Mandatory Provident Fund Schemes Authority
強制性公積金計劃管理局

A Five-year Investment Performance Review of the MPF System (1 April 2001 - 31 March 2006)

SUMMARY REPORT

強積金制度五年投資表現回顧 (2001 年 4 月 1 日至 2006 年 3 月 31 日)

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A Five-year Investment Performance Review of

the MPF System

(1 April 2001 – 31 March 2006)

SUMMARY REPORT

This summary report is derived from the full report entitled "A Five-year Investment Performance Review of the MPF System (1 April 2001 – 31 March 2006)". The full report contains details of the methodology adopted in the review exercise, including categorization of different types of MPF funds, calculation of return and risk measurement. Copies of the full report may be obtained from the Authority's website at http://www.mpfahk.org or by calling the Authority's hotline at 2918 0102.

Acknowledgement

The methodology adopted in the preparation of this report has been endorsed by Prof. Kalok Chan, Chair Professor and Head of Department of Finance, The Hong Kong University of Science and Technology. The Mandatory Provident Fund Schemes Authority would like to thank Prof. Kalok Chan for his advice and assistance in development of the report.

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HIGHLIGHTS

1. The Mandatory Provident Fund Schemes Authority has conducted a review of the investment performance of the MPF System and MPF funds for the five-year period from 1 April 2001 to 31 March 2006.

2. As a whole, the MPF System recorded an annualized return (dollar-weighted) of 6.99% over the five-year period after fees and charges.

3. Despite the ups and downs of the global economy and financial markets, the MPF System had added considerable value to members' contributions in the five-year period. Members should therefore take a longer-term view when looking at their MPF investments.

4. In terms of fund types, mixed assets funds produced the highest annualized return (time-weighted) of 6.90%, followed by equity funds (6.61%), bond funds (3.06%), guaranteed funds (1.26%), capital preservation funds (0.86%) and money market funds (0.60%) over the five-year period.

5. MPF funds had generally exhibited the expected relationship between risk and return, namely, the higher the risk, the higher the expected return in the long run. Members should note that they could be giving up potentially significant long-term gains by investing in low-risk MPF funds.

6. The tradeoff between return and risk of MPF funds shows the need for members to look at their own circumstances when making fund choices, such as individual's risk tolerance level, the extent of personal savings, family circumstances, years to retirement, health, and standard of living expectations in retirement.

7. A diversified MPF portfolio may reduce investment risk. Diversification may also explain why mixed assets funds had outperformed equity funds over the review period, notwithstanding that mixed assets funds had measurably lower risk than equity funds.

8. It is important for members to monitor the performance of their MPF investments, keep track of the changing environment and adjust strategies in line with these developments if necessary.

9. It should be noted that, based on a five-year review, it is not possible to draw any firm conclusions about the level of returns that can be expected in the long term.

CHAPTER 1 INTRODUCTION

Objectives

1. The Mandatory Provident Fund Schemes Authority ("Authority") has conducted a review of the investment performance of the Mandatory Provident Fund ("MPF") System for the five-year period from 1 April 2001 to 31 March 2006 (the "review"). The objectives of the review are to provide scheme members ("members") and other stakeholders with a better understanding of the investment performance of the MPF System and bring to their attention the implications of the review findings which might assist them in managing their MPF affairs.

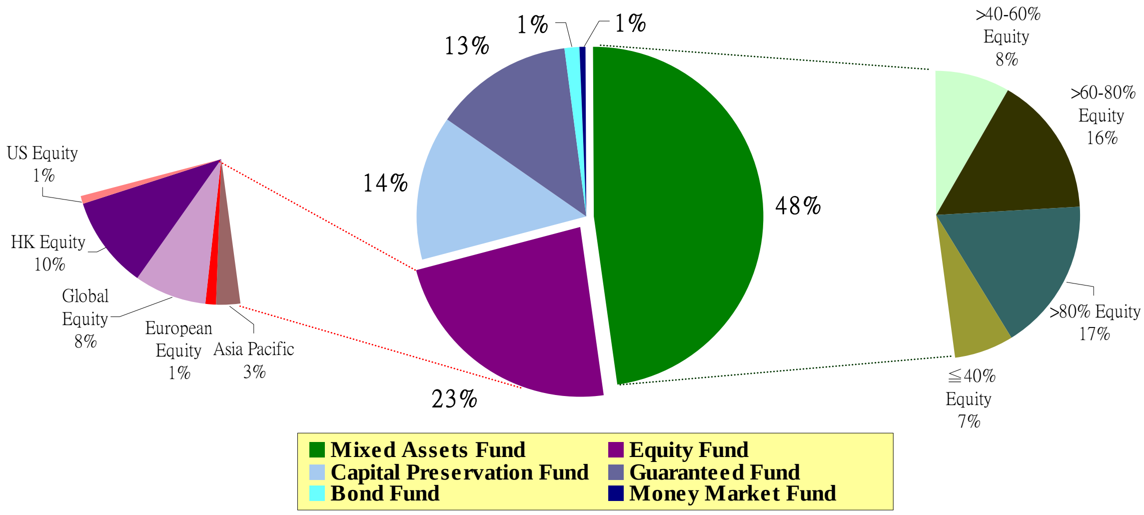
Scope

2. The review generally examines the investment returns ("returns" or "performance") of the MPF System and of the different types of MPF constituent funds ("MPF funds") over a five-year period, from 1 April 2001 to 31 March 2006 ("five-year period" or "review period").

3. Every MPF fund that had operated in the MPF System at any point in time during the five-year period was included in the analysis. A total of 367 MPF funds were examined, of which 334 were existing funds as of 31 March 2006 ("existing MPF funds") and 33 were terminated before 31 March 2006.

4. Chart 1 sets out the percentage share of aggregate net asset values of MPF funds by fund type as of 31 March 2006.

Chart 1 Percentage Share of Aggregate Net Asset Values of MPF Funds by Fund Type as of 31 March 2006



Source: MPFA

Methodology

5. Broadly speaking, the following methodology was employed in conducting the review:

(a) Categorization of MPF Funds

(i) MPF funds were classified into six types, namely, equity funds, mixed assets funds, bond funds, guaranteed funds, capital preservation funds and money market funds. For further analysis, equity funds and mixed assets funds were classified into five and four sub-types respectively.

(b) Calculation of Returns

(i) Return of the MPF System

The return of the MPF System was calculated by way of the internal rate of return ("IRR"), a method commonly known as dollar-weighted return. The IRR method takes into account the amount and timing of contributions into and benefit withdrawals from the MPF System.

(ii) Return of Different Types of MPF Funds

In view of the absence of available data on contributions into and benefit withdrawals from MPF funds, returns of different types of MPF funds could not be calculated by the IRR method. Instead, they were calculated by way of time-weighted method, which takes into account the unit price and asset size of each MPF fund at different points in time.

(c) Risk Measurements

(i) Standard deviation of monthly returns ("standard deviation") (i.e. a measure of fluctuation of monthly returns over time) and range of monthly returns ("range") (i.e. the difference between the highest and lowest monthly return figures) were used as the measurements of risk of different types of MPF funds.

CHAPTER 2 FINDINGS

Performance of the MPF System as a Whole

1. From the inception of the MPF System to 31 March 2006, a total net amount of HK$136.44 billion was contributed to the MPF System[1]. As of 31 March 2006, those total net contributions had grown to HK$164.61 billion of accrued benefits[2]. This means that the MPF System as a whole added HK$28.17 billion to the net contributions made by members.

2. As a whole, the MPF System recorded an annualized return of 6.99% over the five-year period after fees and charges[3] (Table 1). The yearly performance of the MPF System fluctuated considerably during the review period, ranging from a negative return of -11.21% to a positive gain of 20.08%.

Table 1 Annualized Return of MPF System for the Five-year Period

Period	Annualized Return
2001 (1.4.2001 – 31.3.2002)	-2.49%
2002 (1.4.2002 – 31.3.2003)	-11.21%
2003 (1.4.2003 – 31.3.2004)	20.08%
2004 (1.4.2004 – 31.3.2005)	4.56%
2005 (1.4.2005 – 31.3.2006)	11.70%
1.4.2001 – 31.3.2006	6.99% (annualized return for the 5 years)

Source: MPFA

3. As MPF funds are invested in financial markets, the performance of the MPF System reflected economic and market fluctuations in Hong Kong and overseas. On the back of the sluggish world-wide economic conditions and the bearish stock markets in the initial two years (from 1 April 2001 to 31 March 2003), the MPF System recorded returns of -2.49% and -11.21% respectively.

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[1] The amount included mandatory and voluntary contributions of employers, self-employed persons and employees as well as money transferred from occupational retirement schemes, net of withdrawals from the MPF System during the five-year period.

[2] "Accrued benefits" means the amount of scheme members' beneficial interests in the registered schemes, including contributions together with the income or profits arising from any investments thereof but taking into account any losses in respect thereof.

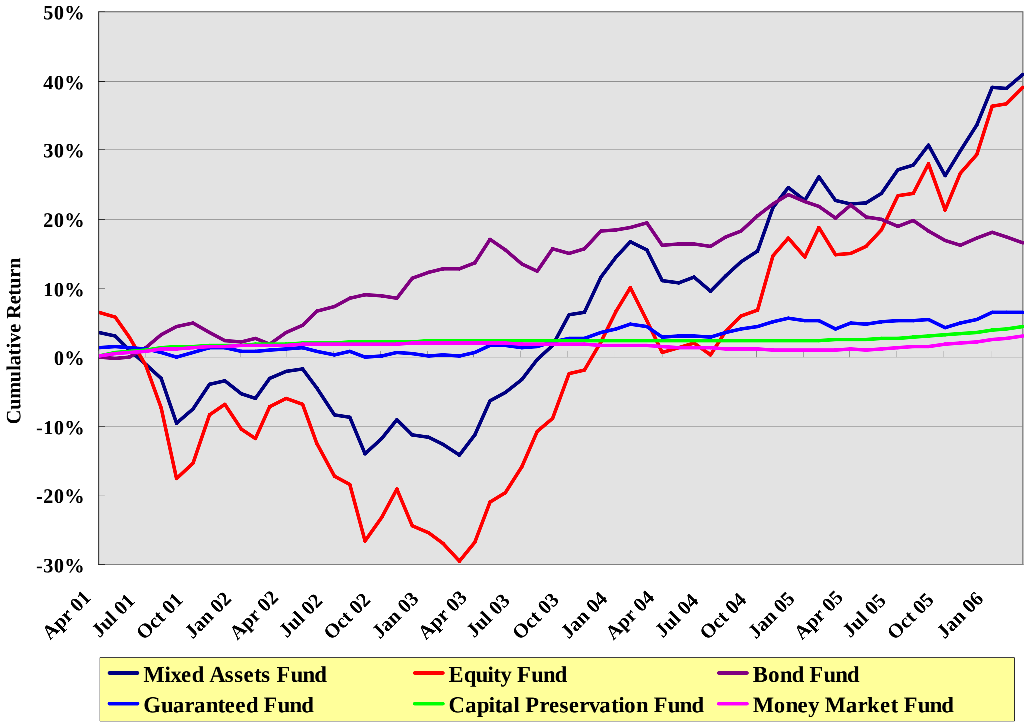
[3] All system-wide returns presented in this report are annualized dollar-weighted returns and net of fees and charges.

4. With a subsequent economic recovery and a significant upsurge in stock markets, the MPF System had a remarkable year in 2003, registering a return of 20.08% for the year. The return of the MPF System reduced to 4.56% in 2004, but increased again to 11.70% in 2005.

Performance of Different Types of MPF Funds

5. All six types of MPF funds (namely, mixed assets funds, equity funds, bond funds, guaranteed funds, capital preservation funds and money market funds) had added value to MPF contributions over the five-year period[4], ranging from a low of 3.02% cumulative return[5] for money market funds to a high of 41.04% cumulative return for mixed assets funds[6] (Charts 2 and 3).

Chart 2 **Cumulative Return of MPF Funds for the Five-year Period by Fund Type and Period**



Source: MPFA

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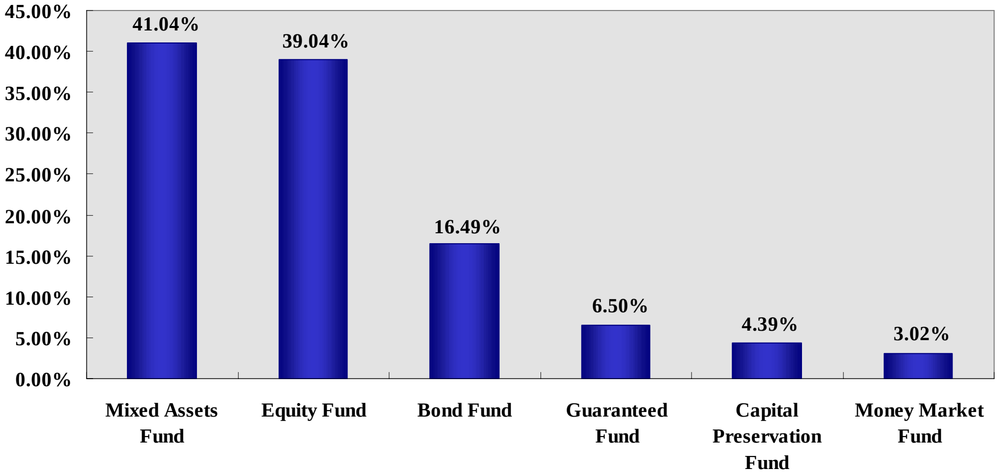
[4] In view of the absence of available data on contributions into and benefit withdrawals from MPF funds, the returns of different types of MPF funds were calculated by way of time-weighted method. This method takes into account the unit price and asset size of each MPF fund. If this method were used for calculating the annualized return of all MPF funds, the rate of return would be 5.00%.

[5] Cumulative return refers to the total return of a specific fund type for the entire five-year period.

[6] All return figures for fund types presented in this report are time-weighted returns and net of fees and charges.

6. As a group, mixed assets funds and equity funds produced much higher returns than capital preservation funds and money market funds over the five-year period. The former two types of MPF funds produced around 40% cumulative return for the five-year period compared with less than 5% cumulative return for the latter two types of MPF funds. In the middle were bond funds and guaranteed funds, which registered cumulative returns of 16.49% and 6.50% respectively (Charts 2 and 3).

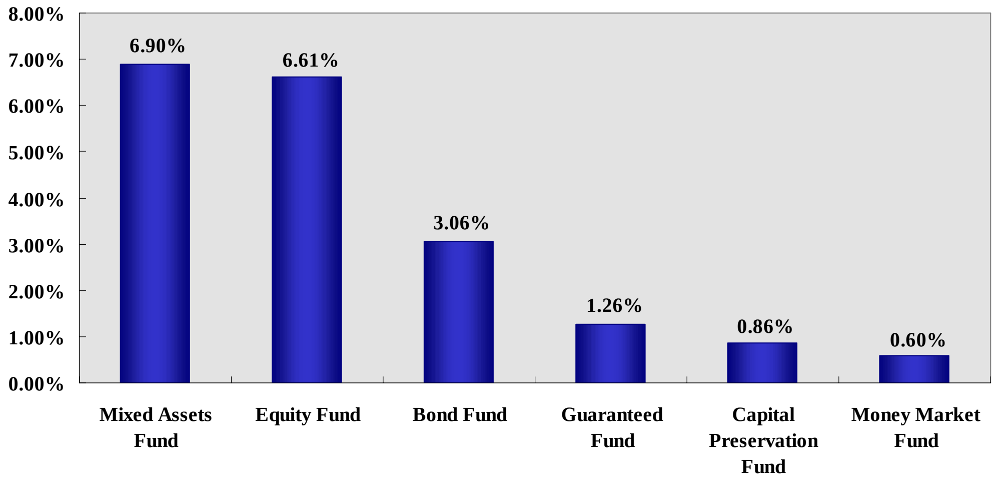
Chart 3 Cumulative Return of MPF Funds for the Five-year Period by Fund Type



Source: MPFA

7. Chart 4 shows the annualized return[7] for all types of MPF funds over the five-year period.

Chart 4 Annualized Return of MPF Funds for the Five-year Period by Fund Type



Source: MPFA

[7] Annualized return represents the average return of a specific fund type generated each year over the five-year period.

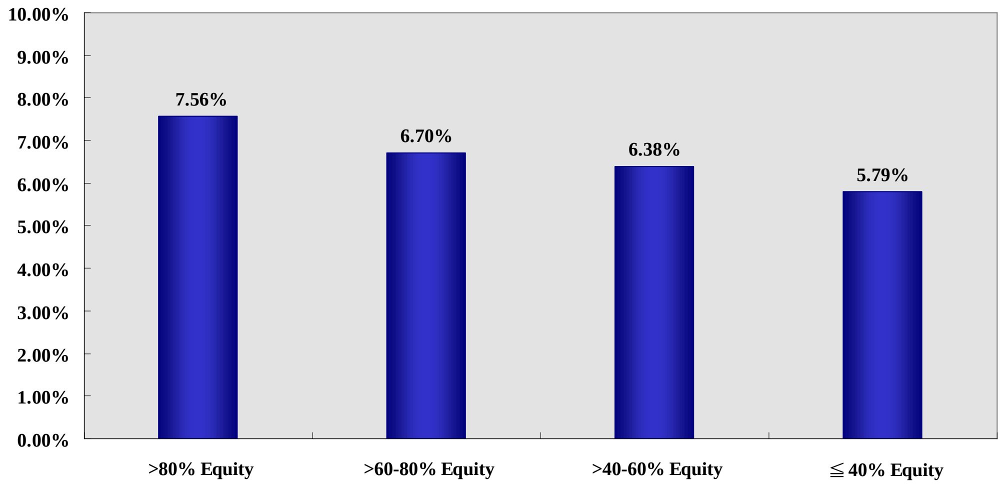
8. Further analysis was conducted in respect of mixed assets funds and equity funds to determine if performances varied with the percentage of equity content in the case of mixed assets funds and with geographical allocation of assets in the case of equity funds.

Mixed Assets Funds

9. With an annualized return of 6.90%, mixed assets funds were the best performer among the six types of MPF funds, slightly outperforming equity funds (6.61% annualized return) over the five-year period (Chart 4).

10. Within mixed assets funds, however, the fund performance varied to a certain extent depending on the percentage of equity content. Generally, the higher the equity content, the higher was the return. The annualized return was 5.79% for mixed assets funds with 0-40% equity content and 7.56% for mixed assets funds with more than 80% equity content (Chart 5).

Chart 5 **Annualized Return of Mixed Assets Funds for the Five-year Period by Percentage of Equity Content**



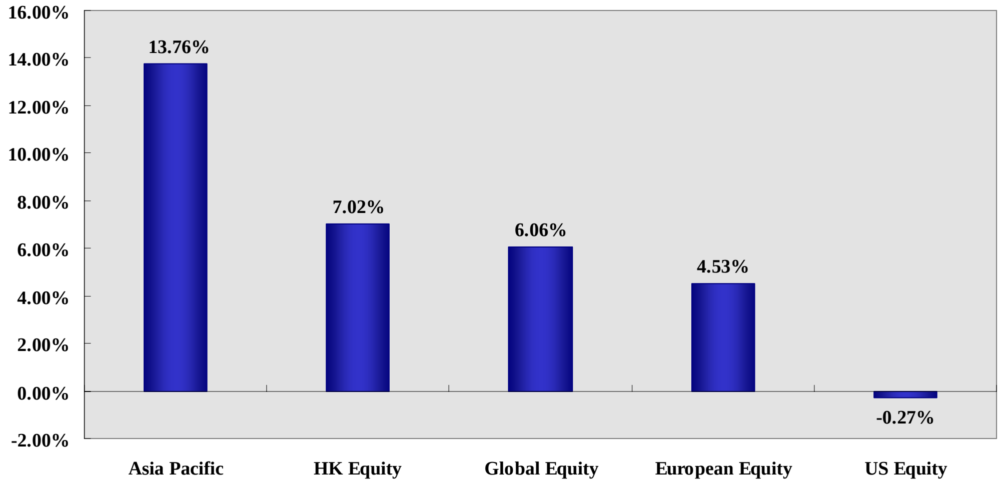
Source: MPFA

Equity Funds

11. Although equity funds did not perform as well as mixed assets funds (their annualized return (6.61%) was slightly behind that of mixed assets funds (6.90%)), they still outperformed other types of MPF funds by a wide margin (Chart 4).

12. Among equity funds, the performance varied considerably depending on the geographical allocation of assets. Of all equity funds, the best performer was Asia Pacific equity funds, producing 13.76% annualized return; HK equity funds were next (7.02%), followed by Global equity funds (6.06%) and European equity funds (4.53%). US equity funds trailed far behind other equity funds, with an annualized return of -0.27%. US equity funds were the only sub-type of MPF funds with an overall negative return over the five-year period (Chart 6).

Chart 6 **Annualized Return of Equity Funds for the Five-year Period by Region/Country**



Note: Asia Pacific equity funds included funds investing in the Asia Pacific region except those investing solely in Hong Kong equities.

Source: MPFA

Relationship between Risk and Return

Risk Measurements

13. Return figures need to be considered in conjunction with the level of risk taken in achieving those returns. Risk can be understood and expressed in a number of different ways. One way of expressing risk that has been adopted in the review is in terms of volatility, as measured by standard deviation of monthly returns. Generally speaking, the higher the standard deviation, the higher the volatility, which can be considered as a higher level of risk.

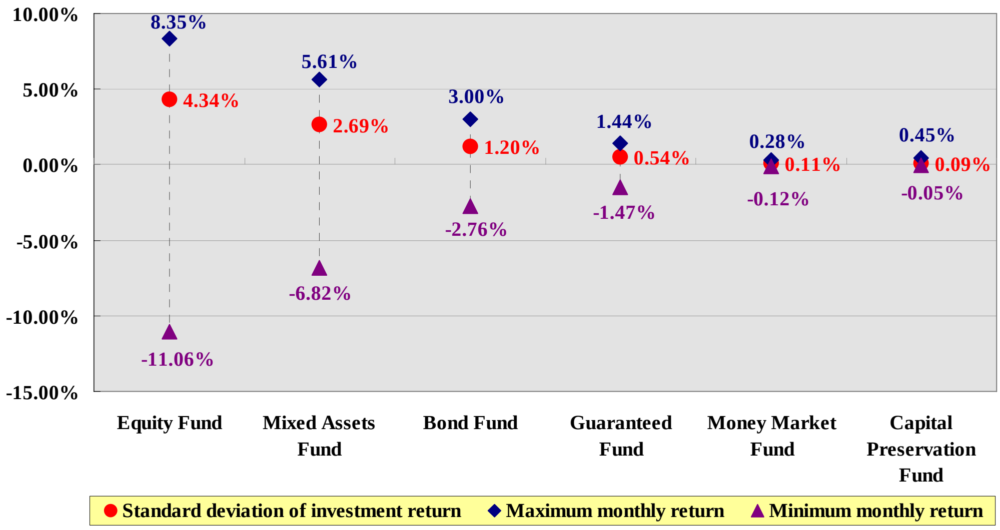
14. Applied in the current context, standard deviation measures the variation of the monthly returns of a specific type of MPF funds from the weighted average return of all MPF funds within that specific fund type over the five-year period.

15. An alternative way of expressing risk that has been considered in the review is by measuring the range of monthly returns generated over a period of time. Applied in the current context, a fund type with wider range, that is, with returns rising and falling substantially over a certain period, denotes a higher level of risk. On the other hand, a fund type with narrower range denotes a lower level of risk.

Risk Levels of Different Fund Types

16. Looking at the risk level from the perspective of standard deviation, among the six types of MPF funds, equity funds had the highest level of risk, followed by mixed assets funds, bond funds, guaranteed funds, money market funds and capital preservation funds (Chart 7).

Chart 7 Standard Deviation, Minimum and Maximum Monthly Returns of MPF Funds for the Five-year Period by Fund Type

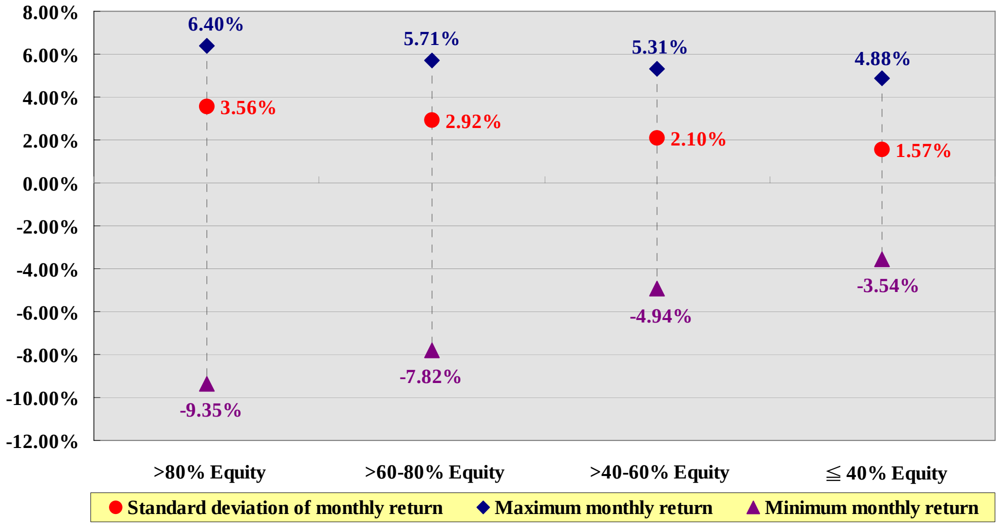


Source: MPFA

17. Looking at the risk level from the perspective of range, the results were similar to those based on the analysis of standard deviation. Again, equity funds had the highest level of risk with a range as wide as 19.41% (monthly returns ranging from -11.06% to 8.35%) within the five-year period, while money market funds had a range as narrow as 0.40% (monthly returns ranging from -0.12% to 0.28%).

18. Mixed assets funds with higher equity content tended to have greater risk (3.56% standard deviation for mixed assets funds with over 80% equity content) compared to those with lesser equity content (1.57% standard deviation for mixed assets funds with equal to or less than 40% equity content) (Chart 8).

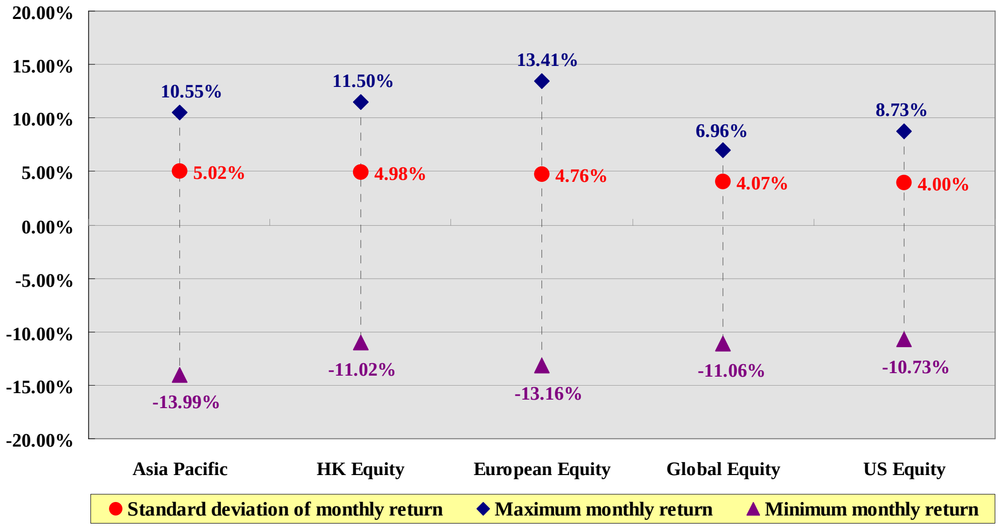
Chart 8 **Standard Deviation, Maximum and Minimum Monthly Returns of Mixed Assets Funds by Percentage of Equity Content**



Source: MPFA

19. To a large extent, equity funds with heavy regional equity content tended to have slightly higher risk (5.02%, 4.98% and 4.76% for Asia Pacific, Hong Kong and European Equity funds respectively) than equity funds with a global equity content (about 4% standard deviation) (Chart 9).

Chart 9 **Standard Deviation, Maximum and Minimum Monthly Returns of Equity Funds by Region/Country**



Source: MPFA

CHAPTER 3 IMPLICATIONS

MPF System Had Generated Promising Overall Results

1. The review suggests that, overall, the MPF System had added considerable value to members' contributions. Despite the ups and downs of the global economy and financial markets, the MPF System was able to boost the accrued benefits of its members by an annualized return of 6.99% over the five-year period.

2. The overall returns for the MPF System do not however mean that MPF accounts of all members would be showing positive returns. Returns on individual accounts would depend on a range of factors, including amount and timing of contributions, fund choice and switching decisions.

MPF Returns Should be Considered over the Long Term

3. The results of the analysis suggest that members should take a longer-term view when looking at their MPF investments and should not be overly concerned with short-term return fluctuations. Although the MPF System recorded negative returns for the initial two years, the subsequent gains more than made up the initial losses. Over the longer term, the MPF System as a whole should, barring unforeseen economic or market events, be able to add values to members' contributions.

4. An annualized return of 6.99% should be regarded positively and would exceed the longer-term expectation of many at the time of the implementation of the MPF System. It is however not possible, based on a five-year review, to draw any firm conclusions about the level of returns that can be expected in the long term.

All Fund Types Showed Positive Returns

5. It is noteworthy that all six fund types achieved positive returns over the review period. The only sub-type of MPF funds that did not achieve positive return was US equity funds.

Strong Relationship Between Risk and Return

6. The review suggests that MPF funds have generally exhibited the expected relationship between risk and return; namely, the higher the risk, the higher the expected return in the long run.

7. Equity funds and mixed assets funds produced higher returns than other fund types but were also considered in the review much riskier than other fund types when measured on the basis of standard deviation or range of returns. Compared to equity funds, mixed assets funds had shown better returns for lower risk over the review period.

8. By contrast, those MPF funds that have exhibited lower levels of volatility (such as bond funds, guaranteed funds, capital preservation funds and money market funds) have produced lower returns over the five-year period. While the lower-volatility funds may have given some comfort to members, members should be aware that they are giving up potentially significant long-term gains by investing in them. By way of example, the return difference between mixed assets funds (41.04%) and capital preservation funds (4.39%) over the review period was a cumulative 36.65% (Chart 3). Expressed in another way, mixed assets funds returned, on average, over nine times as much as capital preservation funds over the review period.

Diversification Tends to Lower Risk

9. Risk may be reduced by means of a diversified portfolio. MPF funds are required under the MPF legislation to diversify their investment across issuers; however, the review suggests that diversification across regions or asset classes can also lower investment risk. For instance, members who have only one regional or country equity fund in their portfolios may wish to consider diversification of their portfolios by adding other regional/country equity funds or MPF funds investing in other asset types to balance the overall risk exposure where it is possible to do so. Diversification may explain why mixed assets funds had outperformed equity funds over the review period, notwithstanding that mixed assets funds had measurably lower risk than equity funds.

Optimal Investment Strategies Depend on Individual Circumstances

10. In choosing MPF funds within schemes, members should choose those appropriate for their individual circumstances. Those circumstances would vary from person to person but would include the individual’s risk tolerance level, the extent of personal savings, family circumstances, years to retirement, health, and standard of living expectations in retirement.

11. In considering their risk tolerance level, members need to balance the potential short- or medium-term discomfort of volatility against the prospects of longer-term gain. On the one hand, it is the case that short-term volatility can be quite significant – as high as a one-month loss of 13.99% for Asia Pacific equity funds as a group (and even higher for individual MPF funds). On the other hand, as identified in paragraph 8 above, investment in lower-risk MPF funds can lead to significant underperformance over the longer term. By way of illustration, assuming Fund A and Fund B have the same initial value. If Fund A generates an annual return of 7% and Fund B only produces 3%, Fund A will be worth over three times as much as Fund B over a thirty-year period. The risk with long-term underperformance is that the retirement savings for members investing in Fund B may not grow fast enough to provide adequate savings for retirement.

12. Generally speaking, younger members could choose to invest a greater portion of their MPF investments in higher-equity-content mixed assets funds and equity funds to capture the potentially higher returns if they are prepared to accept shorter-term volatility. By contrast, older members who have limited time to retirement might avoid equity funds and higher-equity-content mixed assets funds because short- or medium-term periods of negative returns could substantially affect the accrued benefits they intend to access in the short term.

<u>MPF Strategies Part of Overall Financial Planning</u>

13. The generalized implications set out in the previous paragraphs would not be applicable to all cases. MPF savings are just one source of retirement savings and members would need to take into account their overall financial position (including personal savings and other investments) when making fund choices. For instance, a member who already has a substantial investment in bank deposits may consider choosing a higher-risk fund for their MPF investments. In contrast, a member who has a substantial proportion of his/her personal wealth in high-risk investments may consider opting for a low-risk MPF fund so as to balance his/her overall risk exposure.

<u>Monitor Changing Environment and Adjust Strategy Whenever Appropriate</u>

14. Since MPF accrued benefits may be a substantial part of members' retirement resources, it is important for members to keep track of the changing environment (economic/social conditions and personal circumstances) and adjust strategies in line with these developments if necessary. Members are reminded that they should not make fund choice decisions solely based on short- or even medium-term historical performance. Other relevant factors such as fees and charges, quality of services, and suitability of the individual MPF funds for their own circumstances need to be considered.