

# **Study on the Determinants of Chinese Open-end (Mutual) Funds Performance**

By

Boyan Wei

A Thesis Submitted to

Saint Mary's University, Halifax, Nova Scotia

in Partial Fulfillment of the Requirements for

the Degree of Master of Finance.

08/2013, Halifax, Nova Scotia

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**Faculty Advisor**

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**MFIN Director**

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Date: August 30, 2013

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# **Abstract**

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This thesis mainly research on study linkage between Chinese mutual fund and the effective factors. The study examines the sample data from December 30/2012 to August 9/2013. Statistically, cross section regression is used. The results give a view that fund age and ratio of bondholding to NAV have positive relationship with fund performance, but shareholding to NAV has a negative relationship with fund performance, fund size did not display a significant relationship with fund performance recently in Chinese market.

August 28, 2013

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# **Chapter 1: Introduction:**

## **1.1 Aims of Study**

Open-end funds have already become the most popular investment tool in current Chinese financial market. Chinese mutual funds still have a long way to catch up with open-end funds of developed countries. The size of Chinese mutual fund market is only around 17% of American mutual fund market. The guidelines and regulations of Chinese open-end funds market are still weak and will require time to mature.

This paper aims to study how the open-end fund performance relates to fund characteristics, and which investment decisions had the greatest impact on the magnitude of fund return.

## **1.2 Background**

A mutual fund is a kind of professionally managed combined investment tool that pools money from investors to purchase stocks. Most mutual funds are "open-ended," meaning investors can buy or sell shares of the fund at any time. Investors buy or redeem fund units or shares by the intention of investors themselves at any time.

The first Chinese open-end fund, Hua 'an innovation fund, was established

and issued in September 2001. Since then Chinese open-end funds have experienced rapid growth and gradually outpaced closed-end funds, as a investment tool in Chinese fund market. Until late 2011, total scale of the open-end fund assets has reached 2.5 trillion, and the closed-end funds' total assets size just 100 billion. Policy makers, the rising number of fund managers and investors are developing and perfecting open-end fund market. Investors now can easily gather all kinds of tables, charts or other performance information from different sources such as fund houses, sale channels, performance evaluating organizations like Morningstar or Yahoo.

### **1.3 Need for study**

Although the limited information about the mutual funds in China. Mutual fund investment in China has grown markedly over the past decade at a quicker pace than even the developed markets have shown. The growth in mutual fund investment is influential because it shapes the future development in the securities market and has important policy implications. Furthermore, mutual fund industries in China display some unique characteristics which are different from those in developed markets, challenge the assumptions in this respect. For instance, Chinese mutual funds market is less competitive and information is less publicly available than developed countries mutual funds market. Investors are more passive and likely to make their decision on the basis of familiarity. This study seeks to shed light on

mutual fund investment in China and specifically focuses on determinants of performance issue.

## **1.4 Statement of problem**

In this study, we examine the determinant factors (fund age, fund size, share market return, ratio of shareholding and ratio of bond holding) that could contribute to the open-end fund performance in China fund. The paper focus on exploring the relation between determinant factors and the performance of mutual funds.

## **Chapter 2: Literature Review**

### **2.1 Purpose and Scope of Literature Review**

It is well recorded that the fund size, fund age, share market return, asset allocation (investment strategy) contribute to future fund performance in developed countries. However, mixed findings have been documented in relation to the relationship between fund performance and fund size. Brinson (1997), Cicotello and Grant (1996), Droms and Walker (1994), Grinblatt and Titman (1994), and Berkowitz (1995) argued that “The USA mutual fund performance has lack of such relation with fund size”. In Australia (Bird et al. 1983; Gallagher 2003; Gallagher & Martin 2005) and Sweden (Dahlquist, Engstrom & Soderlind 2000) the relation was also absent. However, Israelsen (1998), and Ramasamy and Reung (2003) reported that “fund size act as a positive performance determinant in the USA”.

More recently, Chen et al. (2004) provided evidence that fund size weaken performance because of cash flow. Yan (2008) reported more evidence of the significant negative relationship between fund performance and fund size in American equity mutual funds. There is little research has been investigated into the relationship between performance and fund age. Ackermann et al. (1999) find that “Hedge fund age and risk-adjusted performance has significant relationship”. While Blake et al. (1998) found that “There is a positive relation between age and performance .They contribute the relation as an experience effect or the survivorship bias”.

The study by Ferreira et al. (2009), which devoted the determinants of mutual funds using cross-sections data over 10 years between 1997 and 2007, reported that fund performance can be explained by returns in the previous quarter, suggested a short-term persistence in performance. They revealed that this evidence is stronger in the US domestic funds than in non-US domestic funds. This study gave a hint about the difference in various mutual funds between developed countries and developing countries.

However, there are some funds which outperform others not only because experienced and professional fund manager. Kosowski et al. (2006) add that “The performance of fund managers is not entirely due to luck”. A number of studies investigate whether we can identify the funds with outstanding performance and many fund factors are considered to be potential determinants.

### **2.2.1 Previous theories between fund size and fund performance**

There are wide range of studies about the relationship between the size of mutual funds and fund performance, where the findings are still mixed. One of the views are argued that large funds have an advantage over small funds in term of economies of scale because large funds can spread fixed cost and have ability to access to more resources. In addition, like Ciccotello (1996)said “ Managers of large funds will have much more options to invest with large size of money pool than

managers of small funds and the brokerage commission is likely to be reduced with the amount of the transaction”. However, some studies argue that fund size could have an inverse impact on performance. For instance, Indro et al. (1999) suggest that fund size responses subsequently transaction implicit costs and diminishing marginal returns. Fund size promotes the cost of acquiring and trading on information, as the activities of a fund draw market attention. For this reason, larger funds have more difficulty in overcoming information asymmetry. Furthermore, Gruber (1996) and Berk and Green (2004) provided the view that “Small funds also display stronger evidence of persistent performance”. Grinblatt and Titmann (1989) did research in US mutual funds between 1975 and 1984. They found eminent performance in small funds using returns data. Elton et al. (1996) also reported that larger funds have a better performance than smaller funds when using the data which existing survivorship bias.

Similarly, Payne et al. (1999) found that “The risk-adjusted performance of the US mutual funds during the period 1993-1995 is positively related to fund size”. Indro et al. (1999) claim that “Mutual fund performance increases with size”. Annaert et al. (2003) also tested the relationship of European equity mutual fund performance with different characteristics during 1995-1998 and reveal a positive relationship with fund size.

However, the marginal return diminishes when it reaches its optimum size. Using European mutual fund data, Otten and Bams (2002) find “A positive relationship between size and performance of mutual funds”. Similarly, Bauer et al.

(2006) reveal a positive relationship among New Zealand data. In contrast to the findings above, Droms and Walker (1994) find no relationship in international mutual funds between size and performance. Ciccotello (1996) employs mutual funds with different investment objectives. He finds that “Fund size cannot explain fund performance with the exception of funds in aggressive/growth objectives where size has an inverse impact on performance”. Dahlquist et al. (2000) point out that “In Sweden, small equity funds perform better than large equity funds, although the reverse relation holds for bond mutual funds”. Similarly, Chen et al. (2004) examine a large set of US mutual funds from 1962 to 1999 and reveals “a negative relationship between size and performance”. They suggest that this reverse relationship is because of liquidity constraints. In addition, Edelen et al. (2007) also reveal that “The evidence of negative relationship between size and performance is a result of high trading cost”. In contrast to Chen et al., Ferreira et al. (2009) argue that “The negative relationship exists only in the US market. Outside the US, large funds outperform small funds”.

## **2.2.2 Previous theories between Fund age and fund performance**

The relationship between fund age and fund performance has received little scholarly attention in previous studies. New funds normally have to afford to higher costs at first because they have fewer connections and money has to be spent on advertising. Therefore, we could expect that old funds would outperform young funds.

However, one could argue that managers of young funds are more active. This is confirmed by Blake and Timmermann (1998), who reveal that “Funds are likely to perform best during their first year of existence”. Similarly, Otten and Bams (2002) found that “A negative correlation between performance and fund age in some European countries during the period 1991-1998”. Nevertheless, Prather et al. (2004) and Ferreira et al. (2009) find that “No relationship between age and fund performance”.

Nevertheless, the relationship between fund performance and fund characteristics are less researched in emerging markets. This is primarily due to the fact that mutual fund data are much less accessible than those of other financial intermediaries. Among a limited number of studies, Mei-Chen (2006) examines the determinants of mutual fund performance over different investment periods. He estimates performance using the Sharpe ratio and looking at different characteristics in Taiwan. The characteristics include net asset values, current yield, turnover and expenses ratios. He shows that performance is positively related to net asset values

but inversely related to the expenses ratio. Similarly, Teng Cheong (2007) finds insignificant evidence of positive relationship in size and performance using mutual fund data from Singapore.

## 2.3 Summary

Most of these studies in developed countries focus on only one particular factor or investigate particular factors as a small part of their studies of mutual fund performance. More importantly, Most of previous studies are conducted within a developed market setting, where the context is different from that of the emerging markets in many ways, for instance, size, growth and competitiveness. This all makes evidence on this issue still scarce and ambiguous.

A number of studies have investigated the relationships of various mutual funds characteristics and fund performance in order to identify whether mutual fund performance can be explained by any particular characteristics. But the study of Chinese mutual fund is not as deep as developed countries mutual funds with comprehensive and detailed information.

Especially, this paper is focus on 2013 when the price of gold declined dramatically and increasing number of restricted policy relate within real estate industry. Whether china's mutual market get on a different way compared to developed countries in its "childhood".

This paper also examines a more extensive list of characteristics and employs a wider dataset than previous study of Chinese mutual fund market. It examines 4 characteristics which have been widely discussed in the literature including past performance, fund age, fund size, asset allocation.

# Chapter 3: Hypotheses and Methodology

## 3.1 Hypotheses development

The relation between fund characteristics and fund performance is essential to investors who want to invest in fund market. Because it would be affect the first step of guidance in selecting funds and it can also help fund managers to manage their portfolio more efficiently. Furthermore, this study aims to test the relation between fund characteristics and fund performance in Chinese open-end fund market. However, this study looks at this relationship in the context of an emerging market where previous studies are hardly to be found.

Hypothesis 1: The increased fund size will strength fund performance

Hypothesis 2: The increased fund age will strength fund performance

Hypothesis 3: China's open-end fund performance is highly and negatively linked to its equity market performance.

Hypothesis 4: China's open-end fund performance is highly positively linked to its bond market performance.

## 3.2 Introduction to Research Design

A simple cross-sectional least square regression of a straightforward pooling of all observations without considering heterogeneity could lead to biased or even unreliable results. Therefore, the use of panel data may be an appropriate way for a systematic and efficient analysis of the fund performance. This is because a panel dataset possesses several major advantages over conventional cross-section or time-series data, which provides more informative data with more variability, less collinearity among the variables, more degrees of freedom and more efficiency.

To explore the determinant factors of open fund performance, we estimate the following panel regression:

$$\text{Alpha}_{i,t} = \beta_0 + \beta_1 \sum x_1 + \beta_2 \sum x_2 + \beta_3 \sum x_3 + \beta_4 \sum x_4 + \varepsilon$$

Where Alpha is defined as the excess return for the fund i measured by the performance model at quarter t;  $\beta_0$  represents the constant term;  $\beta_1, \beta_2, \beta_3, \beta_4$  represents the parameter of independent variables; Independent variables  $x_1, x_2, x_3, x_4$  represents the fund age, fund size, , ratio of shareholding to NAV, ratio of bondholding to NAV.  $\varepsilon$  is the error term.

### **3.3 Sampling Design**

Our sample includes equity and flexible mutual funds in China over the period 2012-2013. We exclude international funds, index funds, sector funds, property funds and fund with any specific purpose. This makes 571 funds in our initial sample (made up of 423 equity funds and 148 flexible funds). In addition, I impose one extra condition for this study: funds in order to be included must have been in operation at least 12 weeks over the sample period. The reason behind this is to reduce small sample size bias in the estimating mutual performance. The sample size is reduced to 520 funds, made up of 348 equity funds and 172 flexible funds. As a result, I randomly choose 100 mutual funds from 520 funds as my sample.

### **3.4 Variable Description and collection**

#### **3.4.1 Dependent Variable Description:**

Fund performance: Estimating excess return represents the fund performance. Shanghai composite stock index act as the benchmark of the performance of mutual fund. Therefore, the fund performance is measured by growth ratio of mutual fund minus growth rate of Shanghai composite stock index from December 30/2012 to August 9/2013. The fund profiles are obtained from the website of China Galaxy securities (<http://www.chinastock.com.cn/>) company and the website of Chinese fund (<http://www.chinafund.cn/>).

### **3.4.2 Determinant Variables Description:**

Fund age: The fund age is measured as the time period in years since the fund has been launched. (Funds in order to be included must have been in operation at least 12 weeks over the sample period. The reason behind this is to reduce small sample size bias in the estimating mutual performance.)

Fund size: In this study, the logarithm of total net asset is used to measure the fund size, which is computed as the net asset value per share times the number of shares at August 9/2013.

Asset Allocation (investment strategy): Both investors and fund managers tend to invest in the main classes of assets – equity, fixed interest, cash and property. In China open-end funds data, asset allocation in terms of the total NAV has been classified as four major group as ratio of shareholding to NAV, ratio of bond and money market holding to NAV, ratio of bank deposits and reserve to NAV, and ratio of other assets to NAV. In this study, the first two categories (shares holding and bond holding) are used.

# Chapter 4: Results

## 4.1 Data analysis

To estimate cross-section regression, we first estimate the adjusted performance of each fund in 2013. We restrict this to funds with a minimum of 12 weekly returns in the estimation; hence, survivorship bias may reduce.

Shanghai composite stock index was reduce from 2269.13 in December 30/2012 to 2052.24 in August 9/2013. It decreased 9.56% in 2013, but just 7 of 100 mutual fund return less than 0.

From the data of fund age, we can observe that the minimum fund age is 1.94 years, and the maximum fund age is 11.26 years

(Table5.1)

	fund age	fund size	ratio of shareholding	ratio of bondholding
average	7.188	42.087	0.776	0.421
stand deviation	1.996340917	38.43073031	0.193740333	0.384307303
max	11.263	194.012	0.993	0.94012211
min	1.940	0.546	0.020	0.0055

(Table 5.2)

	Fund age	Fund size	Ratio of shareholding	Ratio of bondholding
P-value	0.012	0.889	0.011	0.006
Coef.	0.0159291	0.000044	-0.1072464	5.779164
Std.err	0.006254	0.0003156	0.0665395	2.044143

This section reports the empirical results for each fund characteristic. Results for cross-section regression are presented in (Table 5.2), which is estimated is the relationship between performance and fund characteristics.

From the table of regression result, we can observe that the P-value of fund age, ratio of shareholding and ratio of bondholding are less than 0.05, which means these three factors of fund age, ratio of bondholding to NAV and ratio of shareholding to NAV are significant to fund performance. But, the P- value of characteristics of ratio of fund size is 0.889, larger than 0.05, which means the percentage bond which fund hold is not significant relate with fund performance.

Fund age and ratio of bondholding to NAV have positive relationship with fund performance, which means that the fund performance become better with the time pass. The larger proportion of bond the mutual fund hold, the better the mutual fund performance.

## 4.1 Fund size

Table 5.2 estimate the relationship between performance and mutual fund size as measured by the total net asset values at August 9/2013. The total net asset value of fund is not significantly relate with return of the fund. We do not find positive relationship in the whole sample estimation.

Result of regression is not comparable to those of Nitibhon (2004), who applies cross-section regression and reveals the positive relation in size and performance in Thai equity funds. In addition, our results are also agree with findings in other emerging markets which show that performance increases with fund size ((Mei-Chen, 2006; Teng Cheong, 2007). And it different with most of the evidence in the US, which suggests a negative relationship between size and fund performance (for instance, Indro et al. 1999; Chen et al., 2004; Ferreira et al., 2009). Indro et al. (1999) pointed out that if a fund is larger than marginal in size, there will be a negative impact on performance due to the diseconomies of scales and liquidity constraints. Therefore, we conclude that the mutual funds in our sample may not be large enough to reach marginal size.

The fund performance is not relate with the size of fund, which will not support hypothesis 1. The mutual fund with abnormal security selection and timing will reach an outperforming return no matter the fund is big or small.

## 4.2 Fund age

We measure the longevity of funds by the operation period of mutual funds since its registration date. The results from the cross-section regression (Table 5.1) present strong evidence that old funds perform better than young funds, which hypothesis 2 is supported.

Subsequently, we examine whether fund age can be used as a criterion in determining outperforming funds. The results in Table 5.1 show that the differences return between old and young funds is exist. Thus, we conclude that fund longevity can be explained mutual fund performance . This differs from the conclusions of Blake and Timmermann (1988), who find that UK unit trusts perform better in the early stage of their operation; and from Otten and Bams (2002), who reveal a negative correlation in some European funds. Furthermore, our results are not agree with those of studies such as Prather et al. (2004), who find no relationship between age and performance in US funds; and Ferreira et al. (2009), who suggest that, after controlling for size, age does not provide explanatory power in the case of domestic funds.

Because china's mutual is experiencing a starting period of growth. Part of mutual fund which is just established have the fund manager who are lack of experience in Chinese mutual fund market. The situation in Chinese open-end fund is not comparable with mutual fund market in developed countries .

### **4.3 Ratio of shareholding to NAV**

The negative and significant coefficients of fund performance and the ratio of shareholding to NAV indicate that the fund performance is tightly linked to the equity market performance and to the extent the percentage of shares they are holding. Hypothesis 3 is supported.

The average of ratio of shareholding to NAV is 0.776, which is relatively high. The maximum of ratio of shareholding is about 0.993, the minimum of ratio of shareholding is about 0.02. The variance of shareholding ratio is comparably steady.

Two reasons could support the view that fund performance and the ratio of shareholding to NAV have positive relationship.

First, Shanghai composite index is a guide of Chinese stock market. From the data of SSE(Shanghai composite index) this year, it declined 9.56% from 2269.13 at end of 2012 to 2052.24 in August 9/2013. T

Second, estate industry occupied a large piece in the economy of china. Nevertheless, the Chinese government publishes frequently new policy to restrict the price of real estate, which trying to limit the growth of real estate. Therefore, asset of fund avoid be invested in real estate market which is a fluctuated market recently. A part of fund asset which invested in stock which relate to real estate market get a loss.

## **4.4 Ratio of bondholding to NAV**

The positive and significant coefficients of fund performance and the ratio of bondholding to NAV indicate that the fund performance is tightly linked to the bond market performance and to the extent the percentage of shares they are holding. Hypothesis 4 is supported.

The average of ratio of bondholding to NAV is less than average of ratio of shareholding. The maximum of ratio of bondholding is about 94%, the minimum of ratio of bondholding is about 0.05%. The degree of bondholding percentage is fluctuation. The coefficient is around 5.78, which means that ratio of bondholding has significant effect to fund performance.

Even Chinese bond market is not as organized properly as US bond market. After the decline trend in Chinese stock market, the proportion of fund asset in bond market is increasing. As mutual fund invest more percentage of money into bond market, the total mutual fund will performance better.

The mutual fund industry in China is still at its very young age. Investors still prefer to access to fund market with professional financial management rather than other financial products managed by themselves with the consideration of handling fees, less risk etc. With the market becomes more mature, investors are believed to adjust their investment behaviours by pooling their funds into the mutual fund.

## Chapter 5: Conclusion

From this study, we test determinants factors which could relate to the Chinese mutual fund performance. In general, from the data of this year, our empirical results display that fund size independent from fund performance; fund age and bondholding ratio to NAV are positive to fund performance; shareholding ratio to NAV has an inverse effect to fund performance. Being in one of Chinese fund, the stand-alone fund performance could be increased by fund age and bondholding ratio to NAV. And higher shareholding ratio to NAV would deepen the diseconomies of the fund itself in relation to the performance.

Holding higher proportion of the shares in the portfolio may increase the fund performance because the fund performance is closely linked to the equity market.

The mutual fund industry in China is still at its very young age. Investors still prefer to access to stock market and other financial products by themselves with the consideration of handling fees, less risk etc. With the market becomes more mature, investors are believed to adjust their investment behaviour by pooling their funds into the mutual fund.

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## Appendix

order number	ticker	fund age (year)	number of share (hundred million)	net value of share (yuan)	fund size(hundred million yuan)	Ratio of shareholding to NAV (%)	Ratio of bondholding to NAV(%)	Fund performance
1	020001	11.263	19.973	0.960	38.187	81.69%	38.19%	0.3031
2	240005	9.252	80.238	0.523	41.964	73.77%	41.96%	0.2053
3	100020	9.156	86.725	0.859	74.462	73.51%	74.46%	0.1104
4	260104	9.129	9.351	4.084	38.187	92.39%	38.19%	0.6178
5	162204	9.090	7.126	3.885	27.682	87.78%	27.68%	0.2694
6	360001	8.956	105.775	0.824	87.159	92.37%	87.16%	0.1461
7	160105	8.825	15.943	0.996	15.877	85.41%	15.88%	0.1508

8	16050 5	8.595	62.302	1.61 4	100.555	92.16%	100.55%	0.0361
9	16270 3	8.521	41.284	1.88 3	77.733	91.31%	77.73%	0.1255
10	21300 2	8.427	57.092	0.41 1	23.476	86.55%	23.48%	0.1337
11	16260 5	8.406	51.447	1.05 0	54.019	83.91%	54.02%	0.3382
12	46000 1	8.290	84.628	0.58 3	49.338	89.07%	49.34%	0.2305
13	16010 6	8.080	20.168	1.50 3	30.316	87.59%	30.32%	0.2275
14	16190 3	8.074	15.105	0.53 5	8.080	77.01%	8.08%	0.058
15	51900 5	8.036	50.712	0.62 4	31.645	88.84%	31.64%	0.2448
16	48100 1	7.945	248.83 5	0.30 2	75.198	86.44%	75.20%	0.1515

17	51900 1	7.871	88.171	1.29 7	114.349	83.62%	114.35%	0.1999
18	51968 8	7.866	68.717	0.82 5	56.705	83.11%	56.70%	0.2365
19	37701 0	7.833	10.604	2.33 6	24.771	91.03%	24.77%	0.2157
20	31032 8	7.751	42.912	0.61 3	26.288	85.34%	26.29%	0.1524
21	16170 6	7.732	26.325	1.10 6	29.102	82.30%	29.10%	0.1265
22	28800 2	7.732	13.364	2.45 4	32.794	85.61%	32.79%	0.197
23	27000 5	7.633	288.88 1	0.67 2	194.012	67.42%	194.01%	0.1517
24	16350 3	7.556	42.750	0.56 9	24.320	86.03%	24.32%	0.2266
25	16380 3	7.403	100.69 6	0.73 3	73.770	83.79%	73.77%	0.2353

26	51999 4	7.282	90.126	0.55 9	50.399	91.57%	50.40%	-0.05
27	16060 7	7.066	107.28 3	0.72 6	77.887	58.52%	77.89%	0.0434
28	51901 8	7.011	208.35 2	0.72 6	151.222	78.92%	151.22%	0.2649
29	12100 5	6.737	36.722	0.76 9	28.250	88.63%	28.25%	0.2881
30	16160 9	6.737	17.590	1.11 3	19.577	83.57%	19.58%	0.2784
31	20200 3	6.734	64.457	1.27 5	82.195	90.65%	82.20%	0.2296
32	00002 1	6.712	122.06 3	1.22 8	149.894	85.60%	149.89%	0.214
33	16220 8	6.693	7.982	1.24 7	9.951	83.77%	9.95%	0.3997
34	48100 4	6.680	29.729	1.40 1	41.659	87.29%	41.66%	0.2868

35	29000 4	6.655	14.810	0.88 1	13.042	89.22%	13.04%	0.3361
36	58000 2	6.655	18.095	1.29 8	23.491	85.23%	23.49%	0.2415
37	51901 7	6.567	20.931	0.86 5	18.106	79.14%	18.11%	0.2017
38	21300 3	6.559	23.299	0.81 4	18.974	76.21%	18.97%	0.105
39	25703 0	6.545	10.564	1.00 4	10.606	79.14%	10.61%	0.243
40	16600 1	6.532	29.349	0.74 0	21.724	85.02%	21.72%	0.1548
41	16200 6	6.493	22.044	1.14 6	25.258	73.04%	25.26%	0.2198
42	61000 1	6.427	41.355	1.08 1	44.688	85.05%	44.69%	0.2065
43	51906 8	6.416	61.641	1.27 1	78.315	78.42%	78.32%	0.3206

44	41000 3	6.397	18.616	0.57 7	10.749	86.52%	10.75%	0.2654
45	45000 3	6.389	38.670	1.01 8	39.378	87.97%	39.38%	0.214
46	04000 7	6.337	58.743	0.87 8	51.582	79.98%	51.58%	0.0579
47	05000 8	6.332	64.352	0.93 7	60.298	90.28%	60.30%	0.1615
48	37702 0	6.329	64.559	1.30 4	84.210	90.06%	84.21%	0.4904
49	57000 1	6.312	26.945	0.80 5	21.688	81.76%	21.69%	0.0767
50	51903 5	6.290	72.398	0.78 4	56.782	92.84%	56.78%	0.0681
51	16161 0	6.282	32.954	0.75 5	24.880	83.44%	24.88%	0.1898
52	20200 5	6.244	98.397	0.79 3	77.980	88.49%	77.98%	-0.0256

53	02001 0	6.233	38.462	1.26 6	48.692	79.32%	48.69%	0.3809
54	24001 0	6.159	117.32 3	1.09 9	128.974	76.16%	128.97%	0.3351
55	05000 9	6.099	184.89 6	0.56 6	104.651	84.00%	104.65%	0.2321
56	48100 6	6.066	26.853	0.81 2	21.810	88.00%	21.81%	0.0045
57	04000 8	6.025	130.27 1	0.61 7	80.338	76.00%	80.34%	0.1458
58	16220 9	6.022	73.946	0.87 7	64.865	89.00%	64.86%	0.3339
59	16220 2	10.29 9	6.260	0.93 8	5.872	75.51%	5.87%	0.2116
60	16220 3	10.29 9	2.544	0.72 7	1.849	76.69%	1.85%	0.1958
61	21700 1	10.29 0	12.784	0.35 6	4.547	65.89%	4.55%	0.1663

62	15990 1	7.384	270.42 1	0.56 5	152.707	99.30%	152.71%	0.0685
63	51930 0	7.348	64.050	0.72 6	46.513	90.51%	46.51%	0.0246
64	51018 0	7.329	248.94 0	0.50 3	125.217	97.03%	125.22%	0.0019
65	15990 2	7.175	13.722	2.34 2	32.136	99.20%	32.14%	0.2731
66	51088 0	6.732	7.072	1.70 1	12.029	99.00%	12.03%	-0.0138
67	51910 0	6.718	10.988	0.66 9	7.350	93.33%	7.35%	-0.0231
68	02001 1	5.748	86.618	0.47 9	41.490	90.30%	41.49%	0.0203
69	27001 0	4.611	30.369	1.01 8	30.915	87.90%	30.92%	0.0144
70	18000 3	9.000	89.108	0.77 5	69.014	77.76%	69.01%	0.1005

71	16160 7	8.249	25.439	0.70 7	17.985	94.18%	17.99%	-0.0184
72	10003 2	4.721	8.008	0.93 8	7.511	90.13%	7.51%	-0.0153
73	45000 8	3.934	10.298	0.85 8	8.835	91.71%	8.84%	0.0026
74	16380 8	3.932	20.782	0.67 1	13.944	92.25%	13.94%	-0.0238
75	10003 8	3.649	63.865	0.79 3	50.645	91.21%	50.64%	-0.0053
76	21301 0	3.501	0.789	0.69 2	0.546	85.99%	0.55%	-0.0103
77	02000 3	9.685	8.199	0.48 7	3.993	82.98%	3.99%	0.2151
78	51900 3	9.416	39.761	0.68 8	27.355	63.57%	27.36%	0.1573
79	28800 1	9.408	13.355	1.15 5	15.425	73.50%	15.43%	0.3456

80	23300 1	9.378	1.559	0.43 2	0.673	70.06%	0.67%	0.1891
81	15010 3	9.367	24.238	1.16 5	28.234	77.26%	28.23%	0.3036
82	04000 4	8.964	36.314	1.08 7	39.473	65.16%	39.47%	0.1761
83	42000 1	7.841	45.697	0.47 9	21.871	80.19%	21.87%	0.0973
84	11000 1	10.97 0	16.261	1.34 9	21.935	58.07%	21.94%	0.2396
85	18000 1	10.74 5	24.352	1.12 8	27.462	65.68%	27.46%	0.1718
86	21700 2	10.29 0	1.031	1.07 2	1.105	43.08%	1.11%	0.1529
87	15100 1	10.02 2	13.824	1.08 0	14.935	67.26%	14.94%	0.2885
88	27000 1	9.690	41.724	1.23 2	51.412	73.92%	51.41%	0.184

89	27000 2	9.044	46.915	1.52 9	71.724	54.66%	71.72%	0.2675
90	45000 1	8.195	12.472	0.50 9	6.342	63.40%	6.34%	0.1462
91	37301 0	7.293	29.843	1.00 0	29.849	70.02%	29.85%	0.3622
92	05000 7	7.197	22.197	0.94 1	20.887	44.74%	20.89%	0.2502
93	48300 3	7.080	84.885	0.48 3	40.957	66.95%	40.96%	0.0055
94	37302 0	5.222	3.588	1.36 6	4.903	68.35%	4.90%	0.4192
95	66000 3	4.340	6.932	1.18 4	8.204	64.61%	8.20%	0.3364
96	21000 6	2.233	4.078	1.11 5	4.547	2.00%	4.55%	0.1455
97	20221 2	2.137	32.478	1.05 7	34.329	14.23%	34.33%	0.0994

98	16341 1	2.019	6.577	1.09 0	7.166	10.08%	7.17%	0.16
99	62000 7	1.984	0.671	1.06 9	0.717	8.67%	0.72%	0.1305
100	21702 0	1.940	3.345	1.17 9	3.944	6.43%	3.94%	0.1492