenor of more than 270 days since the issuance date and possess any of the following characteristics:

1. Providing an option to the issuer to delay or cancel its debt obligations satisfaction or to delay or cancel interest or return distribution
2. Provisioning debt holders with right to be repaid subordinated to other debt holders but senior to equity holders when the issuer redistributes its assets to all capital providers

(b) Perpetual bond

(c) Non-investment grade and non-rated debt issues

(d) Structured notes in accordance with relevant notifications of the Capital Market Supervisory Board re: asking for and granting of approval to issue structured notes and other derivative-embedded instruments

(e) Basel III securities in accordance with relevant notifications of the Capital Market Supervisory Board re: issuance and offer for sale of Basel III debt issues by commercial banks

(f) Any debt issue which are issued or offered for sale in foreign countries with characteristics and conditions similar to those under (a), (b), (c), (d) or (e) above

(3) Derivatives contracts in accordance with the Derivatives Act

3.1.2 Guidelines for Providing Investment Recommendations in Risky and/or Complex Investment Products

ICs must follow investment products offering guidelines / procedures as specified by their employers. This is to ensure that they could provide investment services to their clients on a fair basis by taking into account the best client interests while simultaneously reducing chance of offering inappropriate investment products to them.

Preparation for Contacting with and Providing Services to Clients

- *Recruitment of staffs with knowledge and understanding in the products*

  Business operator shall employ appropriate recruitment procedures so that qualified staffs with sound knowledge and understanding in the products to be offered are selected. This would help to ensure right investment products are recommended to right investors, taking into account their investment objectives and risk tolerance levels.

- *Preparation of data, tools and media to aid ICs in explaining complex products characteristics*

  Business operator shall prepare information about its investment products which will be presented to investors such that ICs could study about their risk and return prior to client offering. Business operator shall

also provide necessary tools and media which would facilitate ICs in appropriately explaining products details and characteristics.

Procedures for Contacting with and Providing Client Services

ICs would collect and evaluate client data for the purpose of knowing their clients. They would ask clients to conduct a suitability test to assess clients' risk tolerance level prior to providing a basic asset allocation advice and recommending proper investment product (s) for them. ICs shall also distribute key offering documents to clients. They include fact sheet and full prospectus (if client requests). Marketing flyer which includes key product characteristics, details about their risk and return and key events that may affect asset performances can also be distributed.

In case investment products to be offered are regarded as those with high risk and/or complexity, business operator and their ICs need to do the followings:

(1) Business operator shall recruit qualified sales staffs. They must be granted by the Office of SEC relevant securities licenses which allow them to provide recommendations for investment products with high risk and/or complexity in accordance with relevant SEC notifications.

(2) Business operator shall prepare necessary tools and media to aid their ICs in explaining about risk and complexity of such products in a simpler way. They include:

- Preparing information and documents about investment nature and product risk such as fact sheet and marketing flyer which are simple and easy to understand. Information containing in such documents must be accurate and not misleading. Information about their characteristics and risks should be clearly illustrated and explained in such documents.
- Preparing presentation media such as video clip and visualized presentation to facilitate client explanation and make sure key investment characteristics and risks are clearly illustrated and conveyed to clients. This is especially important when highly risky and complex products such

as Basel III instruments and hedge fund which are hard to maintain high standard and quality in making recommendation and presentation to clients.

(3) ICs shall evaluate client's investment knowledge prior to making any investment advice, taking into account factors like their education background, work experience and investment experience. This helps ICs to recommend products that well correspond to client's investment objectives and risk tolerance. For example, if assessment result indicates that clients possess relevant investment experience and education background, they could use technical terms / words in explaining product's investment characteristics and risks. On the contrary, if clients have no relevant investment experience and education background, they shall explain those necessary details and information in a simple way. ICs shall evaluate whether such clients are highly risk averse so that careful investment recommendations are specially provided.

(4) ICs shall evaluate whether it is appropriate for clients to invest or engage in transactions related to risky and complex securities based on their respective suitability and know-your-client tests.

(5) ICs shall provide details and explanations regarding products with high risk and/or complexity clients would like to invest in so that they have clear understanding about their investment nature and risks. ICs shall also distribute relevant offering documents to their clients.

(6) ICs shall provide a balanced investment view and recommendation which should include the offered product's investment characteristics, benefits, investment constraints, return and risk associated with such complex and risky securities. They shall prepare and keep sufficient documents and evidence to support their recommendations.

(7) ICs shall also provide a warning to their clients that investing in or engaging in transactions related with risky and complex securities substantially differs from that of general investment products. Although clients possess some past investment experience, they need to have a clear understand about

such products' characteristics, risk and unique conditions prior to any investing.

(8) In case investment products to be offered are highly complex ones which are hard to provide clear explanation to clients in a simple way, business operator shall prepare additional necessary information for their ICs so that they could illustrate how a worst case scenario would affect clients' portfolio. Examples of such highly complex products include Basel III instruments and hedge fund.

(9) After equipping clients with information regarding key risks of risky and complex securities, ICs shall ask their clients to sign form of risk acknowledgement as required by the Office of SEC and business operator.

Audit Process for Clients Contacting and Service Provision Procedures

- Business operator shall conduct an audit to ensure its sales processes conform to applicable standards.
- Business operator shall take necessary corrective actions if actual procedures of contacting with and providing client services are not in line with required ones.
- Business operator shall prepare and keep documents and evidence to show that necessary corrective actions are taken if actual procedures are not in line with required ones.

Offering of Investment Products that are Required to Be Offered to Only High Net Worth Investors, Ultra-High Net Worth Investors and Institutional Investors

When offering investment products that are required to be offered to only high net worth investors, ultra-high net worth investors and institutional investors, ICs shall comply with all requirements and standards as specified by their employers to correctly and appropriately identify each type of investor. ICs may ask their clients to conduct a self-disclosure or ask for additional documents and evidence to examine client disclosure

as much as they can. Required information includes client's amount of investment in securities and derivatives, their annual income and etc.

Exceptions in case Clients Do Not Wish to Participate in Investment Knowledge Assessment

ICs do not need to ask the following investors to conduct investment knowledge assessment:

(1) Those who are institutional investors in accordance with Notification of the Board of SEC re: definitions of institutional investors and high net worth investors

(2) Those who are high net worth investors in accordance with Notification of the Board of SEC re: definitions of institutional investors and high net worth investors who are juristic persons. They shall express their intention in writing that they do not wish to engage in investment knowledge assessment.

(3) Those who are investors or users of services related to OTC derivative contracts.

In case of Clients' Repeated Orders for the Same Investment Products

ICs may reduce unnecessary sales processes in case their clients repeat their orders for the same investment products such as buying investment units of the same fund or the same debt issue. It is not necessary for ICs to re-explain key product characteristics and risks as clients are now familiar with the products. Clients thus should possess clear understanding in their key investment nature and risks. Clients do not need to sign another form of risk acknowledgement as such form was already signed when they initially invested in the asset. However, ICs are still obligated to inform their clients of any significant information change or any updated data in documents and data like fact sheet and peer fund performance prior to client's repeated orders.

In case Test Result Indicates that Risky and Complex Products May Not Be Appropriate for Clients or Such Products Are Far Too Risky for Clients

ICs shall warn their clients that risky and complex securities may not be appropriate for them. In case clients still insist that they would like to invest in or engage in transactions related to such investment products, ICs should spend more time explaining about their risks to ensure that clients really have clear and full understanding about them. ICs shall ask their clients to sign form of acknowledgement of warning and potential risk from holding such risky and complex investments. While clients still ponder whether to invest in those risky investment products, ICs shall not offer any additional services about investing or engaging in transactions related to risky and complex investment products to those clients.

Business operator shall keep relevant documents and evidence for future reference and it shall implement a sound audit system to ensure relevant sales and service provision procedures conform to required procedures and their ICs provide clear and accurate explanation regarding investment risk to their clients.

3.1.3 Investment Channels and Sources of Information

Clients who wish to invest in investment products with high risk and/or complexity could study preliminary information from prospectus, fact sheet and other documents prior to making their investment decisions. They can contact ICs via investment channels as specified in prospectus so that ICs could provide explanations regarding characteristics and risks of investment products. At present, investment channels consist:

Contacting and Provision of Investment Recommendations by ICs

Investors who are interested to invest in products with high risk and/or complexity could directly contact ICs as they do when investing in plain vanilla ones. However, as such products possess investment nature that are hard to understand or contain higher risk that general ones do, ICs who are able to provide investment recommendations for investment products with high risk and/or complexity shall be those who are specifically assigned by their employers to do so. They shall be those who approved by the Office of SEC to provide investment recommendations or planning to their clients. Such ICs shall provide their investment recommendations in accordance with types of investment

products and scope of duties as approved by the Office of SEC. They shall strictly conform to product and service offering procedures as specified by their employers to ensure their clients have full understanding regarding key investment characteristics and risks prior to any investing.

In accepting trading orders for investment products with high risk and/or complexity via ICs, business operator shall take actions as necessary to ensure its ICs conform to the followings:

(1) ICs shall present details about investment products with high risk and/or complexity in the way that they could provide and explain their characteristics and risk thoroughly such as one-on-one presentation, telephone conference and Skype VDO conference.

(2) ICs shall inform their clients about return distribution conditions and key risks of such complex products so that they can differentiate between investment products with high risk and/or complexity and plain vanilla ones.

(3) ICs shall clearly illustrate their clients what worst case scenario looks like and how they will affect clients' portfolios. All of such information shall also be clearly presented in the prospectus and fund fact sheet.

(4) ICs shall record their investment recommendations either in the oral or written form. In case such recommendations are documented, they shall ask their clients to examine details in the documents.

(5) In case result of investment knowledge assessment indicates that investment products with high risk and/or complexity may not be appropriate for some particular clients but they still insist to invest in such products, an independent staff or a senior officer shall be asked to do the followings:

   (a) Examine service provision procedures for that particular client

   (b) Warn that client that such products may not be appropriate for him

   (c) Provide final approval in rendering investment services to such client.

(6) ICs shall keep all records and documents in relation to their recommendations for products with high risk and/or complexity.

Table Showing Comparison between Offering and Service Provision Procedures for Products with High Risk and/or Complexity and Plain Vanilla Ones

General Products	**Products with High Risk and/or Complexity**
Staff Training and Preparation of Offering Documents: Provision of necessary staff trainings and preparation of simple and easy-to-understand offering documents	
	Sales Staffs Selection: Appropriate sales staff selection
Suitability Test: ICs collect and assess client data to know their clients and ask them to conduct client suitability test to assess their appropriate risk tolerance level. This also helps ICs to know whether their clients have low risk tolerance so that specifically careful recommendations are provided.	
	Knowledge Assessment: ICs conduct client knowledge assessment to evaluate and select proper investment products prior to any recommendations. Factors taken into account include their education background, work experience and investment experience to ensure appropriate client recommendations are given.
Appropriate Investment Products: ICs recommend appropriate investment products and asset allocation recommendations.	
Distribution of Offering Documents: ICs distribute offering documents to clients. Key documents include fact sheet, full prospectus (if clients request) as well as marketing flyer.	
Tell Clients about Key Events that May Affect Investment Products: ICs provide explanation and data regarding risks and return of investment products and key factors / events that may affect them.	
	Provision of additional warnings: ICs shall provide additional warnings to their clients that investing in or entering into any transactions related to risky and/or complex products differs from those related to plain-vanilla ones. Although clients possess some prior investment experience, they need to

General Products	**Products with High Risk and/or Complexity**	
	clearly understand unique characteristics and risk of such products prior to any investing.	
		Provision of additional data in case it is hard to explain details about products to be offered: In case products to be offered possess some complex characteristics which are hard to explain to clients, ICs shall be equipped with additional data like what worst case scenario looks like and how it will affect client portfolio. Examples of such complex products include Basel III instruments and units of fund of hedge funds.
		Ask client to sign form of risk acknowledgement. After providing sufficient explanation of product risks to clients, ICs shall ask them to sign form of risk acknowledgement.
		In case there is any deficiency in client contacting and service provision procedures, they shall be rectified and relevant records and documents shall be kept.
Examination of service provision procedures: Necessary examination should be taken to ensure sales and service provision procedures conform to required standards. Any deficiencies or deviations from the standards shall be rectified.		

Client Contacting and Provision of Investment Recommendations via Online Channels such as Website and Mobile Application

At present, online investment channels such as website and mobile applications are highly popular. It is not necessary for clients to directly obtain investment services and recommendations from ICs when investing via such channel. However, it is necessary to make sure proper sales and service procedures are employed and control and check mechanisms and systems are intact. This is to ensure clients could obtain complete and accurate investment data and recommendations.

In offering products with high risk and/or complexity, the followings should be taken:

- **Distribution of Fact Sheet and Peer Fund Performance**
  Clients shall be able to get access to key offering documents like fact sheet and peer fund performance via web link and mobile application so that they can obtain such necessary data for making proper investment decisions.
- **Explanation about Key Product Characteristics and Risk**
  Clients shall be able to get access to written summary of key product characteristics and risks (like those showed in fact sheet / marketing flyer) via web link and mobile application.
- **Signing of Risk Acknowledgement Form by Clients**
  A pop-up menu which contains key risk warnings like those in risk acknowledgement form shall exist so that those who wish to invest in products with high risk and/or complexity could read and understand their key risks and make sure they can accept such high investment risk.
- **Offering Complex Products like Basel III Instruments and Units of Fund of Hedge Funds via Website and Mobile Application**
  Proper channels should be arranged so that investors could understand their key investment characteristics and risks prior to any investing. They include sales channels that allow clients to directly meet ICs and ask for more information or recommendation from them (like bank branch) or those allowing clients to contact with ICs (such as telephone and skype VDO conference).
- **In case Clients Repeat Orders for Risky and/or Complex Products**

In case clients would like to repeat their orders, they may be allowed to do so via ATM, provided that proper mechanisms are instituted to ensure clients who are allowed to do so already obtain required investment recommendations and services. In case there is any significant data change, clients shall be well informed regarding such change to ensure such change is taken into account prior to any new investing. For example, an updated fact sheet shall be sent to clients prior to their additional investing.

Relevant Sources of Information

- **SEC Website**

  Prior to any new offerings to the public, offeror must apply for and obtain an approval for securities offering from the Office of SEC. Thus, investors could get access to offering information as contained in the draft of prospectus via SEC website ((http://market.sec.or.th/public/idisc/th/Product/NewProduct).

- **Product Offeror**

  Apart from SEC website, product offeror may place key offering documents like prospectus, fact sheet and other offering documents (like written investment recommendation document, VDO clip and other documents / presentations (if any)) on its web site. Product offeror should also allow investors to directly contact and obtain such documents from it.

3.2 Case Study about Provision of Investment Recommendations for Securities / Mutual Funds with High Risk and/or Complexity

3.2.1 Case Study about Provision of Investment Recommendations for Risky and/or Complex Debt Issue

Case Study 1 Failure to Provide Accurate Explanation about Securities Risk

This fact sheet is a part of offering memorandum and prospectus. It provides just a snapshot regarding key investment characteristics and risks of the offered debt issue. Investors need to study details in the prospectus prior to any investing.

Fact Sheet

"**Equity-like Perpetual Callable Subordinated Corporate Bond Issued by Indorama Ventures Public Company Limited No.1/2014**"

This corporate debt issue is issued by Indorama Ventures Public Company Limited

(the "**Company**" or the "**Issuer**")

Part 1: Securities Highlight

Type of Securities	Non-convertible equity-like perpetual callable subordinated corporate bond. This debt issue will be retired only when the Company is dissolved or when the Company exercises the call option in accordance with Terms and Conditions. The Issuer may defer interest payment, either in whole or in part, in accordance with its judgment. All unpaid interest will be accumulated for future payments. This debt issue has posted no collateral and a Bondholders Representative will be appointed.
Securities Name	Equity-like Perpetual Callable Subordinated Corporate Bond Issued by Indorama Ventures Public Company Limited No.1/2014
Offering Method	Offered to general and institutional investors
Offering Amount	No more than 15 million units and THB 15 billion
Tenor	Perpetual
Issuance Date	31 October 2014
Date of Retirement	To be retired when the Company is dissolved or when it exercises the call option in accordance with Terms and Conditions.

Retirement prior to Its Maturity	Allowed. It is the sole discretion of the Issuer to exercise the call option. The Company may exercise the call option under the following cases: (a) The Issuer can exercise the call option at the 5th anniversary year from the Issuance Date or on any subsequent interest payment date after the 5th anniversary year from the Issuance Date; (b) When the Issuer cannot or will not use all interest expense for tax deductible purpose in Thailand; (c) There is any change in debt rating methodologies or their interpretation by credit rating agencies which results in lower or no equity credit associated with this debt issue that can be recognized by the Company under whatsoever reasons; or (d) There is any change in accounting rules, principles or interpretations which results in lower or no amount of this debt issue that can be recognized as a part of the Company's equity portion under whatsoever reasons.
Warning	This corporate debt issue is more complex and riskier than general ones. Investors should not invest in it without knowledge and clear understanding of its returns and associated risks.
Interest Rate	(1) From the Issuance Date until the 5th anniversary date from the Issuance Date (excluding the 5th anniversary date from the Issuance Date): 7% annually (2) From the 5th anniversary date from the Issuance Date until the 25th anniversary date from the Issuance Date (excluding the 25th anniversary date from the Issuance Date): Interest rate on an annual basis = (a) Yield of 5-year government debt + (b) Initial credit spread + (c) 0.25% (3) From the 25th anniversary date from the Issuance Date up until the 50th anniversary date from the Issuance Date

(excluding the 50th anniversary date from the Issuance Date): Interest rate on an annual basis = (a) Yield of 5-year government debt + (b) Initial credit spread + (c) 1.00%

(4) From the 50th anniversary date from the Issuance Date: Interest rate on an annual basis = (a) Yield of 5-year government debt issue + (b) Initial credit spread + (c) 3.00%

Initial credit spread is equivalent to 4.08% and yield of 5-year government debt is obtained by interpolating 5-year government bond yield at the end of last two business days prior to the date of interest rate adjustment as prepared by Thai Bond Market Association.

The Issuer will adjust interest rate every 5 years. The bond registrar and the Issuer will determine such interest rate adjustment by referring to 5-year government bond yields at the end of last two business days prior to the start of each relevant interest rate adjustment period. Such adjusted interest rate shall be notified to all bondholders in accordance with the way (s) deemed appropriate by the Bondholders Representative.

Yields under Different Scenarios of Interest Payment Deferral and Early Retirement

(1) In case the Issuer exercises the call option on the 5th anniversary date from the Issuance Date and all prior interest payments are deferred (5–year interest accumulation): IRR is 6.19%.

(2) In case the Issuer exercises the call option on the 25th anniversary date from the Issuance Date and all prior interest payments are deferred (25-year interest accumulation) and assume that 5-year government bond yield stays at 2.92% (equal to that as at 2 October 2014) for

	the purpose of determining applicable interest rate from Year 6 to Year 25: IRR is 4.20%. (3) In case the Issuer exercises the call option on the 50th anniversary date from the Issuance Date and all prior interest payments are deferred (50-year interest accumulation) and assume that 5-year government bond yield stays at 2.92% (equal to that as at 2 October 2014) for the purpose of determining applicable interest rate from Year 6 to Year 50: IRR is 3.19%. (4) In case the Issuer exercises the call option on the 100th anniversary date from the Issuance Date and all prior interest payments are deferred (100-year interest accumulation) and assume that 5-year government bond yield stays at 2.92% (equal to that as at 2 October 2014) for the purpose of determining applicable interest rate from Year 6 to Year 100: IRR is 2.31%. IRR under different scenarios as showed above is just for illustration. 5-year government yield which is use for reference for every 5-year interest rate adjustment may change in the future, depending upon market environment at that time.
Interest Payment Period	Interest payment will be made on a quarterly basis on every 31 January, 30 April, 31 July and 31 October of each year throughout the bond tenor. First payment will be made on 31 January 2015 and last payment will be made on the date of debt retirement. Note that the Issuer can infinitely defer interest payment for accumulated payment in the future at its sole discretion.
Restrictive Covenants Imposed when Interest Payment Is Deferred	So long as the Issuer defers its interest or accrued interest payment in accordance with Terms and Conditions, the following restrictive covenants apply: (a) Dividend declaration or payment

	(b) Making any interest payment or asset distribution to holders of any of its securities with legal status on par with or subordinated to that of this corporate debt issue (c) Retiring, discounting, cancelling, acquiring or reacquiring any of its securities with legal status on par with or subordinated to that of this corporate debt issue with any proceeds /or payment being made In case the Issuer fails to comply with any of these restrictive covenants, all accrued interest is immediately due on the date of non-compliance. The Issuer could no longer defer such accrued interest payment.
Status of This Corporate Debt Issue	This corporate debt issue is a subordinated debt, with no collateral provided. Each of its unit is ranked in pari pasu with one another.
Par value: THB 1000	Offering price: THB 1,000
Denominated Currency	THB
Bondholders Representative:	Bank of Ayudhya Plc.
Bond Registrar:	Bangkok Bank Plc.
Issue Rating as of the Offering Date	A+ by TRIS as of 1 October 2014. The Issuer will arrange for an issue rating which is issued by an SEC approved credit rating agency throughout its tenor.

Mr. Kasem recommends his client to invest in a subordinated perpetual bond which allows the debt issuer to unconditionally defer interest payment without providing appropriate explanation regarding risks of such securities. In this regard, Mr. Kasem shall provide explanation so that his client could truly understand its investment characteristics, return and risks of this kind of hybrid securities. He must explain his client that this debt issue is a type of hybrid securities as it is equity-like debt issue which will be retired when the issuer company is dissolved. This debt issue provides the issuer with a call option and right to unconditionally defer interest payment, thus exposing its investors to risk that they may not get back their investment principals

and/or obtain their expected returns. This is because the debt issuer can exercise its rights to defer or not to satisfy its principal repayment as well as rights to defer or not to make scheduled interest payment. Subordinated status of this debt issue also exposed its investors to high investment risk. Mr. Kasem shall also give an explanation to his client that this debt issue is a perpetual bond, thus exposing its investors to the risk that they may not get back their investment principals, that the issuer can call this debt issue upon 5 years anniversary from the issuance date, thus exposing its investors to reinvestment risk, and that they may face trading liquidity risk in case they wish to dispose this debt issue.

Case Study 2 Failure to Inform about Complex Investment Conditions

Ms. Angkana recommends her client to invest in a perpetual bond without informing him about its key investment conditions. This makes him misunderstand that he can sell this investment whenever he has liquidity needs.

In this regard, Ms. Angkana shall provide explanation so that her client could truly understand investment characteristics, return and risks of this debt issue. She must clearly explain that investing in this kind of debt issue exposes clients to liquidity risk as he may not be able to dispose his investment when having an urgent liquidity needs to ensure he can truly understand their investment characteristics and risks and evaluate whether he should invest in this.

Case Study 3 Failure to Inform about Complex Investment Conditions

Mr. Vichai recommends his client to invest in structured notes without providing him with clear explanation that he may be exposed to risk of not getting back his investment principal and realizing his expected return. This makes him misunderstand that he would get back his investment principal and obtain his expected return when the debt is repaid.

In this regard, Mr. Vichai shall provide explanation so that his client could truly understand its investment characteristics, return and risks of this debt issue. He must clearly explain that investing in this kind of debt issue exposes clients to risk of not getting back his investment principal and obtaining his expected return as return distribution of this kind of securities is linked to price movement of the underlying asset.

This exposes investors to serious investment risk in case the underlying asset price negatively moves.

Case Study 4 Failure to Inform about Complex Investment Conditions

Ms. Kallaya recommends her client to invest in non-investment grade and unrated debts without providing him with clear explanation that he may be exposed to risk of not getting back his investment principal and realizing his expected return. This makes client misunderstand that he would get back his investment principal and obtain his expected return when the debt is repaid.

In this regard, Ms. Kallaya shall provide explanation so that her client could truly understand investment characteristics, return and risks of this debt issue. She must clearly explain that investing in this kind of debt issue exposes client to both interest rate and credit risks. Thus, he may be exposed to risk of not getting back investment principal and realizing expected return.

Case Study 5 Recommending Client to Invest in Non-Investment Grade Bond and the Issuer Later Defaults Its Debt Repayment

Ms. Saijai recommends her client to invest in non-investment grade bond without explaining about its potential credit risk. This makes her misunderstand that she would get back her investment principal and obtain her expected return. Later, the debt issuer defaults its debt repayment.

It deems that Ms. Saijai fails to provide her client with clear and accurate explanation and balanced view about investment characteristics, risk & returns and constraints of this risky debt issue. When the debt issuer defaults its debt payment, Ms. Saijai must also give explanation to her client how her investment portfolio will be affected, the actions taken by the debt issuer to cure its default as well as client's legal rights and duties.

ICs must provide details and explanation about the actions taken by the debt issuer to cure its debt default. Details of which are as follows:

Actions to Be Taken When There Is Debt Repayment Default

Investors of debt securities are the creditors of corporate debt issuers. Key investment risk of every debt issue is credit (default) risk which is the risk that the debt issuer fails to satisfy its debt obligations when due.

1.Debt Default

Debt default means failure by the debt issuer to conform to Terms and Conditions. Debt default generally means failure by the issuer to repay debt principal either in whole or in part when due and/or make scheduled interest payment.

Apart from failure to repay debt principal when due and/or make scheduled interest payment, debt default also means failure by the debt issuer to conform to Terms and Conditions like:

(a) Failure to maintain key financial ratios as indicated in Terms and Conditions such as debt-to-equity ratio, dividend payout ratio and etc.

(b) The debt issuer pledges its key operating assets as collateral with other debtors although it is not allowed to do so according to Terms and Conditions.

Example of Obligations and Duties of the Issuer as specified in Terms and Conditions of Corporate Debt Issue of CPALL Plc. no.1/2013

10. The Issuer shall maintain the following net debt to equity ratios which are determined based on the audited financial statements as at 31 December of each fiscal year:

(a) Net debt to equity ratio as of 31 December 2015 not to exceed 5:1

(b) Net debt to equity ratio as of 31 December 2016 not to exceed 3.5:1

(c) Net debt to equity ratio as of 31 December 2017 not to exceed 2.5:1

(d) Net debt to equity ratio as of 31 December 2018, 2019, 2020, 2021 and 2022 not to exceed 2:1

Failure to conform to other key provisions of Terms and Conditions is also considered as debt default. Provisions of Terms and Conditions may vary from one to another and this must be taken into account by debt investors.

2.Actions to be Taken by the Debt Issuer when It Defaults

When the debt issuer defaults its debt repayment, it is obligated to inform its debt holders and other relevant parties like the Office of SEC, the SET (in case the debt issuer is a listed company), Thai Bond Market Association (in case the debt issue is registered with Thai Bond Market Association), the Bondholders Representative and etc[2].

3. Rights of Bondholders when the Debt Issuer Defaults

As debt holder is a creditor of the debt issuer, in case his debt is not repaid in accordance with Terms and Conditions, he is legally entitled to ask the debt issuer to satisfy its debt obligations according to Terms and Conditions. Rights of debt holders could be preliminarily segregated between debt issue with and without Terms and Conditions and those with and without Bondholders Representative. Details are as follows:

3.1 Debt securities with Terms and Conditions

When a corporate issuer issues its debt securities, Terms and Conditions between the debt issuer and bondholders is usually arranged.

Terms and Conditions have a legal status to legally bind the debt issuer to perform and fulfill its obligations with the debt holders. Whether the debt issuer defaults and rights of bondholders when there is a debt default shall be considered mainly based on Terms and Conditions. Exercise of rights by bondholders when there is a debt default may vary from one debt issue to another, depending whether there is an appointment of Bondholders Representative.

3.1.1 In case Bondholders Representative Is Appointed

[2] Notification of the Office of SEC no. Sor.Jor.63/2559 re: Reporting and Disclosure of Information by Corporate Debt Issuer after Debt Issuance dated 29 December 2016 which required the debt issuer to report to the Office of SEC without delay about its debt default.

A Bondholders Representative shall act on behalf of and for the interest of all bondholders. Acting as Bondholders Representative must be approved by the Office of SEC and must follow professional standards as prescribed by the Office of SEC. For debt issue with Bondholders Representative being appointed, exercise of legal right and claim by bondholders must be via Bondholders Representative. In general cases, Bondholders Representative will hold a meeting of bondholders to obtain bondholder resolution in taking certain actions such as letting all unpaid debts be immediately due, claiming of compensation, disposal of debt collateral and etc. Bondholders Representative is obligated to collect and distribute to all bondholders any proceeds from debt claimants and disposal of debt collateral in proportion to the debt amount each is entitled to.

Example of Consequences of Debt Default as Specified in Terms and Conditions of Corporate Debt Issue of PTT Global Chemical Plc. no.1/2014

2. When there is any event of default as specified in clause 11.1 of Terms and Conditions, if:

(a) The Bondholders Representative deems appropriate; or

(b) When the Bondholders Representative obtains a written request from one or many bondholders who accumulatively holds at least 50% of all unretired bonds; or

(c) Resolution by the meeting of bondholders; or

(d) In case of clause 11.1 (e) or clause 11.1 (f) of Terms and Conditions

Then, the Bondholders Representative shall notify the debt issuer in writing to immediately repay all outstanding debt principal along with all unpaid interest which become immediately due to bondholders. In this regard, the Bondholders Representative must provide a written confirmation to the debt issuer that from the view of the Bondholders Representative, such event of default results in the debt issuer's failure to be in compliance with Terms and Conditions and this will cause an adverse material impact to bondholders.

3. When the Bondholders Representative sends a written notification to the debt issuer in accordance with clause 11.2 of Terms and Conditions

(a) The Bondholders Representative shall take actions as necessary to ensure the debt issuer would satisfy all outstanding debt obligations as fast as possible including filing a legal prosecution against the debt issuer if it is legally allowed to do so.

(b) Each bondholder may file a legal prosecution against the debt issuer after the lapse of 14 days from the date the Bondholders Representative sends a written notification to the debt issuer in accordance with clause 11.2 of Terms and Conditions but no outstanding debt is repaid and at the time of filing legal prosecution by bondholders, the Bondholders Representative has yet to do so.

3.1.2 In case No Bondholders Representative Is Appointed

If no Bondholders Representative is appointed, it may be more difficult for bondholders to take necessary actions in forcing the debt issuer to satisfy its debt obligations and/or pay necessary compensation. This is because there is no central party with legitimate power to take actions on behalf of all bondholders. Thus, bondholders need to take all necessary legal actions by themselves against the defaulting debt issuer. In general cases, Terms and Conditions would indicate what actions bondholders need to take against the defaulting debt issuer. They may need to hold the meeting of bondholders to obtain necessary resolutions in taking necessary legal actions against the defaulting debt issuer.

Thus when investing in debt issue with no Bondholders Representative being appointed, apart from credit risk, investors need to care about increasing legal risk that may arise when there is no central party with legitimate power to take legal against the defaulting debt issuer.

3.2 Debt Issue with no Terms and Conditions

3.2.1 Bill of Exchange (B/E)

Each holder of defaulted B/E possesses legal right to ask payer, guarantor and avaller to repay outstanding B/E. A B/E holder by himself or along with other B/E holders may file a petition to the competent court. In case of bankruptcy, a B/E holder may file a petition to the bankruptcy court and could attend the meeting of creditors to obtain necessary resolutions in taking necessary legal actions against the defaulting debt issuer.

3.2.2 Debt Issue with no Terms and Conditions

Nature of right and exercise of such right by bondholders are similar to those of B/E holders. Exercise of necessary right by bondholders is independent of Terms and Conditions. A bondholder by himself or along with other bondholders may file a petition to the competent court and could attend the meeting of creditors to obtain necessary resolutions in taking necessary legal actions against the defaulting debt issuer.

4. Order of Debt Repayment

In case a company faces financial difficulty and needs to undergo a bankruptcy process, its assets will be disposed, with net proceeds to be distributed to its creditors. Holders of debts with guarantee / collateral will be first repaid. The next to be repaid is common creditors and holders of senior debts. The last creditor to be repaid is holders of subordinated debts. If there is still any proceeds left after all creditors are paid, preferred shareholders and common ones will be respectively paid.

Order of Debt Repayment when the Debt Issuer Goes Bankrupt

Net Proceeds from Asset Disposal Will Be Distributed according to the Following Orders

3.2.2 Case Studies concerning Provision of Investment Recommendations for Mutual Funds with High Risk and/or Complexity

Example 1 Conforming to Required Procedures in Provision of Investment Recommendations for Products with High Risk and/or Complexity

Mr. Somchai would like a client to invest in oil fund which is an investment product with high risk and/or complexity. That client never invests in any investment product with high risk and/or complexity. Mr. Somchai thus asks that client to conduct a suitability test. However, he does not pass the test, and thus cannot invest in product with high risk and/or complexity. Mr. Somchai thus takes the test in place of the client and let him to invest in oil fund. Later, fund's NAV

declines and the client suffers a loss. The client complains about this but Mr. Somchai argues that the client already acknowledges that investment in oil fund will expose investors to high investment risk, and its NAV may later decline. It deems that Mr. Somchai fails to professionally perform his duties with responsibility, due care and diligence. He fails to provide a fair treatment to his client with due care and diligence, taking into account the best interest of his client.

In this regard, Mr.Somchai shall not let his client to invest in oil fund which is a type of investment product with high risk and/or complexity. This is because his client still does not have full understanding regarding investment nature and risks of oil fund. This client should not invest in oil fund until Mr. Somchai provides a clear explanation about its characteristics and risks and after that he still insists to invest in it. In this regard, the client shall sign a form of risk acknowledgement prior to his investing.

Example 2 Providing of Inaccurate Information regarding Funds with High Risk and/or Complexity and Failure to Provide a Prospectus

Ms. Chittree recommends her client to invest in a debt fund with substantial portion of the fund being allocated to non-investment grade debts. She informs her client that this fund has no risk of principal loss as this is a debt fund. However, Ms. Chittree fails to conform to applicable professional standards as this fund actually does not provide capital protection and she fails to provide her client with the fund's prospectus.

In this regard, Ms. Chittree shall provide explanation to her client about investment nature, risks and return of this risky debt fund so that he can fully understand about its investment nature and decide whether to invest in it. As well, she should provide her client with a fund prospectus prior to his investing.

Example 3 Failure to Inform Client about the Fund's Risk

Ms. Fandee recommends her client to invest in an 8% trigger oil fund which is a kind of fund with high risk and/or complexity. This oil fund with an initial par value

of THB 10 will be dissolved when it can generate an 8% return. However, she fails to inform her client about the risk of principal loss and possibility that the client may not obtain the expected return. This makes the client misunderstand that he will earn an 8% return in the future.

In this regard, Ms. Fandee shall provide her client a clear explanation about its investment nature and potential investment risks. She should tell her client that he may lose his investment principal and does not obtain the expected return.

Example 4 Failure to Provide Client with Clear Explanation about Investment Nature and Risk of Funds with High Risk and/or Complexity

Ms. Powana recommends her high net worth client to invest in oil fund which is a type of fund with high risk and/or complexity. However, Ms. Powana fails to inform the client such oil fund is a foreign investment oil fund of which return mainly depending upon decision by the foreign fund manager to take positions in oil futures. This makes the client misunderstand that the fund return depends upon global oil price movement.

It deems that Ms. Powana fails to conform to relevant professional standards as she fails to provide her client with clear and accurate explanation about the oil fund's investment nature as well as its potential investment risks and return prior to his investing.

Example 5 Recommending Client to Invest in Debt Fund with a Policy to Invest in Non-Investment Grade Debt Securities and the Debt Issuer Later Defaults Its Payment

Ms. Wandee recommends her client to invest in a debt fund with a policy to invest in non-investment grade debt securities without providing her with clear explanation about the fund's default risk. This makes the client misunderstand that she will get back all investment principal along with investment return. Later the debt issuer defaults its debt repayment.

It deems that Ms. Wandee fails to conform to applicable professional standards as she fails to provide her client with a clear explanation about this fund's

investment characteristics and balanced view regarding its risk & return and potential investment constraints. When the debt issuer defaults its debt repayment, Ms. Wandee must provide a clear explanation to her client how the fund will be impacted and what actions the asset management company and the debt issuer will take to reduce adverse impact to fund investors as well as their legal rights and duties.

Conclusion

ICs must clearly understand relevant guidelines and procedures for provision of investment recommendations for investment products with high risk and/or complexity. This requirement applies to clients that wish to initially invest in such risky investment products as well as those who fail product suitability test. ICs shall also follow relevant procedures such as obtaining of trading orders, use of necessary presentation tools in explaining about nature and risk of this investment as well as sales & product offering channels. It is necessary for ICs to fully understand and strictly conform to relevant guidelines and procedures so that they could appropriately apply their knowledge and experience in accordance with relevant SEC regulatory requirements.