

## Research Article

## Modelling Investment Choice Preference of Government Venture Capital Guiding Funds

Sijing Yang<sup>1</sup> and Jing Cui<sup>2</sup>

<sup>1</sup>Business School, Xiangtan University, Xiangtan 411105, China
 <sup>2</sup>Management College, Beijing Union University, Beijing 100101, China

Correspondence should be addressed to Jing Cui; gltcuijing@buu.edu.cn

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The continuous development of the government venture capital guiding funds (hereinafter referred to as the "government guiding funds") has provided financial support and development opportunities for the development of many small- and medium-sized enterprises (SMEs), and government guiding funds have been paid attention by more and more entrepreneurs and investors of SMEs. This paper takes the SMEs listed on the National Equities Exchange and Quotations ("NEEQ," known as the New Third Board) as a research sample, systematically examines the factors that influence the selection of investment objects of government guiding funds, and studies the preference of government guiding funds from the aspects of financial characteristics and corporate governance of SMEs. The research results show that on one hand, ownership concentration, date of establishment, and asset size are significantly related to government guiding funds, while the return on equity (ROE), the asset-liability ratio, liquidity of assets, growth rate of main business income, and the operating net profit ratio failed to pass the significance test; on the other hand, operating profit ratio, investment interests, asset size, and the amount of investment of government guiding funds are significantly related, while investment rounds, date of establishment, ownership concentration, ROE, asset-liability ratio, liquidity of assets, and operating net profit ratio failed the significance test.

## 1. Introduction

In 2002, China's first government guiding fund—Zhongguancun Science Park Venture Capital Guiding Fund—was established. Since then, China's government guiding funds have gone through several important stages of initial exploration, gradual development, blowout development, and steady development. At the Summer Davos Forum in September 2014, Premier Li Keqiang put forward the slogan "mass entrepreneurship and innovation," which set off an upsurge of entrepreneurship. According to China's Industry market in-depth research and investment strategy research analysis report of operating projects in 2017 to 2022, there were currently 40 million SMEs in China, accounting for 99% of the total number of enterprises, and they contribute most of China's GDP, taxation, and urban employment. They are an important part of our national economy. However, SMEs also face many problems, such as small scale, poor market competitiveness, and weak analytical capabilities. Among them, the most serious problem is the difficulty of financing, and the funds of SMEs cannot be guaranteed. However, the government guiding funds can not only bring financial support to SMEs but also provide technical support and services.

China drew lessons from the successful foreign Yozma Fund in Israel, IIF Fund in Australia, and SBIC Plan in the United States, and established government guiding funds based on governments at all levels to help SMEs solve funding problems. However, due to the short development history of government guiding funds in China, their management lacks standardization. Although venture capital institutions pursuit more profit, they also avoid more risk, so they are willing to invest enterprises which grow rapidly, and have relatively mature business and management models, because there is more operating uncertainty and longer investment recovery cycles in the early stage [1, 2]. When government guiding funds choose to invest in SMEs, they may have certain preferences based on their own development and performance appraisal and other reasons. However, there are few previous studies on the choice preference of government guiding funds. Therefore, this paper chooses NEEQ-listed enterprises as research samples to analyze the factors influencing the selection of investment objects of government guiding funds, so as to provide reference and guidance for the development of current investment norms of government guiding funds.

The innovation points of this paper include the following: first, in terms of research content, the current researches on government guiding funds mainly focus on the investment mechanism and operation mode; however, this paper systematically analyzes the preference of government guiding funds when choosing the investment objects, which is a supplement to the research on government guiding funds. Second, in terms of research method, this study of government guiding funds mainly adopts literature and theoretical research, but this paper mainly uses empirical analysis and chooses ten factors influencing the investment of government guiding funds: this research can extend the current research methods on government guiding funds.

## 2. Literature Review

2.1. Typical Government Venture Capital Projects. Researchers focus on the typical government venture capital projects. Douglas compares the nature of Australian IIF projects with Canadian, British, and US government venture capital projects and analyzed the risk preference of early investment and high-tech investment [3]. Cao discusses the financial channels and management models of European investment fund supporting SMEs, as well as measures worth our learning [4]. Soumaré and Lai believes that the global crisis and the European sovereign debt crisis have led to major changes in the financing of SMEs, and the government should more actively solve the problem of increasing difficulty in obtaining funds of SMEs. The Yozma project entered the Israeli venture capital market in 1993 and vigorously promoted the development of innovative technology enterprises in Israel [5]. Wonglimpiyarat finds that the rise of high-tech industrial clusters was the result of government-led policies, which proves that government financing does not crowd out the market but attracts private investment [6]. Based on the case analysis of Israel's Yozma Fund and Australia's IIF Fund, Xu finds that the key to the success of government-managed venture capital government guiding funds is to balance the relationship between the government and the market [7].

2.2. Government Investment Funds. Referring to the experience of other countries, the establishment of government investment funds is an inevitable choice to support the development of SMEs. Zhang and Guo point out that stateowned government guiding funds should focus on guiding private capital to enter into the field of venture capital [8]. Government investment faces new tasks and new requirements in recent years. He and Liang argue that the government plays the role of investor, trustee, guarantor, and regulator in the operation of government guiding funds [9]. Ma and Shi point out the current problems in the operation of domestic government guiding funds [10]. Tan and Zhu analyze the operational characteristics, management mode, alignment between policies and goals, risk control, and investment efficiency of five government guiding funds and finally put forward the countermeasures and suggestions to promote the development of government guiding funds in China [11]. Xing states the development status of government guiding funds and the phenomenon of cash on hand of government guiding funds, the excessive participation of the government in the decision-making of government guiding funds, and the inability to achieve effective agreement between public goals and market goals [12].

Based on the empirical data of listed companies on China's Growth Enterprise Market, Wu et al. point out that venture capitals are more likely to get involved in startups with financial competitive advantages [13]. Bateman and Morris conclude that risk preference and error propensity were found to differ significantly among different socio-demographic groups and financial literacy levels [14]. Ye states the different preferences of private capital investment behavior in different market environments taking Wenzhou as an example [15]. Guan and Li construct investment preference indicators and analyze the investment preferences of venture capital in terms of sole (joint) investments, industries, and regions [16].

2.3. Literature Commentary. From the existing research results, we can see that the SBIC plan greatly stimulated investors' investment in small businesses. The Yozma program not only promoted Israel's high-tech industry but also made Israel with the higher proportion of venture capital in GDP. The EIF of the European Union and the IIF of Australia are both government investment funds that have developed earlier. Although certain problems aroused in the later stage, they are generally successful funds. Government guiding funds have functions of leveraging socially restricted funds, alleviating market investment failure, and promoting industrial revitalization. These studies are also a significant progress in the study of the impact of fiscal policy on enterprise economic performance [17]. The development of China's government guiding funds is relatively late, so we continue to find fund operation models and performance evaluation systems suitable for China's national conditions. However, as far as current research is concerned, scholars have seldom studied the factors that influence the investment preference of government guiding funds, and the investment behaviors of different investors have different preferences in different market environments. Therefore, based on the current status of the development of government guiding funds in China, a systematic analysis of the influencing factors of government guiding funds in selecting investment objects can enrich the current theoretical research on government guiding funds.

## 3. Research Methodology

3.1. Theoretical Analysis and Hypothesis. The government guiding funds help the development of SMEs by giving a certain financial and technical support to SMEs and ultimately enable the invested SMEs to contribute to the Chinese economy. However, government guiding funds have their own preferences, and the investment amount is limited; therefore, not all SMEs can get investments from government guiding funds. For this purpose, the government guiding funds first consider and care most about the profitability of enterprises, which reflects the ability of the enterprises to obtain profit in a certain period of time. As the government guiding funds do not participate in the daily operation of an invested company, the profitability of the company can not only reflect the performance of the company during that period of time but also bring profits to the company and contribute to the country's macroeconomy. The liquidity of an enterprise reflects the ability of the enterprise to undertake short-term debt service obligations, and it is also the ability of an enterprise to turn assets into cash. The more the current assets and fewer short-term debts, the stronger the debt paying ability. The government is the creditor of invested SMEs. For creditors, one of the important sources of debt repayment by enterprises is profit, and the solvency of enterprises depends on their profitability. The degree of ownership concentration refers to the quantitative index of ownership concentration or equity dispersion shown by all shareholders due to different shareholding ratios. Ownership concentration is the main indicator to measure the distribution status of a company's equity, it is also an important indicator to measure the stability of the company, and it is also an important indicator to measure the company's structure. Generally speaking, the higher the ownership concentration, the higher the corporate performance and governance efficiency.

Based on the literature review and theoretical analysis, we can see the comprehensive influence of SMEs' financial characteristics, corporate governance characteristics, and other factors on the investment choices of government guiding funds. These factors influence each other and restrict each other, constituting the core influence of the investment selection of government guiding funds. Therefore, this paper proposes the following hypotheses:

H1: the investment choices of government guiding funds are positively correlated with the profitability of the invested companies

H2: the investment choices of government guiding funds are positively correlated with the liquidity of the invested companies

H3: the investment choices of government guiding funds are positively correlated with the ownership concentration of the invested companies

### 3.2. Data Source and Sample Selection

*3.2.1. Data Source.* In this paper, the financial data and their own characteristics of SMEs invested and uninvested by government guiding funds are derived from Zero2IPO Private Equity and Wind database, respectively. The data analysis software used in this paper is STATA14.

*3.2.2. Sample Selection.* This paper selects companies listed on the NEEQ in 2014 to 2016 that have obtained government guiding funds and those that have not obtained investment and rationally screened the selected data. The selection criteria are as follows:

- (a) Eliminate samples with missing data of dependent variables
- (b) Eliminate samples with missing data of independent variables
- (c) Excluding the samples of NEEQ enterprises with abnormal data

After screening, a total of 310 samples of companies listed on NEEQ in 2014 to 2016 that received investment from government guiding funds and 1,420 samples that did not obtain investment from government guiding funds were obtained as valid sample data.

*3.2.3. Definition of Variables.* The explained variables, explanatory variables, and control variables in this paper are shown in Table 1.

#### 3.2.4. Empirical Model

(a) The influencing factor model of whether obtaining government guiding funds

For the research on the influencing factors of whether to obtain the investment of government guiding funds because whether to obtain the investment is a 0-1 dummy variable, this paper will establish a Probit regression model for research. The specific model is as follows:

$$Y_{1} = \alpha + \beta_{1} \text{ROE} + \beta_{2} \text{CS} + \beta_{3} \text{AGE} + \beta_{4} \text{INSIZE} + \beta_{5} \text{TTM} + \beta_{6} \text{LOA} + \beta_{7} \text{PORIR} + \beta_{8} \text{OC} + \varepsilon.$$
(1)

Among them,  $Y_1$  is a 0-1 variable, 0 means no investment and 1 means getting investment; ROE means return on equity; CS means asset-liability ratio; AGE means date of establishment; INSIZE means natural logarithm of asset size; TTM means operating profit ratio; LOA represents the liquidity of assets; PORIR represents the growth rate of main business income; and OC represents the ownership concentration.

| Types of variables    | Factor pattern                                | English<br>symbol | Notes  |
|-----------------------|---|-------------------|--|
|                       | Whether to get investment                     | $Y_1$             | 0 means no investment, 1 means getting investment  |
| Explained variables   | Investment amount of government guiding funds | $Y_2$             | More investment means more preference  |
|                       | Liquidity of assets                           | LOA               | Current assets/total assets  |
|                       |   | ROE               | Natural logarithm of net profit/average net assets   |
| Explanatory variables | Company's profitability                       | TTM               | Main business profit/main business income  |
|                       | Company's promability                         | PORIR             | (Income from main business this year – income from main business last year)/income from main business last year × 100% |
|                       | Ownership concentration                       | OC                | The sum of the squares of the shareholding ratio of the top-10 shareholders  |
| Control variables     | Company size                                  | INSIZE            | The natural logarithm of the company's total assets at the end of the period   |
|                       | Capital structure                             | CS                | Total liabilities/total assets   |
|                       | Age   | AGE               | Time since the establishment of the company  |
|                       | Investment rounds                             | TURN              | Investment rounds  |
|                       | Investment interests                          | STOCK             | Ratio of investment interests  |

TABLE 1: Selected variable types and definitions.

(b) Model of factors that affect the amount of investment

When studying the factors affecting the amount of investment, this paper establishes a multiple linear regression model, the specific model is as follows:

$$Y_{2} = \alpha + \beta_{1}ROE + \beta_{2}CS + \beta_{3}AGE + \beta_{4}INSIZE + \beta_{5}TTM + \beta_{6}LOA + \beta_{7}PORIR + \beta_{8}OC + \beta_{9}TURN + \beta_{10}STOCK + \varepsilon.$$
(2)

Among them, ROE means return on equity; CS means asset-liability ratio; AGE means date of establishment; INSIZE means natural logarithm of asset size; TTM means operating profit ratio; LOA means liquidity of assets; PORIR represents the growth rate of main business income; OC means ownership concentration; TURN means investment rounds; and STOCK means ratio of investment interests.

## 4. Results and Discussion

### 4.1. Descriptive Statistics

4.1.1. Descriptive Statistics of the Overall Sample. The descriptive statistics of the overall sample (including the sample of enterprises with investment and the sample without investment) are shown in the following table. The average value of asset size (logarithmic form) is 18.786570, the maximum value is 22.29241, the minimum value is 14.71, the median value is 18.79, and the standard deviation is 1.233988; the average value of ownership concentration is 88.4236, the maximum is 100, the minimum is 41.06, the median is 92.32, and the standard deviation is 12.59449; the average value of ROE is 5.591706, the maximum is 88.1536, the minimum is -195.3183, the median is 8.9373, and the standard deviation is 26.35579. The specific values of other indicators can be found in Table 2.

4.1.2. Descriptive Statistics of Samples Getting Investment. The descriptive statistics of the samples that obtained investment are shown in the following table, where the average value of asset size (logarithmic form) is 19.13608, the maximum value is 22.29241, the minimum value is 16.58518, the median is 16.58518, and the standard deviation is 1.217547; the average value of ownership concentration is 90.17894, the maximum is 100, the minimum is 54.02, the median is 93.85, and the standard deviation is 10.38998; the average value of ROE is 11.34969, the maximum is 77.8426, the minimum is -97.0486, the median is 13.431, and the standard deviation is 21.91709; the average value of asset-liability ratio is 32.12444, the maximum is 87.8911, the minimum is 3.09070.1, the median is 3.0907, and the standard deviation is 18.13288. The specific values of the remaining indicators can be found in Table 3.

#### 4.2. Correlation Analysis

4.2.1. Correlation Analysis of the Main Variables That Affect Getting Investment. The results of the correlation analysis of the main variables in the investment model are given in Table 4.

It can be seen from Table 4 that most of the coefficients are less than 0.5, indicating that the probability of multicollinearity is very small, and it is suitable for regression analysis.

4.2.2. Correlation Analysis of the Main Variables That Affect the Investment Amount Model. In the model that affects the investment amount, the correlation analysis results among the main variables are shown in Table 5.

It can be seen from the above table that most of the coefficients are less than 0.5, indicating that the probability of multicollinearity is very small, and it is suitable for regression analysis.

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| TABLE 2: Descriptive statistics of the overall sample |
|---|
|---|

| Variable | Mean       | Max       | Min        | <i>P</i> 50 | SD        |
|----------|------------|-----------|------------|-------------|-----------|
| INSIZE   | 18.78657   | 22.29241  | 14.71      | 18.79       | 1.233988  |
| OC       | 88.4236    | 100.0     | 41.06      | 92.32       | 12.59449  |
| ROE      | 5.591706   | 88.1536   | -195.3183  | 8.9373      | 26.35579  |
| CS       | 32.35764   | 108.6071  | 1.303      | 30.0049     | 19.6352   |
| LOA      | 74.828     | 99.8371   | 18.4303    | 79.1229     | 19.16638  |
| TTM      | -0.0469336 | 0.8532606 | -9.04382   | 0.0693637   | 0.6665751 |
| PORIR    | 0.4359446  | 15.67113  | -0.9423891 | 0.1659492   | 0.4359446 |
| AGE      | 13.43371   | 26        | 5          | 14          | 4.456823  |

TABLE 3: Descriptive statistics of samples getting investment.

| Variable | Mean      | Max       | Min       | <i>P</i> 50 | SD        |
|----------|-----------|-----------|-----------|-------------|-----------|
| INSIZE   | 19.13608  | 22.29241  | 16.58518  | 19.20882    | 1.217547  |
| OC       | 90.17894  | 100       | 54.02     | 93.85       | 10.38998  |
| ROE      | 11.34969  | 77.8426   | -97.0486  | 13.4431     | 21.91709  |
| CS       | 32.12444  | 87.8911   | 3.0907    | 30.4528     | 18.13288  |
| LOA      | 73.53562  | 99.8371   | 21.031    | 77.49585    | 19.89581  |
| TTM      | 0.0684532 | 0.7032054 | -1.041262 | 0.101003    | 0.2336545 |
| PORIR    | 0.5572413 | 7.731792  | -0.486861 | 0.29158     | 1.072926  |
| AGE      | 1.072926  | 26        | 5         | 11          | 4.858379  |
| STOCK    | 5.34724   | 30.31     | 0.04      | 3.925       | 5.153146  |

TABLE 4: Correlation results of the main variables in the investment model.

|        | $Y_1$         | AGE         | ROE            | CS        | INSIZE         | TTM           | LOA     | PORIR   | OC |
|--------|---------------|-------------|----------------|-----------|----------------|---------------|---------|---------|----|
| $Y_1$  | 1             |             |                |           |                |               |         |         |    |
| AGE    | $-0.060^{**}$ | 1           |                |           |                |               |         |         |    |
| ROE    | 0.194***      | -0.004      | 1              |           |                |               |         |         |    |
| CS     | $-0.011^{*}$  | -0.035      | $-0.126^{***}$ | 1         |                |               |         |         |    |
| INSIZE | 0.123***      | -0.053**    | 0.376***       | 0.186***  | 1              |               |         |         |    |
| TTM    | 0.153***      | 0.0006      | 0.628***       | -0.093**  | 0.309***       | 1             |         |         |    |
| LOA    | -0.059**      | -0.056**    | -0.056**       | -0.058*** | $-0.198^{***}$ | 0.0002        | 1       |         |    |
| PORIR  | 0.078**       | 0.027       | -0.0273        | 0.593***  | 0.135***       | 0.100***      | 0.056** | 1       |    |
| OC     | 0.1238***     | $0.024^{*}$ | 0.0245         | 0.507**   | -0.458         | $-0.098^{**}$ | 0.071** | 0.0395* | 1  |

Note: variable definitions are in Table 3. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

TABLE 5: Correlation results of the main variables that affect the investment amount model.

|        | $Y_2$          | AGE            | STOCK          | TURN      | OC             | ROE      | CS             | INSIZE         | TTM   | LOA         | PORIR |
|--------|----------------|----------------|----------------|-----------|----------------|----------|----------------|----------------|-------|-------------|-------|
| $Y_2$  | 1              |                |                |           |                |          |                |                |       |             |       |
| AGE    | 0.005          | 1              |                |           |                |          |                |                |       |             |       |
| STOCK  | 0.180***       | $-0.090^{***}$ | 1              |           |                |          |                |                |       |             |       |
| TURN   | 0.159***       | 0.117***       | -0.229***      | 1         |                |          |                |                |       |             |       |
| OC     | $-0.161^{***}$ | $-0.158^{***}$ | 0.354***       | -0.359*** | 1              |          |                |                |       |             |       |
| ROE    | 0.016***       | 0.011*         | -0.123         | 0.124***  | 0.032          | 1        |                |                |       |             |       |
| CS     | 0.031          | 0.081**        | 0.069***       | -0.033    | $0.107^{***}$  | -0.0284  | 1              |                |       |             |       |
| INSIZE | $0.274^{***}$  | 0.263***       | -0.428         | 0.330***  | $-0.511^{***}$ | 0.194*** | 0.276***       | 1              |       |             |       |
| TTM    | 0.052**        | 0.098***       | $-0.195^{***}$ | 0.151***  | $-0.115^{***}$ | 0.828*** | $-0.152^{***}$ | 0.322***       | 1     |             |       |
| LOA    | -0.049         | -0.139***      | 0.078***       | 0.056**   | 0.032          | 0.091*   | -0.135***      | $-0.251^{***}$ | 0.013 | 1           |       |
| PORIR  | $-0.083^{***}$ | -0.089**       | -0.023         | -0.069**  | -0.008         | 0.055**  | 0.014          | $0.060^{*}$    | 0.091 | $0.015^{*}$ | 1     |

Note: variable definitions are in Table 3. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

### 4.3. Multiple Regression Analysis

4.3.1. Empirical Analysis Results of Factors That Affect Getting Investment. This paper first analyzes the influencing factors of whether it is possible to obtain government guiding funds, and the analysis results obtained are shown Table 6.

It can be seen from the regression results that the Prob > chi-square = 0 of the entire model indicates statistical significance. The coefficient of date of establishment is negative and significant at a significance level of 0.01, indicating that the longer the time of establishment, the lower the probability of obtaining investment; the coefficient of asset size is positive and significant at a significance level of 0.01, indicating that the larger the asset size, the higher the probability of obtaining investment; the coefficient of ownership concentration is positive and is significant at a significant at a significance level of 0.01, indicating that the higher the probability of obtaining investment; the coefficient of ownership concentration, the higher the probability of obtaining investment; while the remaining variables fail the significance test.

The following is an analysis based on the data results:

- (a) The higher the concentration of ownership, the higher the probability of obtaining investment. In theory, the higher the concentration of ownership, the higher the performance and governance efficiency of a company. According to the data, practice agrees with theory. The higher the concentration of ownership, the stronger the stability of a company's equity because it is more resistant to threats such as hostile mergers and acquisitions from the external market. Secondly, the nondiversification of equity indicates that the company is not invested by other investors, and it often needs investment more than a company with diversified equity because government guiding funds invest in companies with a high degree of ownership concentration.
- (b) The longer the time of establishment, the lower the probability of obtaining investment. On one hand, if a company's performance has not improved for a long time, it proves that the company has more or less problems in operation or its own management, which is not conducive to the recovery of costs by the investors; on the other hand, newly established companies need more funds to maintain their operations or develop new businesses than long-established companies and have more potential and development space than long-established companies are more in line with investors' preferences.
- (c) The larger the asset size, the higher the probability of obtaining investment. Consistent with the theory, SMEs with large assets have more fixed and current assets, which are more secure than enterprises with small assets and are more favored by government guiding funds.

The ROE, asset-liability ratio, liquidity of assets, growth rate of main business income, and operating net profit rate

TABLE 6: Results of multiple regression of factors affecting whether government guiding funds make an investment.

| Coef.           | SE   | t  | p value  |  |  |
|-----------------|--|--|--|--|--|
| -0.1221***      | 0.0163   | -7.45  | ≤0.001   |  |  |
| -0.0020         | 0.0044   | -0.48  | 0.635  |  |  |
| -0.0073         | 0.0037   | -1.96  | 0.500  |  |  |
| 0.5690***       | 0.0848   | 6.71   | ≤0.001   |  |  |
| 0.3538          | 0.2949   | 1.20   | 0.230  |  |  |
| -0.0017         | 0.0037   | -0.47  | 0.637  |  |  |
| -0.0052         | 0.0493   | -0.11  | 0.915  |  |  |
| 0.0389***       | 0.0071   | 5.45   | ≤0.001   |  |  |
| $-12.301^{***}$ | 2.0413   | 15.63  | ≤0.001   |  |  |
| 1420            |  |  |  |  |  |
| 0               |  |  |  |  |  |
|                 | 0.228  | 7  |  |  |  |
|                 | -0.1221***<br>-0.0020<br>-0.0073<br>0.5690***<br>0.3538<br>-0.0017<br>-0.0052<br>0.0389*** | -0.1221***         0.0163           -0.0020         0.0044           -0.0073         0.0037           0.5690***         0.0848           0.3538         0.2949           -0.0017         0.0037           -0.0052         0.0493           0.0389***         0.0071           -12.301***         2.0413           1420         0 | $\begin{array}{ccccc} -0.1221^{***} & 0.0163 & -7.45 \\ -0.0020 & 0.0044 & -0.48 \\ -0.0073 & 0.0037 & -1.96 \\ 0.5690^{***} & 0.0848 & 6.71 \\ 0.3538 & 0.2949 & 1.20 \\ -0.0017 & 0.0037 & -0.47 \\ -0.0052 & 0.0493 & -0.11 \\ 0.0389^{***} & 0.0071 & 5.45 \\ -12.301^{***} & 2.0413 & 15.63 \\ \end{array}$ |  |  |

Note: variable definitions are in Table 3. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

failed to pass the significance test. Therefore, they have little influence on whether government guiding funds make an investment.

4.3.2. Empirical Analysis Results of Factors That Affect the Amount of Investment of Government Guiding Funds. This paper further takes the enterprises that have received investment as the research sample to analyze the factors that affect the size of the investment amount. On the basis of examining all explanatory variables of the aforementioned model, control variables such as investment rounds, investment stage, and investment interests are added, while the dependent variable is the amount of investment obtained. The obtained regression results are shown in Table 7.

It can be seen from the regression results that after screening, there are 3 independent variables that have a significant impact on the dependent variable. The coefficient of investment interests is positive and significant at a significant level of 0.01, indicating that the higher the investment interests, the greater the amount of investment; the coefficient of asset size (logarithmic form) is positive and is significant at a significance level of 0.01, indicating that the larger the asset size, the greater the amount of investment; the coefficient of operating profit ratio is positive and significant at a significance level of 0.01, showing that the higher the operating profit ratio, the higher the amount of investment. The remaining variables failed the significance test.

The following is an analysis based on the data results:

- (a) The higher the operating profit ratio, the higher the amount of investment. The operating net profit ratio reflects the profitability of the company's sales. The higher the profitability of the SMEs, the higher the principal and profit the investors will recover. Therefore, investors will choose to give more money to companies with high operating margins.
- (b) The coefficient of investment interests is also positive, indicating that this factor is also a significant factor affecting a company's investment amount. The

TABLE 7: Results of multiple linear regression of factors affecting the investment amount of government guiding funds.

|                        | Coef.          | SE     | t     | p value      |
|------------------------|----------------|--------|-------|--------------|
| AGE                    | -0.4947        | 0.3426 | -1.44 | 0.150        |
| STOCK                  | 1.9032***      | 0.3514 | 5.42  | ≤0.001       |
| TURN                   | 0.8997         | 0.7037 | 1.28  | 0.203        |
| OC                     | -0.0730        | 0.1953 | -0.37 | 0.709        |
| ROE                    | -0.0001        | 0.1375 | -0.00 | 0.999        |
| CS                     | -0.1473        | 0.1053 | -1.40 | 0.164        |
| INSIZE                 | 9.4050***      | 1.9926 | 4.72  | $\leq 0.001$ |
| TTM                    | -4.0268        | 13.563 | -0.30 | 0.767        |
| LOA                    | 0.0081         | 0.0853 | 0.10  | 0.924        |
| PORIR                  | 2.2367*        | 1.4918 | 1.53  | 0.086        |
| _Cons                  | $-158.9^{***}$ | 48.801 | -3.26 | 0.001        |
| Number of observations | 310            |        |       |              |
| Prob > F               | 0.0000         |        |       |              |
| Adj R <sup>2</sup>     | 0.2828         |        |       |              |

Note: Variable definitions are in Table 3. \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1%, respectively.

higher the investment interests, the better the business performance of the company. Once its business is not good, the equity used for investment can be sold to protect the interests of investors.

(c) The larger the asset size, the greater the amount of investment.

However, the investment rounds, date of establishment, ownership concentration, ROE, asset-liability ratio, liquidity of assets, and operating net profit rate failed to pass the significance test. Therefore, they have less influence on the investment size of government guiding funds.

## 5. Conclusive Remarks

5.1. Conclusion. The most critical factor that affects early startups is money, but due to the particularity of the smalland medium-sized enterprises, it is very difficult for them to obtain loans from the credit market [18]. The choice preference of government guiding funds has been paid more and more attention by SME founders and investors. However, there are few previous studies on this, so this paper mainly explores the factors that affect the investment of government guiding funds. This paper analyzes the connotation and development status of government guiding funds. In this paper, the financial data of 192 companies listed on NEEQ received investment, and 253 companies that did not receive investment from the government guiding fund from 2014 to 2016 selected from Wind database and Zero2IPO database were selected as samples, and STATA was used for exploration and verification. Regarding the factors that affect whether government guiding funds make an investment, eight independent variables and control variables, including ROE, assetliability ratio, date of establishment, asset size, operating profit ratio, liquidity of assets, growth rate of main business income, and ownership concentration, were established; for the factors that affect the investment amount of government guiding funds, ten independent variables and control variables were set up, including ROE, asset-liability ratio, date of establishment, asset size, operating profit ratio, liquidity of assets, growth rate of operating income, ownership concentration, investment rounds, and investment interests. Through data analysis, the following conclusions are drawn: the longer the date of establishment, the lower the probability of obtaining investment, the larger the asset size, the higher the probability of obtaining investment, the higher the concentration of ownership, the higher the probability of obtaining investment; the higher the investment interests, the larger the amount of investment, the larger size of assets, the larger amount of investment, the higher operating profit ratio, and the higher the amount of investment. The remaining variables failed the significance test.

#### 5.2. Policy Recommendations

#### 5.2.1. Recommendations for Enterprises

- (a) Try to maintain a high degree of ownership concentration. Although appropriate equity dispersion can reduce information asymmetry to a certain extent, if the degree of ownership concentration is low, it will lead to the absence of shareholders who have greater control over an enterprise to supervise managers and employees. A direct conflict of interest between shareholders and managers may lead to the moral hazard of managers, which is not conducive to the development of enterprises. The higher concentration of equity not only helps the company's own operations and management but also increases the probability of being invested by the government's investment government guiding funds.
- (b) Appropriately increase the operating net profit ratio. Operating net profit ratio is an important indicator of profitability. Although its correlation with whether it is invested is not very significant, it is related to the amount of investment. The increase in operating net profit ratio can be achieved by expanding sales or increasing prices, saving costs that should be saved, rational investment allocation, increasing labor productivity, accelerating capital turnover, and optimizing capital structure.
- (c) Appropriately improve the liquidity of assets. Although according to STATA analysis, the liquidity of assets has little effect on whether it is invested or the size of the investment amount, but the higher liquidity of assets shows that enterprises can make good use of the turnover of working capital, improve their use efficiency, reduce the financial risk of the enterprise, enhance the repayment ability, and protect the interests of investors.

# 5.2.2. Recommendations for the Development of the Guiding Funds

(a) When selecting the SMEs to be invested in, appropriate attention should be paid to the balance sheet, liquidity of assets, growth rate of main business

All data used in this study could be accessed by request.

## **Conflicts of Interest**

The authors declare that they have no conflicts of interest.

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income and investment rounds because the aforementioned indicators can represent debt solvency, operating results, promotability, and so on.

- (b) Government guiding funds' management organization shall be established, which shall be uniformly managed by the state, formulate management requirements and investment behavior requirements for government guiding funds that can be promoted nationwide, clarify government responsibilities, and supervise local governments not to make overstepping actions such as interfering in the daily operation of SMEs and interfering in fund decisions. At the same time, a special budget department shall be set up to prevent the duplication of fund establishment, analyze the fund balance, and reduce the fund balance. Provinces and cities should also establish regional investment fund management agencies and formulate regulations that are more conducive to government guiding funds, third-party investment institutions, invested SMEs, and regional economy according to local conditions under unified requirements; in addition, supervision organizations should establish a multidimensional assessment mechanism. Government guiding funds should be assessed, and the SMEs that need to supervise or examine the government guiding funds have the potential and are worthy of investment. It is also necessary to assess various financial and operational indicators of the invested enterprises.
- (c) An online information sharing platform can be established. Due to the strong regional protection of the government guiding funds in various regions and the uneven distribution of investment government guiding funds, the number of government guiding funds in eastern coastal and developed areas is far greater than that of western and underdeveloped areas. However, SMEs in western and underdeveloped areas are in greater need of government guiding funds for economic development. Establishing an online information sharing platform and putting the information of government guiding funds and SMEs that need to be invested can reduce the geographical protection restrictions of government guiding funds in various regions. The government can select SMEs that meet the needs of investment funds for investment. When there is a balance of funds, it can also select potential SMEs for investment to reduce the balance carryover, efficiently use funds, and avoid wasting money. The number of SMEs is far greater than the number of investment funds. The government cannot learn about every SME. During the investment process, companies with potential and development may be missed. Through this platform, SMEs can also see information about investment funds and find suitable ones that are hopeful to make an investment, proactively contact the fund side, and if the fund is considered to be investable after evaluation, a win-win situation can be achieved.

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