

# Human Capital, Career Concern and Investment Behavior of Managers: An Empirical Examination on Close-end Funds in China

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**Abstract** By an empirical examination on investment fund market in China, We find that portfolio managers' turnover does not affect the risk adjustment strategy of the funds, demonstrating that fund companies rather than portfolio managers are in charge of the fund investment strategy. Moreover, Chinese portfolio managers, even after they have been terminated, would be appointed other positions in the same fund company. It seems that this kind of turnover hardly has sufficient pressure on portfolio managers.

**Keywords** Portfolio Manager, Career, Turnover, Risk Taking Behavior

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## 1. Introduction

In China, investment funds have got rapidly increase in the past decade. As the key person in the operation of an investment fund, portfolio manager' human capital is very important and has a great impact on fund performance. However, the frequent turnover of portfolio managers in China's fund industry is one of the major characteristics. For Chinese investment funds have only been developed for 12 years, some of the characters, such as portfolio manager tenure and age have not significant difference. But portfolio managers' turnover is a remarkable feature. In order to discover the relationship between Portfolio managers' turnover and their risk taking behavior, this paper performs an empirical examination on Chinese closed-end funds from 1999 to 2012.

## 2. Literature Review

Some researchers noted that how tournaments have incentive roles on portfolio managers. Sirri and Tufano

(1998) found that consumers base their fund purchase decisions on prior relative performance ranking information. The mutual funds that rank highest in relative return receiving a larger share of new investment inflows in subsequent periods. Fund inflows and outflows are important for mutual fund advisors because the compensation for them is often structured as a flat fee plus a percent-age of the level of assets under managed. Chevalier and Ellison (1999) examined the labor market for mutual portfolio managers. They found that "turnover" is more performance-sensitive for younger managers. They identify possible implicit incentives created by the turnover-performance relationship. The shape of the turnover-performance relationship may give younger managers an incentive to avoid unsystematic risk. Based on the previous research, we will analyze the effects of portfolio managers' turnover on portfolio managers' risk taking behavior.

Furthermore, previous research noted that tournaments can lead to portfolio managers' adoption of risky strategies. For example, Brown et al. (1996) found that mid-year losers tended to increase fund risk in the latter part of an annual assessment period to a greater extent than mid-year winners by an empirical examination on the performance of 334 growth-oriented mutual funds during 1976 to 1991. Similarly, by using a sample period covering 1989-2001 of Australia multi-sector growth funds, Terrence and Robert (2009) investigated the tournament induced risk-shifting behavior and draw the same conclusion. On the contrary, Han Dezong and Song Hongyu (2002) found that mid-year losers didn't tend to increase fund risk in the latter part of an annual assessment period than mid-year winners through an analysis on Chinese close-end funds from 1999 to 2000.

For the deficiency of long enough time series, it is difficult to analyze Chinese fund industry from long term perspective for previous researchers. But from 1998 to 2012, Chinese fund industry has already developed through twelve years, which have bring convenience for the analysis of tournaments from a longer term perspective than before, it is

also helpful to draw more reliable conclusion.

### 3. Data Sources and Method

#### Data Sources and Sample Description

All data are obtained from GTA Information Technology Co., Ltd (<http://www.gtarsc.com>). Closed-end funds are founded in 1998. Total year-ending CNY value of all funds classified as close-end, expressed in hundred millions.

**Table 1.** Descriptive Statistics for close-end funds

Year	Number of Funds	Total CNY Investment*	Median Return
1999	6	123.88	-1.51%
2000	22	589.58	0.93
2001	33	845.62	-0.84
2002	48	700.01	-3.96
2003	54	717.15	0.74
2004	54	854.31	-0.55
2005	54	822.11	1.04
2006	53	1623.50	6.54
2007	34	2266.31	6.99
2008	30	3957.23	7.26
2009	31	1238.80	2.86
2010	33	1321.47	0.15
2011	29	1224.96	0.37
2012	23	1371.67	1.25

Unit: A hundred million CNY

#### 3.1. The First Method

Firstly, we will examine the relationship between portfolio managers' turnover and fund risk by a binary choice model.

$$T_{it} = b_0 + b_1 Perform_{it} + b_2 Mgrtenure_{it} + b_3 Perform_{it} (Mgrtenure_{it} - \bar{Tenure}) + b_4 DetaDaviation_{it} + b_5 DetaDaviation_{it} (Mgrtenure_{it} - \bar{Tenure}) + b_6 Year11 + b_7 Year12 + \epsilon_{it} \tag{1}$$

In mathematical formula (1),  $Daviation_{it}$  is used to measure the risk taking behavior.  $T_{it}$  is used to measure the portfolio managers' turnover. When portfolio managers is demoted or been fired,  $T_{it} = 1$ ; when the portfolio managers have promotion or re-appointment at the original level,  $T_{it} = 0$ ;  $Perform_{it}$  is fund performance in the year;  $Mgrtenure_{it}$  is the portfolio manager tenure in the fund industry, the  $Year11$ ,  $Year12$  is the dummy variable.

#### 3.2. The Second Method

In order to get more reliable conclusion, we use the second method to examine the relationship between portfolio managers' turnover and their risk taking behavior. Following Brown et

al., we calculate the M-month cumulative return of each fund  $j$ , in tournament year  $y$ , expressed as RTN. Secondly, we use risk adjustment ratio (RAR) as the variable that reflects the change of fund risk before and after the interim assessment period. The RAR is calculated as follows:

$$RAR_{jmy} = \sqrt{\frac{\sum_{m-M+1}^{11} (r_{jmy} - \bar{r}_{j(11-M)y})^2}{(11-M)-1}} \div \sqrt{\frac{\sum_{m-1}^M (r_{jmy} - \bar{r}_{jMy})^2}{M-1}} \tag{2}$$

After this, we can create a (RTN, RAR) pair for each fund. According to the median RTN and median RAR of all the funds in the month of M in tournament year  $y$ , each fund can belong to one of the following four categories: (high-RTN (winner), high-RAR); (high-RTN, low-RAR); (low-RTN (loser), high-RAR) and (low-RTN, low-RAR).

### 4. Results

#### 4.1. Portfolio Manager Turnover Effects Examined by the First Method

We analyzed the relationship between portfolio manager's turnover and their risk level which the fund manager has selected. But as table 2 shows, the relationship between portfolio managers' turnover and fund risk level is not significant.

It indicates that even after the portfolio managers have been terminated, the fund risk level remains unchanged. In order to find the reason, we will perform another method to get more reliable conclusion.

**Table 2.** The effect of career turnover on portfolio managers' risk taking behavior

Variable	$T_{it}$	P value
<i>Perform</i>	-0.1693	0.0235
<i>Mgrtenure</i>	0.0359	0.2638
<i>Perform (Mgrtenure - Tenure)</i>	-0.5463	0.2357
<i>DetaDaviation</i>	0.2914	0.7208
<i>DetaDaviation (Mgrtenure - Tenure)</i>	-0.0132	0.0651
<i>Year11</i>	-0.7369	0.0435
<i>Year12</i>	-0.2137	0.6732
<i>Constant</i>	0.2135	0.5847

#### 4.2. Portfolio Manager Turnover Effects Examined by the Second Method

In order to get more reliable conclusion, we use the second method to examine the relationship between portfolio managers' turnover and their risk taking behavior. We think that after the predecessor has been terminated for poorly

relative performance, the new comer would adjust the fund's risk profile in order to improve the ranking. So we divide all the funds into two groups: the funds that have replaced their portfolio managers and the funds that have not replaced their portfolio managers.

As table 3 shows, both of them have the same risk adjustment strategy. It indicates that even after the portfolio managers have been replaced, the fund risk adjustment strategy remain unchanged. In China, fund companies rather than portfolio managers are in charge of the fund investment strategy. So even after the manager has been replaced, the investment strategy of the fund remains unchanged. Portfolio manager turnover is mainly a means which is used to deal with the investors' condemnation by fund companies. Essentially, Chinese portfolio managers, even after they have been terminated, would be appointed other positions in the same fund company. Obviously, this kind of turnover for Chinese portfolio managers cannot have efficient pressure

even if they would be in charge of the fund investment strategy. For example, the Boshi fund company issued a bulletin which included four portfolio managers turnover in January the 12th, 2002. It proclaimed that Mr. Zhou Feng is not assumed the portfolio manager of Yuyang fund, but is appointed the portfolio manager of Yuhua fund; Mr. Liu Honghai is not assumed the portfolio manager of Yuze fund, but is appointed the portfolio manager of Yuyuan fund; Mr. Song Binshan is not assumed the portfolio manager of Yuze fund, but is appointed the portfolio manager of Yuyuan fund; Mr. Liu Xiaoshan is not assumed the portfolio manager of Yuyuan fund, but is appointed the portfolio manager of Yulong fund. All the funds mentioned above are in the same company! Therefore, even if the portfolio managers themselves will be in charge of the fund investment strategy, this kind of post shifting rather than really turnover cannot efficiently influence the fund investment strategy.

**Table 3.** return and risk adjustment Ratio for funds that have portfolio managers terminated and retained

Assessment Period	Turnover rate (%)	Observations	Sample Frequency (% of Observations)			
			low <i>RTN</i> ("Losers")		high <i>RTN</i> ("Winners")	
			low <i>RAR</i>	high <i>RAR</i>	low <i>RAR</i>	high <i>RAR</i>
1999	0.00	unterminated (6)	33.33	16.67	16.67	33.33
		terminated (0)	0.00	0.00	0.00	0.00
2000	45.45	unterminated (12)	25.00	25.00	41.67	8.33
		terminated (10)	30.00	20.00	0.00	50.00
2001	30.30	unterminated (23)	47.83	8.70	8.70	34.77
		terminated (10)	40.00	0.00	0.00	60.00
2002	52.08	unterminated (23)	17.39	34.78	21.74	26.09
		terminated (25)	40.00	8.00	20.00	32.00
2003	48.15	unterminated (28)	21.43	21.43	21.43	35.71
		terminated (26)	38.46	19.23	19.23	23.08
2004	53.70	unterminated (25)	24.00	24.00	32.00	20.00
		terminated (29)	13.79	37.93	31.03	17.24
2005	40.74	unterminated (32)	12.50	37.50	40.63	9.37
		terminated (22)	9.09	36.36	40.91	13.64
2006	41.51	unterminated (31)	6.45	41.94	41.94	9.67
		terminated (22)	45.45	45.45	45.45	4.55
2007	38.24	unterminated (21)	28.57	19.05	28.57	23.81
		terminated (13)	30.77	23.07	7.70	38.46
2008	46.67	unterminated (16)	37.50	6.25	6.25	50.00
		terminated (14)	42.86	14.29	14.28	28.57
2009	41.94	unterminated (18)	29.63	20.37	14.41	35.59
		terminated (13)	25.91	24.09	28.92	21.08
2010	36.36	unterminated (21)	33.78	16.22	32.59	17.41
		terminated (12)	25.84	24.16	28.32	21.68
2011	48.27	unterminated (15)	25.34	24.66	23.78	26.22
		terminated (14)	27.84	22.16	26.52	23.48
2012	43.48	unterminated (13)	31.09	18.91	14.76	35.24
		terminated (10)	39.08	10.92	11.46	38.54

## 5. Conclusions

This paper examined that whether portfolio managers' turnover will affect portfolio managers' risk taking behavior in the tournaments. We analyze the effects of portfolio managers' turnover and fund size on portfolio managers' risk adjustment strategy. It demonstrates that portfolio managers' turnover does not affect the risk adjustment strategy of the funds, which indicates that fund companies rather than portfolio managers are in charge of the fund investment strategy. Moreover, Chinese portfolio managers, even after they have been terminated, would be appointed other positions in the same fund company. We think this kind of turnover hardly has sufficient pressure on portfolio managers.

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