

**Can a “Force Saving” Policy Enhance the Future Happiness of the Society? A Survey study of the Mandatory Provident Fund (MPF) policy in Hong Kong**

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**Abstract**

Population getting aging is a problem or going to be a problem for many Asian countries. Hong Kong is expecting a rapid population aging, by 2033, it is predicted by the government that 27 percent of population will be over the usual retirement age 65. The Mandatory Provident Fund (MPF) policy was implemented in year 2000 as a retirement protection system. The core of the MPF policy is a “force saving” policy aims at enhancing future well-being or happiness. Indeed the similar “force saving” policy can be implemented for different purpose of enhancing happiness, for example reducing future poverty, financing future education or financing future health-care system. This paper employs an ordered probit model to review MPF policy from the point of view of self-reported happiness expectation after retirement. The data were collected by means of a survey conducted by “Economics and Well-being Research” in February 2007 using randomly selected telephone numbers from residential telephone directories. A total of 543 respondents were successfully interviewed. This paper intends to answer the following questions: 1) Can MPF make the people in Hong Kong having a happier retirement expectation? 2) What are some of the determinants of happiness expectation after retirement? 3) What can other countries learn from the experience of implementing the MPF in Hong Kong?

*Keywords: Force Saving Policy, Aging, Happiness, Retirement, Mandatory Provident Fund ( MPF)*

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# **Can a “Force Saving” Schemes Enhance the Future Happiness of the Society? A Survey study of the Mandatory Provident Fund (MPF) policy in Hong Kong**

## **1. Introduction**

Population getting aging is a problem or going to be a problem for many Asian countries. Hong Kong is expecting a rapid population aging, by 2033, it is predicted by the government that 27 percent of population will be over the usual retirement age 65. Ruut (2005) suggests that one of the measurements for the quality of life is “Happy lifetime” (i.e. how long and happy people live). As the population is expected to get aging, the happiness expectation after retirement will directly affect current happiness. In Hong Kong a retirement protection scheme, the Mandatory Provident Fund (MPF), that can generally be described as a “force saving scheme to enhance future happiness”, is introduced in year 2000. MPF is an employment-based retirement protection system that requires both employees and employers to make regular contributions, 5% of the employee into a MPF scheme (subject to the maximum HKD\$20,000 and minimum HKD\$5,000 monthly income). By September 2006 around 68% of the total employed population are now covered under the MPF schemes. Indeed there is growing literature relating life satisfaction to retirement. For example, Michalos and Orlando (2006) find that life satisfaction of young people is significantly lower than that of retirement groups. Chen (2001) examines how major life events - such as retirement experienced in the aging process may affect the life satisfaction. Gall and Evans (2000) studies the pre-retirement expectations and the quality of life of male retirees in later retirement. One of the major problems facing by retired people is that income drops dramatically, literature have shown that improving the financial status of retired people can improve their happiness (Dorfman, 1992; Richardson & Kilty,1991).

This paper intends to review the success of MPF (a “force saving” policy), from the point of view of happiness retirement expectation. The focus of this paper is to answer the following questions: 1) Can MPF make the people in Hong Kong having a happier retirement expectation? 2) What are some of the determinants of happiness expectation after retirement? 3) What can other countries learn from the experience of implementing the MPF in Hong Kong?

The rest of this paper is organized as follows: Section 2 describes the survey that was employed to collect the empirical data and exhibit the statistical facts of the

survey; Section 3 discusses the construction of the empirical models; Section 4 describes and evaluates the empirical results; and Section 5 contains the conclusion and policy implications.

## 2. Survey and Statistical Summary

Data was collected by means of a survey conducted by “Shue Yan Economics and Well-being Research” during the first two weeks of February 2007 using randomly selected telephone numbers from residential telephone directories. A total of 543 respondents were successfully interviewed. The margins of sampling error were estimated to be  $\pm 4.29\%$  at a 95% confidence level. Since the majority of the population of Hong Kong is Cantonese speaking, the original questionnaires were written in Chinese.

### 2.1 The questionnaire design

The questionnaire consisted of two main parts. The first part collects the personal information about the respondents, such as their gender, marital status, education, age and monthly income. The second part focuses on questions relating to MPF and happiness issues. The responses to the questions are rated using ordinal scale. Table 1 reports the distribution of the respondents.

Table 1: Distribution of the respondents

Gender		Age		Education		Monthly Personal Income	
Male	55.1%	18-24	32.4%	Primary school or below	4.6%	Below \$5000	10.1%
Female	44.9%	25-34	28.9%	Secondary school	28.7%	\$5000 to \$7999	21.9%
Marital Status		35-44	22.3%	Form 6, 7 or equivalent	25.2%	\$8000 to \$14999	38.3%
Married	57.6%	45 or above	16.4%	College or University and above	41.4%	\$15000 to \$29999	21.7%
Unmarried	42.4%					\$30000 or above	7.9%

Questions 1 and 2 of part two review the self-reported expected happiness after retirement. Table 2 shows that over 50% of the respondents expect to have a happy retirement life. Moreover, table 2 shows that less than 10% of the respondents think that they maybe not or certainly not having a happy retirement life. However around 67% of the respondents think that MPF cannot or may not be able to give them happy retirement life.

Table 2: Self-reported expected happiness after retirement

1) Do you expect your retirement life to be happy?				
1=Certainly not happy	2=Maybe not happy	3=The same	4=Maybe happy	5=Certainly happy
1.84%	7.18%	39.04%	45.49%	6.45%
2) Do you think that MPF can give you a happy retirement life?				
1=Certainly cannot	2=Maybe not	3=May be	4=Certainly can	
16.39%	50.64%	30.76%	2.21%	

Questions 3 to 7 of part two intend to explore whether respondents care about their force investment in MPF. The summary statistic of Question 3 in table 3 shows that around 60% of the respondents claim that they care about the yield of their MPF account. In addition question 4 also shows that around 65% respondents know the yield of their MPF account in the last year. However the statistical result from questions 5 to 7 show that respondents know little about MPF. Around 79% of the respondents do not know the administration fee of MPF, around 71% of the respondents do not know the estimated accumulative amount of MPF by the time of retirement and around 66% of the respondents do not know how to calculate the yield of MPF. The statistical result implies that although the people of Hong Kong care about their MPF account, they have limited knowledge about how MPF works.

Table 3: Care about MPF

3) Do you care about the yield of your MPF account?			
1=Certainly not care	2=Maybe not care	3=May be care	4=Certainly care
7.92%	30.57%	51.57%	9.94%
4) Do you know the yield of your MPF investment in the last year?			
1= Know		2= Do not Know	
65.7%		34.3%	
5) Do you know the administration fee of your MPF account in the last year?			
1= Know		2= Do not Know	
20.63%		79.37%	
6) Do you know the estimated accumulative amount of MPF account by the time you retired?			
1= Know		2= Do not Know	
28.73%		71.27%	
7) Do you know how to calculate the yield of your MPF investment?			
1= Know		2= Do not Know	
33.33%		66.67%	

The final question, question 8, of part two asked the respondents to estimate when they will retire. Table 4 shows that most of the respondents (around 75%) are expected to get retired before the usual retirement age 65.

Table 4: Retirement Age

8) When would you expected to retire?				
30-39	40-49	50-59	60-69	70 or above
3.68%	20.26%	52.30%	20.99%	2.76%

### 3. The Empirical Ordered Probit model

This paper uses the commonly used ordered probit model<sup>1</sup> as the workhorse to handle the ordinal scale dependent and independent variables (see: Miyata 2003, Greene 2000). Winkelmann (2005) used an ordered probit model to identify the intra-family correlation of happiness. In addition, Tsou and Liu (2001) investigated the determinants of happiness in Taiwan using an ordered probit model. This paper models self-reported expected happiness after retirement with the following function in linear form:

$$\text{HAPP} = f(\text{MARTIAL}, \text{AGE}, \text{EDU}, \text{GENDER}, \text{INCOME}, \text{MPF\_HAPP}, \text{RETIRE\_AGE}, \text{ADMIN\_FEE}, \text{MPF\_YIELD}, \text{CARE\_MPF}, \text{ACCUM\_MPF}, \text{CAL\_MPF}) \quad (1)$$

Table 5: Notation of Variables

Dependent Variable	
HAPP	Self-reported expected happiness after retirement (1=Certainly not happy, 2=Maybe not happy, 3=The same, 4=Maybe happy, 5=Certainly happy)
Independent Variables	
MARTIAL	Marital status (1=Married, 2= Unmarried)
GENDER	Gender (1=Male, 2=Female)
AGE	Age (1=18-24, 2=25-34, 3=35-44, 4=45 or above)
EDU	Education (1=Primary school or below, 2=Secondary school, 3=Post-Secondary or equivalent, 4=College or University and above)
INCOME	Monthly personal income in HK\$ (1=Below \$5000, 2=\$5000 to \$7999, 3=\$8000 to \$15000, 4=\$14999 to \$29999, 5=\$30000 or above)
MPF_HAPP	Data collected from question 2; “Do you think that MPF can give you a happy retirement life?” (1=Certainly cannot, 2=Maybe not, 3=May be, 4=Certainly can)
RETIRE_AGE	Data collected from question 8; “When would you expected to retire?” (1=30 to 39, 2=40 to 49, 3=50 to 59, 4=60 to 69, 5=70 or above)
ADMIN_FEE	Data collected from question 5; “Do you know the administration fee of your MPF account in the last year?” (1= Know, 2= Do not Know)
MPF_YIELD	Data collected from question 4; Do you know the yield of your MPF investment in the last year? (1= Know, 2= Do not Know)
CARE_MPF	Data collected from question 3; “Do you care about the yield of your MPF account?” (1=Certainly not care, 2=Maybe not care, 3=May be care, 4=Certainly care)
ACCUM_MPF	Data collected from question 6; “Do you know the estimated accumulative amount in your MPF account by the time your retired?” (1= Know, 2= Do not Know)
CAL_MPF	Data collected from question 7;” Do you know how to calculate the yield of your MPF investment?” (1= Know, 2= Do not Know)

It is worth mentioning that the estimated coefficients only influence the conditional probability that a certain value of the dependent variable will appear. A

positive estimated coefficient indicates that an increase in the ordinal scale of the independent variable influences the dependent variable in such a way that the conditional probability of the dependent variable falling into a higher ordinal scale increases while the opposite happens in the case of a negative estimated coefficient. (See: Boccaletti and Moro, 2000). In the cases where the independent variables are discrete, the discrete change in the conditional probability can be evaluated at the average of the independent variables. (See: Rivera, 2001)

#### 4. Empirical Results

Table 6, model 1.1, presents the empirical results of equation (1). Table 6, model 1.2 amends model 1.1 by dropping the independent variables that are insignificantly different from zero at conventional levels of significance.

Table 6: Determinants of Self-reported expected happiness after retirement

Dependent Variable: Self-reported expected happiness after retirement (HAPP)				
	Model 1.1		Model 1.2	
Determinants	Coefficient	Std. Error	Coefficient	Std. Error
ACCUM_MPF	-0.034894	0.115851	-	-
ADMIN_FEE	0.193017	0.133510	-	-
AGE	-0.048921	0.065070	-	-
CAL_MPF	-0.139573	0.114490	-	-
CARE_MPF	0.284446**	0.071173	0.245684**	0.065714
EDU	0.113479*	0.059157	0.148717**	0.050613
GENDER	0.158124	0.097187	-	-
INCOME	0.096666*	0.054595	-	-
MARTIAL	-0.056094	0.112649	-	-
MPF_HAPP	0.390417**	0.069191	0.395989**	0.068066
MPF_YIELD	0.181314	0.114550	0.203423*	0.104219
RETIRE_AGE	-0.119913*	0.067738	-0.156161**	0.064382
Note: 1)** means significantly different from zero at a 5% significance level				
2) * means significantly different from zero at a 10% significance level				

Model 1.2 shows that the conditional probability of respondents to report a happy self-reported expected happiness after retirement increases as: 1) Respondents having higher education. 2) Respondents know about the yield of their MPF in the last year. 3) Respondents claim that they care about their MPF investment. 4) Respondents think that MPF can give them a happier retirement life. 5) Respondents expected to retire earlier.

<sup>1</sup> Detail description of ordered probit model could be found in the technical appendix.

## **5. Conclusion and Policy implications**

### **5.1 Can MPF make the people in Hong Kong having a happier retirement expectation?**

The survey result in table 2 shows that around 67% respondents think that MPF cannot or may not be able to give them a happy retirement life. From the point of view of statistical facts, it seems that MPF policy cannot enhance expected happiness after retirement. Table 3 reviews that around 60% of the respondents claim that they care about the yield of their MPF account, but respondents actually know little about MPF. The survey results from question 5 to 7 show that around 79% of the respondents do not know the administration fee of MPF, around 71% of the respondents do not know the estimated accumulative amount of MPF by the time of retirement and around 66% of the respondents do not know how to calculate the yield of MPF. With little knowledge about the MPF policy, it is reasonable for respondents to claim that MPF cannot give them happy retirement life. The policy implication is that the government needs to provide more information to help the general public to understand the mechanism of MPF policy.

### **5.2 What are the determinants of happiness expectation after retirement?**

The empirical result in table 6 shows that happiness expectation after retirement is positively related to the level of education, respondents know about the yield of MPF, respondents care about their MPF and respondents believe that MPF can bring them happy retirement life. In addition table 6 also shows that happiness expectation after retirement is negatively related to the age of retirement. The empirical results in table 6 imply that higher education people tend to have more confidence in having a happier retirement life. However, extending the retirement age does not appear to be a good policy to enhance happiness expectation after retirement. One interesting point to note is that, among the five determinants identified in table 6, three of them related to MPF. Although, the survey result in table 2 reviews the statistical fact that a large portion, around 67% do not believe that MPF can give them happy retirement life, the empirical result in table 6 provides another story.

The story in the empirical results in table 6 is that MPF policy can enhance happy retirement life, as long as three conditions are being fulfilled. 1) Respondents need to care about their MPF; 2) Respondents need to know the yield of their MPF and 3) Respondents need to believe in the MPF as a retirement protection policy.

### **5.3 What can other countries learn from the experience of implementing the MPF in Hong Kong?**

The core of the MPF policy is a “force saving” policy aims at enhancing future well-being or happiness. Indeed the similar “force saving” policy can be implemented for different purpose of enhancing happiness, for example reducing future poverty, financing future education or financing future health system. Recently the government of Hong Kong is calling for a public consultation on another “force saving” policy aims at financing future health-care system.

From the experience of Hong Kong, any country that would like to implement a “force saving policy” to enhance future happiness need to ensure the transparency of the policy. The general public needs to understand the benefit of the policy and care about how to invest their saving so that the policy can fulfill its aim to enhance the future happiness of the society. That is the government needs to lead the general public see-through the future benefit of the “force saving” policy. A happiness expectation about the future will improve current happiness of the society.



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## Technical Appendix

The happiness ordered probit model used in this paper is:

$$HAPP_i = X_i \beta' + \varepsilon \quad (A1)$$

where  $HAPP$  is the self reported happiness after retirement,  $X$  is the vector of the independent variables also in the ordinal scale,  $\beta$  is a vector of the coefficients to be estimated, and  $\varepsilon$  are independent and identically distributed random variables. The subscript  $i$  indicates an individual.

$$HAPP_i = \left\{ \begin{array}{l} 0 \quad \text{if } HAPP_i \leq \gamma_1 \\ 1 \quad \text{if } \gamma_1 < HAPP_i \leq \gamma_2 \\ \vdots \\ k \quad \text{if } \gamma_k < HAPP_i \end{array} \right\} \quad (A2)$$

where  $\gamma$  represents the limits of  $HAPP$ . The empirical model to be estimated becomes an ordered probit model. The log likelihood function to be maximized is:

$$l(\beta, \gamma) = \sum_i^n \sum_j^k \log(\Pr(HAPP = j | X_i, \beta, \gamma)) \cdot l(HAPP = j) \quad (A3)$$

The conditional probabilities of observing each ordinal level of  $HAPP_i$  are given by

$$\Pr(HAPP_i = 0 | X_i, \beta, \gamma) = F(\gamma_1 - X_i' \beta) \quad (A4)$$

$$\Pr(HAPP_i = 1 | X_i, \beta, \gamma) = F(\gamma_2 - X_i' \beta) - F(\gamma_1 - X_i' \beta) \quad (A5)$$

$$\Pr(HAPP_i = k | X_i, \beta, \gamma) = 1 - F(\gamma_k - X_i' \beta) \quad (A6)$$

where  $F$  is the cumulative distribution function of  $\varepsilon$ . It is worth mentioning that the magnitude of the coefficient ( $\beta$ ) does not reveal the effect of the independent variables ( $X'_i$ ) on the dependent variable ( $HAPP$ ).