

Capital Protection Oriented Schemes - Strategies, Regulation & Rating

Introduction

The Securities & Exchange Board of India (SEBI), in August 2006, released the guidelines for capital protection oriented schemes, facilitating the launch of such schemes by mutual funds for the first time in India. A capital protection oriented scheme (CPS) protects investors from losing their capital in volatile markets while at the same time providing them an opportunity to participate in stock market. CPS is likely to appeal to risk-averse investors.

One of the SEBI regulations require that the structure of CPS should be rated by a SEBI registered credit rating agency. The rating should assess the degree of certainty with which the portfolio structure can achieve the objective of capital protection. As per the guidelines for capital protection oriented schemes external guarantee/undertaking/insurance for capital protection is not allowed. In this context, the rating of a CPS becomes an important and useful tool for investors before taking their investment decision. Also, continual review of the rating (at least on a quarterly basis as per SEBI) will benefit the investors who have already invested in a CPS.

In light of the above developments, CARE has developed the rating methodology for rating of the structure of capital protection oriented schemes. CARE's rating methodology for assessing the strength of the portfolio structure involves a comprehensive analysis of the investment strategy, prevailing market conditions and track record of the management. CARE then estimates the likelihood of a shortfall in the net asset value with respect to the face value of the units of the scheme on maturity. Higher rating is assigned to structures which have a lower likelihood of shortfall of NAV. CARE will obtain warranties from the asset management company defining certain minimum conditions under which the structure will operate to ensure that the rated structure retains its basic characteristics.

This paper presents some of the important portfolio strategies which are employed to achieve capital protection. We also look at the extant guidelines for mutual funds relating to capital protection oriented schemes in India. Finally, CARE's rating methodology for capital protection oriented schemes is presented.

Capital Protection

Financial strategies which try to limit the downside risk of investment and simultaneously attempt to profit from different market conditions are classified as portfolio protection or capital protection strategies. These strategies allow investors to recover, at maturity, at least their initial capital, irrespective of the equity market condition. Capital protection can stem either from the structure of the portfolio or from an explicit guarantee or both¹. The guarantee can be given by a third party or by the asset management company itself, in which case the credit quality of the guarantor becomes critical. Capital protection differs from a simple debt investment due to the upside potential that it offers which is not the case in a debt investment.

Portfolio protection is sometimes also called portfolio insurance although the latter name does not properly define the true nature of these strategies. Portfolio "insurance" would imply that the probability of losing the protected capital is minimal and depends on the credit quality of the insurer. This however is not the case with capital protection and there is always some probability of losing the protected capital which needs to be considered before undertaking such strategies. We will therefore use the "protection" terminology in this paper and not the "insurance" terminology.

¹Third party guarantees are not allowed for capital protection oriented schemes as per SEBI guidelines.

Capital Protection Funds

Capital protection funds developed internationally as a bear market phenomenon and appealed to investors who had suffered significant losses in the market. These funds are promoted under a wide variety of names like principal protected fund, principal protection note, capital preservation fund, guaranteed fund, etc. The principal guarantee is provided by a combination of investment strategies and a backup insurance wrapper which ensures that investors will get back their principal, minus fees, as long as they stay in for the guarantee period.

Basic characteristics

1. **Guaranteed/Protected principal.** Most principal-protected funds guarantee the initial investment minus any front-end sales charge even if the stock markets fall.
2. **Lock-up period.** The guarantee does not apply if the investor sells any units in the fund prior to the end of the “guarantee period”.
3. **Hold a mixture of bonds and stocks.** Most principal-protected funds invest a portion of the fund in zero-coupon bonds and other debt securities, and a portion in stocks and other equity investments.

Strategies

Principal protection can be implemented using a number of different strategies but all of them use some combination of low risk or risk free assets along with risky assets. In this section two of the important portfolio protection strategies are discussed – static portfolio protection and constant proportion portfolio insurance (CPPI). To keep the terminology consistent, we will refer to all the low risk investments as the *debt component* which can include investments in government securities and high quality corporate debt (which is similar to the classification by SEBI²). All the other investments shall be called *equity component* and may include apart from equity, investments in derivatives, index funds, mutual funds and other asset classes.

A. Static Portfolio Protection

This is the most basic capital protection strategy wherein the protection is provided only through the debt component. In this strategy an amount equal to the present value of the protected principal is invested in the debt component and the residual amount is invested in the equity component. At maturity of the scheme the debt component compounds to the protected principal and the equity component provides the returns. (Refer to Dig. 1)

Initial Allocation

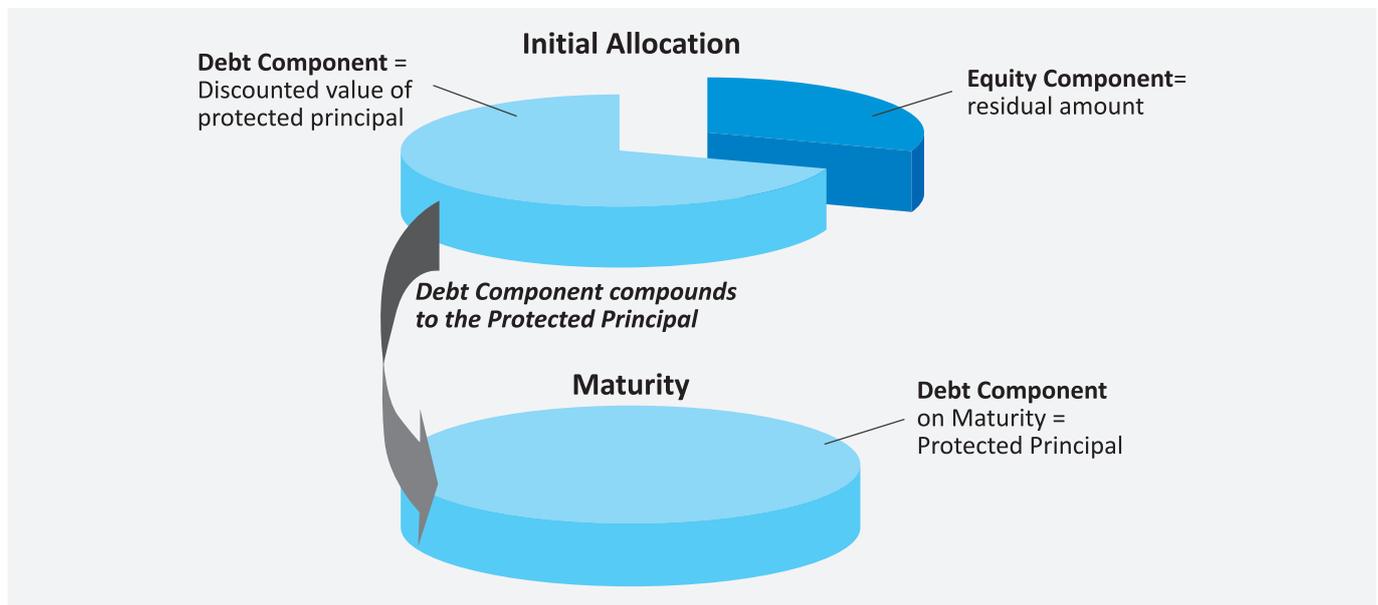
Initial allocation to the **Debt Component** is decided on the following major parameters:

1. Amount of protected capital: This is usually equal to the initial principle invested. In some cases it can be less than the initial investment due to sales charges, management fees and any other expenses if they are deductible from the protected amount.
2. Prevailing interest rates: If the prevailing interest rates are high at the time of initial allocation, a relatively smaller amount of investment in debt component is sufficient for achieving capital protection. On the other hand if interest rates are low at the time of initial allocation, a large part of the portfolio will be locked in the debt component.
3. Time to maturity for the scheme: This is inversely related to the proportion of investment in debt component. A scheme with a longer horizon can afford to invest a smaller amount in the debt component as the interest accruals will be more compared to a shorter horizon scheme.

²Refer to the section on SEBI guidelines

4. Credit quality of the securities: Credit quality of the debt component is also a critical input in determining the allocation to the debt component. A higher credit quality debt component implies more safety for the portfolio.

Equity component in the structure is used to satisfy the secondary objective of the fund, i.e. generating high returns. This component is usually equal to the residual amount after determining the debt component.



(Diagram 1: Static Portfolio Protection Strategy)

Re-allocation

Change in above parameters form the basis of any re-allocation of the existing portfolio. Although the structure is build with a certain amount of cushion against reinvestment risk and credit risk³, a substantial decrease in interest rates or a more than anticipated decrease in credit quality will require a higher proportion of investment in the debt component. Note that here “the proportion” of debt component is with respect to the protected amount and not the total value of assets.

B. Constant Proportion Portfolio Insurance (CPPI)

CPPI is a simplified dynamic portfolio protection strategy which was introduced by A. R. Perold in 1986 for fixed-income instruments and Fisher Black & Robert Jones in 1987 for equity instruments. The basic approach of this strategy is that when portfolio value is high, more assets are employed to earn returns; and when the portfolio value is low, more assets are employed to provide protection (i.e. invest in debt component). “Protection” comes from the condition that if portfolio value falls substantially, the portfolio will be rebalanced immediately and fully invested in the debt component which will then mature to the protected amount. CPPI provides a simple and highly flexible approach to portfolio protection.

Initial Allocation

CPPI strategy begins by setting a floor equal to the lowest acceptable value of the portfolio (which is simply the present value of protected capital). The portfolio value in excess of the floor is called the “cushion”. CPPI then allocates to the equity component an amount equal to the cushion multiplied by a predetermined gearing factor

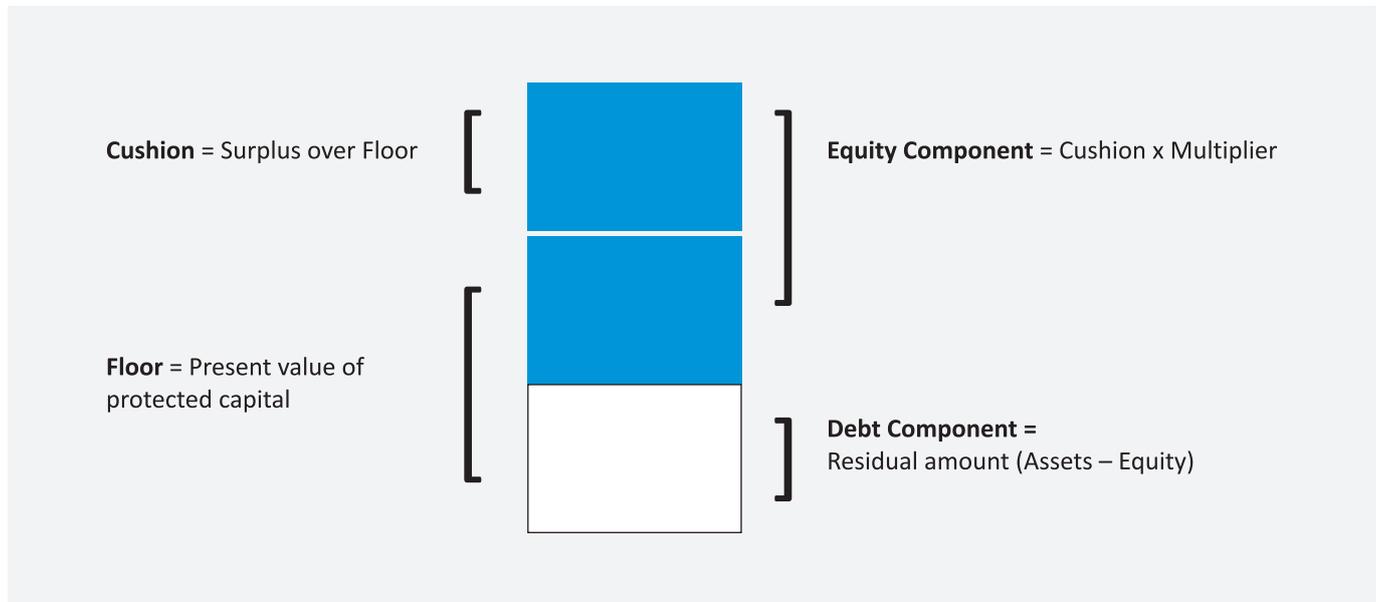
³Risk factors are discussed in the section on “CARE’s Rating Methodology for Capital Protection Schemes”.

called the multiplier (all these components are discussed below). The remaining funds are invested in the debt component. (Refer to Dig. 2).

$$\text{Equity Component} = m * (\text{Assets} - \text{Floor})$$

$$\text{Debt Component} = \text{Assets} - \text{Equity Component}$$

Where, m = fixed multiplier



(Diagram 2: CPPI Initial Allocation)

The major components of CPPI strategy are:

Floor: Floor is the value below which the portfolio value should never fall in order to be able to ensure the payment of the protected principal at maturity. Its value depends on the prevailing interest rates on the debt component, credit quality and liquidity of the investments. These determinants affect floor value in the following manner:

Floor Determinants

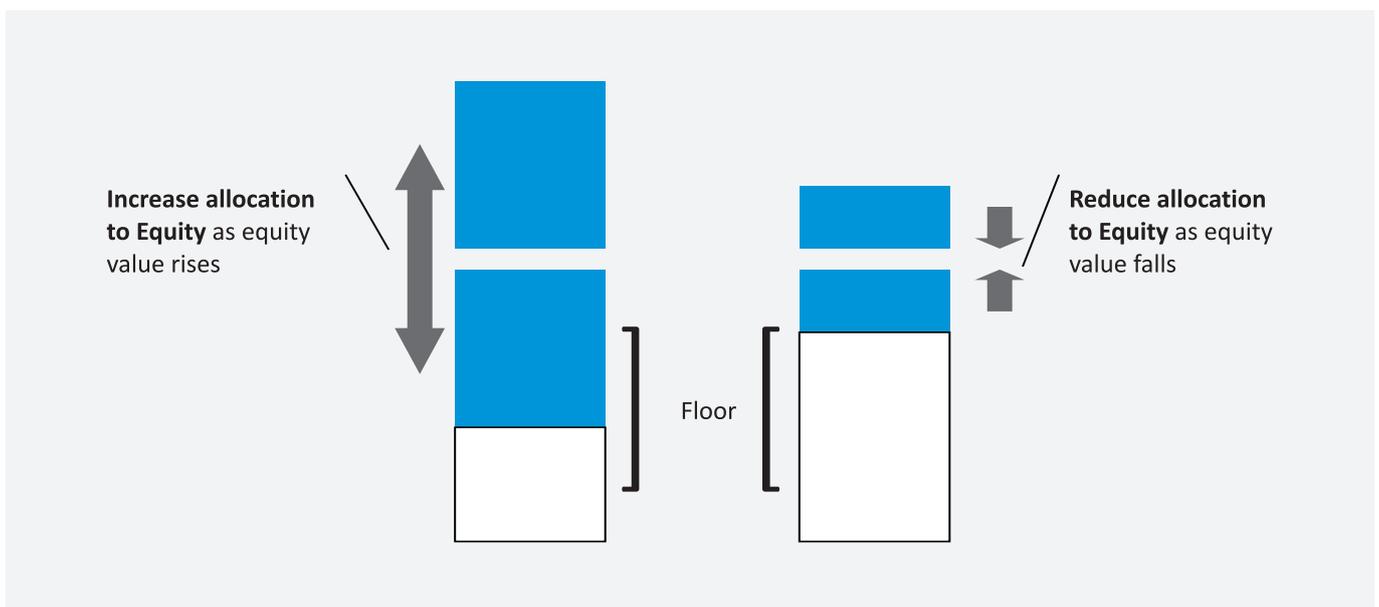
Determinant	How it affects the Floor
Interest Rates	Inverse. Higher interest rates require a lower floor value.
Credit Quality	Direct. Better credit quality implies a smaller floor value.
Term to Maturity	Inverse. Longer term to maturity means less investment in floor. This also implies that the floor value will keep increasing as the scheme approaches maturity.

Multiplier: Multiplier is the gearing factor by which the excess of portfolio value over the floor (i.e. the cushion) is multiplied to calculate the exposure in equity component. A high multiplier will lead to more participation of the fund in a rising market. It will also lead to a faster move to allocation of assets to the debt component in a falling market. Volatility of the equity component and market liquidity are the major determinants of the multiplier. These factors are given below:

Multiplier Determinants

Determinant	How it affects the Multiplier
Equity Volatility	Inverse. Higher volatility in the equity component means that portfolio value may fall drastically and affect the protection. Thus high volatility portfolios should have a lower multiplier.
Liquidity	Direct. If the equity and debt market liquidity is low, it will be difficult for the portfolio to reallocate assets from equity to debt component and avoid the gap event ⁴ . Hence lower multiplier is recommended if market liquidity is low.

Trading rules (Rebalancing Frequency): The CPPI being a dynamic trading strategy needs to assess the value of total assets with respect to the protected principal at certain trigger points. These trigger points can be time based or move based (or a combination of both). Time based triggers assess the strategy after certain predetermined intervals (annual, quarterly, monthly, fortnightly etc). These time intervals are determined after giving due weightage to the opposing demands of controlling transactions costs (preferring longer intervals) and volatility & liquidity of the equity component (preferring shorter intervals). Move based triggers evaluate the portfolio position if the portfolio value has changed by a certain percentage. In either case if the portfolio composition has diverged from the multiplier rules, assets are reallocated between debt and equity components to ensure that the structure does not violate portfolio protection at maturity.

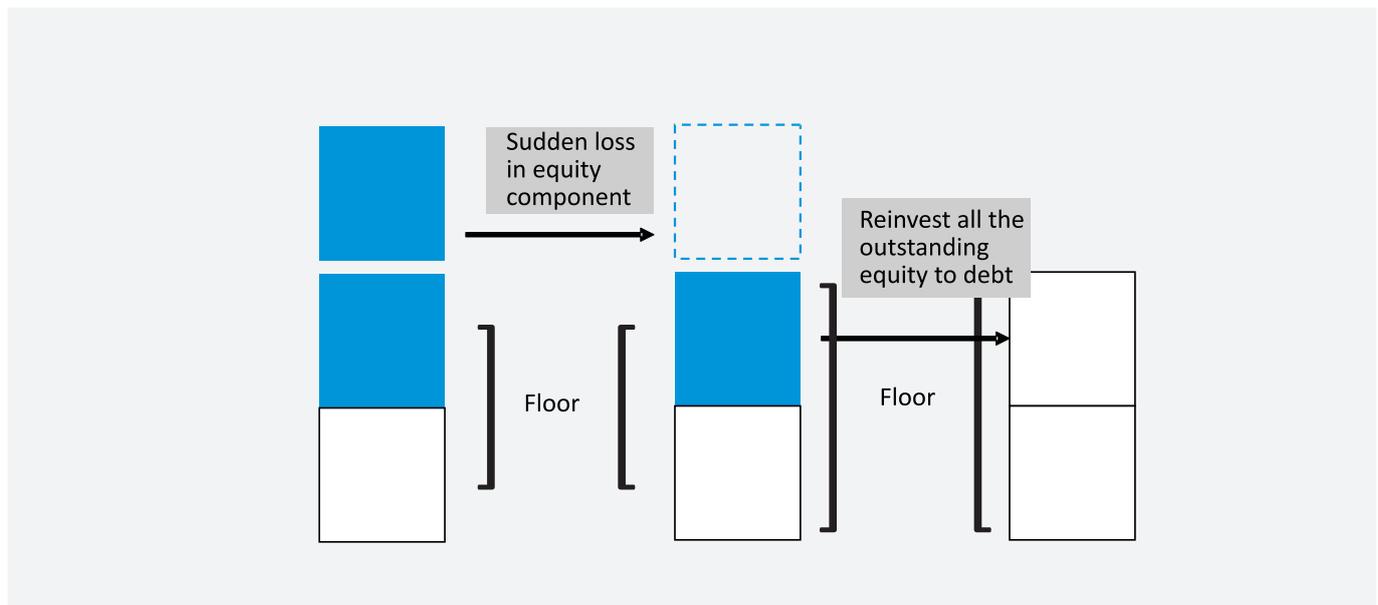


(Diagram 3: CPPI Dynamic Allocation)

Gap Event

Gap event is a situation when the portfolio value (especially the equity component) falls substantially over a short period of time (which is less than the rebalancing period) and falls below the floor, hence violating the portfolio protection. A good CPPI strategy tries to ensure that a gap event is avoided (by using an optimal multiplier) and even in the worst case scenario all assets are comfortably transferred to the debt component in time. (Refer to Dig. 4: near-gap event)

⁴Gap event is discussed below.



(Diagram 4: Near-Gap Event)

CPPI Variants

The CPPI strategy outlined above may be implemented with some modifications depending on the varying market conditions and the different financial instruments available.

- **Use of Leverage:** A CPPI portfolio may even employ leverage if value of the equity component is sufficiently high or its volatility low⁵. This can further increase the returns from the strategy.
- **Use of Futures:** Due to the dynamic nature of CPPI strategy, rebalancing the portfolio at regular intervals increases the transaction costs. The equity component of a CPPI portfolio may be replicated by using futures on the underlying securities which can reduce the transaction cost. Presence of a highly liquid futures market and high correlation of futures with the underlying are pre-conditions for implementing this strategy.
- **Variable Multiplier:** Value of the multiplier, which is determined at the inception of the strategy, depends on factors such as market volatility and liquidity. Therefore a static multiplier assumes that underlying factors will remain constant. Since actual market variables are likely to change over time, this variant of CPPI allows for a change in the multiplier after certain time intervals. For example, it may be linked inversely with market volatility and recalculated every six months. This new multiplier can then be used for the next six months trading rules.
- Setting a **minimum limit of the debt component** which needs to be maintained at all times is a conservative CPPI strategy.

CPPI & Static Portfolio Protection

CPPI & Static portfolio protection strategy have certain common features and in extreme scenarios, the two strategies show similar results. Specifically a static portfolio protection strategy is a special case of CPPI with a multiplier of 1. Also, the CPPI portfolio becomes a static protection portfolio on the occurrence of a near gap event with majority of assets invested in the debt component.

⁵Existing SEBI guidelines though do not permit borrowings except to meet temporary liquidity needs of the mutual funds for the purpose of repurchase, redemption of units or payment of interest or dividend to the unit holders.

SEBI Regulations on Capital Protection Oriented Schemes in India

The Securities and Exchange Board of India (SEBI) issued regulations on Capital Protection Oriented Schemes on August 3, 2006 and issued a notification with further clarifications on August 14, 2006. Key provisions of the regulations are presented below:

1. Mutual funds can not offer a guarantee for capital protection but can only make an endeavor to protect the capital. The regulations require that in all the documents & advertisements, the mutual fund should disclose that the scheme is “oriented towards protection of capital” and “not with guaranteed returns”.
2. No third party protection – The orientation towards capital protection should originate from the portfolio structure alone. The regulations do not allow for third party guarantees like a bank guarantee or an insurance cover for capital protection oriented schemes.
3. Close-ended and No Re-purchase - All capital protection oriented schemes should be close-ended and the asset management company is not allowed to repurchase any units of the scheme before maturity. This implies that there is no exit route available to the investors unless the scheme is listed on an exchange.
4. Debt component of the portfolio structure should be of the highest investment grade rating.
5. Rating – SEBI regulations state that “the proposed portfolio structure indicated in the offer document and key information memorandum must be rated by a SEBI registered credit rating agency from the view point of assessing the degree of certainty for achieving the objective of capital protection.”
6. Rating should be reviewed on a quarterly basis.

Rating Methodology

CARE's capital protection oriented scheme (CPS) ratings assess the degree of certainty with which the portfolio structure is sufficient to achieve the objective of capital protection on maturity of the scheme. Capital protection here means that the NAV should be at equal to or greater than the face value of the scheme on maturity. A CPS rating is the rating of a structured obligation and is conditional on the fulfillment and maintenance of certain minimum criteria by the asset management company.

Methodology

CARE's methodology for assessing the strength of the portfolio structure, in terms of how well it provides capital protection, involves a comprehensive analysis of the investment strategy adopted by the asset management company (AMC), the prevailing market conditions (with respect to the various instruments that the scheme invests in) and the AMC's track record & past performance. Given these parameters, CARE assesses the structure of the portfolio under various market scenarios and stressed conditions. CARE then estimates the likelihood of a shortfall in the net asset value with respect to the face value of the units of the scheme on maturity. Higher rating is assigned to structures which have a lower likelihood of shortfall of NAV.

Investment Strategy

An asset management company can implement portfolio protection using many different strategies including static portfolio protection and CPPI among others. Each strategy exhibits a different risk-return profile depending on the trading rules and the instruments in which it invests.

This paper explains CARE methodology for assessing risks in CPS which adopt static portfolio protection strategy as other structures are not yet popular in India.

Risk Factors

Various risk factors that CARE considers are:

- **Credit Risk:** Credit risk of the debt component comprises the risk of default and the risk of downgrade of the debt securities. Hence estimated default rates and rating transition are both important inputs in determining the credit quality of the debt component. SEBI regulations allow CPS to invest only in highest investment grade rated debt instruments. CARE uses the portfolio approach to evaluate the level of credit risk. In CARE's credit scoring matrix, a credit score is assigned to each rating category. The score is essentially a function of the credit quality/rating of the security and its residual maturity. CARE's credit scores are arrived at using historical data on defaults adjusted for data limitations. Credit score is lower for higher rating categories and vice versa. The credit score of a rating category is weighted by the proportion of exposure to that rating category. The aggregate of such scores (i.e. the fund credit score) reflects the credit quality rating of the fund.

If the investment strategy stipulates a minimum credit quality for the debt component, rating downgrade of individual securities might lower the credit quality of the portfolio. The AMC then has to rebalance the portfolio, which may aggravate the element of market risk.

- **Reinvestment Risk:** Reinvestment risk refers to the risk that interim cash flows (coupons) received from the debt component may get reinvested at lower than the original yield. CARE analyzes the reinvestment risk after stressing

the prevailing yield curve under various scenarios. The expected impact of reinvestment risk needs to be adequately covered by a larger allocation to debt component.

- **Float risk** considers the opportunity costs, if funds are not deployed in a timely manner. Delayed deployment of funds may lead to investments being done at lower interest rates than originally planned. In such a case higher proportion of funds may need to be deployed in debt component to achieve capital protection.
- **Others:** Any other risk including portfolio concentration across sectors and issuers are considered by CARE in its analysis.

Management Quality

CARE assesses the management of the AMC, in terms of their professional skills and track record in fund management. CARE also considers the financial strength of the AMC, its ownership structure, organizational structure, board of trustees, reputation and general business practices.

CARE examines MIS (management information systems) and risk management systems in various operational areas. Systems for regular monitoring of the portfolio as well as transactions with custodian and registrars are examined. The accounting systems, disclosure levels and the regulatory compliance record of the AMC as well as systems to ensure such compliance are also studied. The quality of trading and back office systems and control systems for segregation of trading and back office operations are also examined.

Structured Obligation

CARE's CPS ratings are based upon fulfillment of certain minimum conditions by the AMC under which the scheme will operate. The AMC needs to ensure that these minimum conditions are met at all times during the life of the scheme, as a violation of any of these conditions may adversely affect the structure of the scheme and the rating. Suitable warranties from the AMC are taken while awarding the rating.

Rating Process

The CPS rating is mandate driven. Once the mandate is received by CARE, request for information is sent to the client. Based on the structure of the scheme, warranties furnished by the AMC, analysis of information and inputs received after meeting with the fund managers, the rating team would prepare a note for consideration of the Rating Committee. The rating as decided by the committee will be communicated to the client along with the rationale for the same. The rating accepted by the clients will be published.

Surveillance Process

SEBI has stipulated a quarterly review of the rating of a CPS. CARE adheres to the SEBI guidelines, although the review may be undertaken at more frequent intervals when requires on case to case basis.

What CPS Ratings are not?

CARE's capital protection oriented scheme ratings are not recommendations to purchase, sell or hold a security. These ratings do not comment on the volatility of net asset value (NAV) of the scheme or the level of NAV compared to the face value during the tenure of the scheme any time before maturity. The ratings are valid only for the maturity of the scheme.

Rating Symbols and Definitions for Long Term Debt Mutual Fund Schemes

Symbols	Rating Definition
CARE AAAmfs	Schemes with this rating are considered to have the highest degree of safety regarding timely receipt of payments from the investments that they have made.
CARE AAmfs	Schemes with this rating are considered to have the high degree of safety regarding timely receipt of payments from the investments that they have made.
CARE Amfs	Schemes with this rating are considered to have the adequate degree of safety regarding timely receipt of payments from the investments that they have made.
CARE BBBmfs	Schemes with this rating are considered to have the moderate degree of safety regarding timely receipt of payments from the investments that they have made.
CARE BBmfs	Schemes with this rating are considered to have moderate risk of default regarding timely receipt of payments from the investments that they have made.
CARE Bmfs	Schemes with this rating are considered to have high risk of default regarding timely receipt of payments from the investments that they have made.
CARE Cmfs	Schemes with this rating are considered to have very high risk of default regarding timely receipt of payments from the investments that they have made.

Modifiers {“+” (plus) / “-”(minus)} can be used with the rating symbols for the categories CARE AAmfs to CARE Cmfs. The modifiers reflect the comparative standing within the category.

The suffix ‘(SO)’ will be attached to the above symbols for rating of structured mutual fund schemes including capital protection oriented schemes.