ENTERPRISE RISK MANAGEMENT AND INTERNAL CONTROL OF CHINESE FAMILY BUSINESSES

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Abstract: The purpose of this study is to examine the effectiveness of internal control in Chinese family firms for the future sustainability of family firms. Family firms’ management familiality, firm size, listing years, gearing ratio, shareholding ratio, and information transparency are the independent variables in this study. In addition, this study uses the effectiveness of internal control of family firms as the dependent variable. The data analysis method used in this study is multiple regression analysis. The sample used in this study includes family firms listed on the China Stock Exchange during 2012-2021, with 5934 valid samples. Higher levels of executive familiality, longer years on the market, and higher gearing all reduce the effectiveness of internal controls. Nevertheless, larger corporate size and higher shareholding of the first largest shareholder can enhance the effectiveness of internal control. At the same time, higher information transparency helps to convey more information about corporate management to investors. It helps to restrain unreasonable behaviours imposed on internal control by the executive team. The result assists the family businesses in identifying their problems at the source so they can prevent and find ways to correct them.

Keywords: Family Firms, Internal Control Effectiveness, Chinese Family Businesses, China Stock Exchange
Introduction
The family business is the oldest and most common form of business in today's capital markets. Family businesses play an important role in the global economy. In China, family businesses account for more than half of the gross domestic product and have become the backbone of the Chinese economy. The average life span of these family businesses is less than 25 years globally, especially in China (Xi, Kraus, Filser & Kellermanns, 2015), where the average life span is only 8.8 years, much lower than that of developed countries such as the United States, Germany and Japan. Moreover, scandals such as financial fraud have been breaking out in Chinese family enterprises. The root cause is the existence of many shortcomings in the internal control of family enterprises.

Many scholars believe that top managers of family enterprises exert a negative role in the internal control of family enterprises. Executives may use their family status to profit from the family, leading to the failure of internal control, so some scholars do not support the involvement of too many family members in the management of enterprises. Nonetheless, family executives who focus on the company's long-term development may disclose more information to gain more trust from outside investors, which is beneficial to the company's long-term planning and development (Loang & Ahmad, 2023).

The salient feature of family firms is family governance. Nicolas Eugster & Dušan Isakov (2019) argue that owner control, owner management, and owner altruism in family governance tend to breed agency problems. Zaid Saidat, Mauricio Silva & Claire Seaman (2019) argue that the deviation of the two powers due to the pyramid structure induces tunnelling behaviour of the majority shareholder and leads to lower value of the family firm. Baobao Lee, Yan & Gengcheng (2020) analyzed the relationship between family involvement, the source of successor CEOs, and the quality of financial reporting comprehensively based on the socio-emotional wealth and legitimacy theory. The study shows that the level of family ownership and management involvement is not conducive to the improvement of the financial reporting quality of firms.

The purpose of this paper is to answer the following questions: Does the family nature of executives, the gearing ratio, and the number of years in the public market have an impact on the effectiveness of a firm's internal control? Does the effectiveness of internal control relate to the firm's size and the percentage of shareholding of the first largest shareholder? Does information transparency play a facilitating or inhibiting role in the effectiveness of internal control in family firms? Descriptive data, correlation and regression analysis, are used to explore family firms' effect on internal control's effectiveness.

This theoretical and empirical study reveals the effectiveness of internal control in family firms. The result brings the perspective of factors affecting the effectiveness of internal control to the executive background. It reveals the role of information transparency on the effectiveness of internal control in family firms, which enriches the literature exploring the factors affecting the effectiveness of internal control and provides a theoretical basis for optimizing the effectiveness of internal control in family firms.
Literature Review and Hypothesis Development

**Family Businesses**

Regarding research on family businesses, the first important issue facing researchers is how to define family businesses. Iqbal & Mansoor (2022) mention that family businesses are the most common ownership business model in the world and are a significant support to the global economy, estimated to account for more than 70% of GDP. Family firms choose to create and accumulate family-centred human and relational resources that can be developed and sustained over multiple generations, so family firms will focus more on tapping into family-centred social resources (Loang and Ahmad, 2022). Xuan (2019) found that by compiling and analyzing scholars’ definitions of family enterprises, they defined them from the perspectives of ownership of corporate capital, operational control and members’ participation, respectively.

**Effectiveness of internal control**

Internal control material weakness reduces the reliability of financial reporting information, imposes costs on the firm, and affects firm performance (Khurana Inder & Kyung Hoyoun 2021). By fixing internal control weaknesses, the firm’s reliability will be enhanced. Internal control effectiveness can enhance sustainable competitive advantage, superior performance and long-term survival of the firm. Firms need to focus on the effectiveness of internal controls by investing their assets and resources and leveraging their capabilities for continuous development and improvement (Phornlaphatrachakorn & Na Kalasindhu, 2020). Improving the effectiveness of internal control in enterprises also requires all personnel to work together in internal control and take active reform measures to promote continuous improvement (Jia, 2022).

Cui (2021) argues that external investors or institutions of enterprises who want to improve internal control's effectiveness can strengthen the function-oriented board of directors. They can implement the separation of powers, implement human resources policies, optimize internal communication, supervise the company's operation, reasonably and legally avoid risks, and continuously internal management's efficiency to ensure internal control's effectiveness control. Yan (2022) argues that the effectiveness of internal control is established based on the enterprise's size, age, and robust economic operation. The relationship between the size of the enterprise and the effectiveness of the enterprise's internal control is positively correlated.

**Executive Family**

A study by Haijie, Changjiang & Xiaowen (2018) found that successors in family firms with overseas training experience have lower organizational identification and emotional commitment to the family firm. These factors are detrimental to their transmission of the family core philosophy and the firm's special assets. Bandiera, Lemos, Prat & Sadun (2018) used a questionnaire to count the weekly working hours of company CEOs. CEOs with family members working hours are relatively 9% less than professional CEOs. In 2018, Mingxia pointed out that the founder of a family business as CEO or a family member who is closer to the founder as CEO is detrimental to the company's internal control and can have a negative impact on the internal governance of the company. Pan, Ruoyu, Xiangge & Yiyi (2019) explored the traditional Chinese clan culture and pointed out that the clan concept in family firms promotes the participation of family relatives in corporate governance. The clan culture reduces agency costs between firm management and controlling shareholders through mutual benefit and kinship trust. De Massis & Rondi (2020) pointed out that the management and governance of family firms are significantly influenced by emotions and culture and explored...
this issue in terms of the dual goals of family harmony and economic efficiency. Cheng, Yu & Jiao (2019) further found that the traditional governance of family firms adversely affects the efficiency of corporate governance by reinforcing the level of kinship altruism.

Scholars have identified the following major problems with executive familiality: first, executives are family members with a tendency for internal protection, and corporate performance is not related to job performance, so the value of the firm may be affected, and the internal control mechanisms of the firm may be undermined (Canovi, Succi, Labaki & Calabrò, 2022). Second, the family business has a more concentrated shareholding. Nonetheless, the various professional departments are the actual implementers of decision-making power, and the value of the business and the strength of its internal controls are reduced by this mismatch between decision-making power and decision-making capacity (Neffe, Wilderom & Lattuch, 2020). Third, the selection of executives among family members has certain limitations in vision and scope, and the competence of executives may be lower than that of external professional managers. The competence and quality of executives will be somewhat questioned (Baobao et al., 2020).

Enterprise Size
Enterprise size can affect firm performance through economies of scale. The larger the company's size, the easier it is to achieve economies of scale, improve unit efficiency, and thus enhance the company's business efficiency, which means that there is generally a positive relationship between company size and company business (Tao, 2022). The larger the company's size, the more stable the operation (Lin, 2020). At the same time, the larger the size of the listed company, the more standardized the internal management, the more transparent the information, and the more motivated the managers are about their work, which can indicate that the larger the size of the listed company, the higher the effectiveness of internal control. Moreover, the larger the company's size, the greater the ability to control and lower operational risks (Senzhi, 2021).

Number of years listed
It may be possible that the longer an enterprise is listed, the better the internal control system. The information will be more transparent and can indicate that the effectiveness of internal control is higher for enterprises with longer listing years. The listing years have a positive moderating effect and mediating effect on enterprise growth (Yiting, L et al., 2022).

Gearing Ratio
The gearing ratio is the ratio of total liabilities to total assets of a firm at the end of the period. It is often used to determine a firm's solvency and risk resistance. A firm that maintains a low gearing ratio for an extended period indicates that it is not fully using its assets and its overall profitability is weak (Loang, 2022). It is also possible that the power holders or stakeholders of the company may appear to be surplus management by reconciling the financial data to hide the true situation from the outside world. Also, it has been proven that the quality of internal control is significantly and positively related to the firm's financial performance, i.e., effective internal control can improve firm performance (Lin & Siyu, 2021).

Shareholding Ratio of the Largest Shareholder
The largest shareholder has the largest voting power and voice in the company's decision-making process and therefore has the greatest control over the company. There is a significant non-linear effect of the shareholding ratio of the first largest shareholder on the listed company
being lifted. As the shareholding ratio of the first largest shareholder increases, the possibility of the listed company being lifted first decreases and then increases (Loang and Ahmad, 2022). When the shareholding ratio of the first largest shareholder is too large to form a dominant share, the largest shareholder may change its motivation in decision-making and then change the quality of internal control by affecting the information transparency of the company to conceal its motivation. There is also a different view that the higher the shareholding of the first largest shareholder, the more incentive there is to monitor the firm's business activities and reduce the incidents of corporate fraud (Lin, 2020). Moreover, the increase in equity concentration facilitates the majority shareholder to pay more attention to controlling the firm’s business risks (Senzhi, D., 2021). In family firms, owners have strong control over employees, management, and the board of directors. This influence may allow family owners to circumvent or override internal controls, which may result in the loss of the role of internal controls as checks and balances within the family business (Dai & Sun, 2021).

Transparency of Information
With regard to the impact of information transparency on investment efficiency, it is generally agreed that increasing information transparency can improve corporate investment efficiency. The higher the information transparency, the less inefficient the investment behaviour of enterprises (Loang and Ahmad, 2020). Haijie et al. (2018) found that higher information transparency in firms with high management capacity will positively affect investment efficiency. Higher transparency of surplus information helps investors to strengthen corporate governance, identify the value and risk of corporate innovation projects, and achieve higher levels of corporate innovation. Information transparency can significantly impact financing decisions, and lower information transparency means that firms can only access lower levels of market capital inputs. In their study, Vallejo, Vallvey & Rivero (2019) suggest that information transparency is widely considered one of the main factors for companies to achieve a certain level of reputation. The positive impact of proper information transparency has gone far beyond improving the company’s reputation and has become an important factor for social equity and economic efficiency. The study by Mwita, Chachage, Mashenene & Msese (2019) shows that the transparency of financial accounting information significantly impacts the effectiveness of corporate governance.

Effect of Family Business on the Effectiveness of Internal Control
Once the actual controllers of family enterprises tend to act in accordance with self-interest, the lower the quality of information disclosed to the outside world, the information disclosure system previously set up will become a superficial and empty framework, the mechanism of information disclosure and the effectiveness of disclosure will be greatly affected, external investors and auditors will also lose the way to understand the true situation of the enterprise, and the controllers of family enterprises will use formal or illegal means to steal the interests of other shareholders for the family and themselves under covert circumstances. The controller of the family business may use formal or illegal means to steal the interests of other shareholders for the family and himself, undermining the effectiveness of internal control and thus jeopardizing the interests of the enterprise.

As the number and proportion of family members among the executives of a listed family enterprise increase over the years, it is relatively easier to reach a consensus on securing family and self-interest by stealing corporate interests and undermining the rights and interests of small
and medium-sized shareholders, and conversely, to discourage the implementation of self-serving behaviours. Therefore, when studying the effectiveness of internal control, attention should be paid to the influence exerted on the effectiveness of internal control by the executive team, the number of years the family firm has been listed, and its size. At the same time, the executive team is a participant in the construction of the internal control system and a promoter of implementing internal control. In companies with absolute power concentration, the board of directors and other employees will behave more actively, and executives can use their power to influence other employees.

With the abovementioned research gaps, this study proposes the following hypotheses and research framework:

\[ H1: \text{There is a negative relationship between executive familiality on the effectiveness of internal control.} \]

\[ H2: \text{There is a positive relationship between firm size and internal control effectiveness.} \]

\[ H3: \text{Years in the market negatively affect internal control effectiveness.} \]

\[ H4: \text{Asset-liability ratio has a negative correlation with internal control effectiveness.} \]

\[ H5: \text{The shareholding ratio of the largest shareholder is positively correlated with the effectiveness of internal control.} \]

\[ H6: \text{Information transparency can positively affect the internal control effectiveness of family enterprises.} \]

![Research Framework](image)

**Figure 1: Research Framework**

**Data and methods**

**Dependent Variable**
In this study, the effectiveness of internal control is taken as the dependent variable, and the Diebold Internal Control Index is used to measure internal control's effectiveness. The internal control index disclosed by it is based on an extensive database on the premise of fully drawing on the normative standards related to internal control at home and abroad, based on national conditions while considering the general environment in which listed companies are located. Following the principles of scientificity, reliability, timeliness and continuity, The five primary objectives of internal control are included in the scope of assessment, which has the characteristics of broad scope, vital timeliness and horizontal and vertical comparison. The index selected in this paper can reasonably measure the effectiveness of internal control of the family enterprises.
Independent Variables

Table 1: Measurement of Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement method</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM</td>
<td>The ratio of the number of family members serving on the executive level, board of directors and supervisory board to the total number of directors and supervisors of the company</td>
<td>Sailong, 2013</td>
</tr>
<tr>
<td>SIZE</td>
<td>Enterprise size takes the natural logarithm of total year-end assets</td>
<td>Wei, 2022</td>
</tr>
<tr>
<td>LY</td>
<td>Length of time of the enterprise from the year of listing to the year of data</td>
<td>Loang &amp; Ahmad, 2022</td>
</tr>
<tr>
<td>LEV</td>
<td>Total liabilities / Total assets</td>
<td></td>
</tr>
<tr>
<td>TOP1</td>
<td>Number of shares held by the company’s first largest shareholder in the current year / Total number of shares in the company</td>
<td>Lin, 2020</td>
</tr>
</tbody>
</table>
| TRANS     | \[
\frac{TA_{i,t}}{A_{t,j-1}} = \frac{A_{t,j-1}}{A_{i,j-1}} + \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{t,j-1}} + \frac{PPE_{i,t}}{A_{t,j-1}} + \alpha_3 \cdot \frac{PPE_{i,t}}{A_{t,j-1}} + \varepsilon
\] | Shin & Jeon, 2021 |
|           | \[
\frac{NDA_{i,t}}{A_{t,j-1}} = \frac{A_{t,j-1}}{A_{i,j-1}} + \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{t,j-1}} + \frac{PPE_{i,t}}{A_{t,j-1}} + \alpha_3 \cdot \frac{PPE_{i,t}}{A_{t,j-1}}
\] | |
| TA,       | \[\frac{TA_{i,t}}{A_{i,t-1}} = NI_{i,t} - CFO_{i,t}\] | |
| DA,       | \[\frac{DA_{i,t}}{A_{i,t-1}} = \frac{DA_{i,t}}{A_{i,t-1}}\] | |
| Trans,    | \[|DA_{i,t}|\] | |

Population and Sampling

Jin Xia (2018) mentioned that family businesses, an economic organization of universal significance worldwide, occupy a pivotal position in the world economy. Based on the percentage of family businesses in several countries collected by the authors (Table 2), it can be seen that the role of family businesses in the host country is evident.
Chinese family businesses are developing rapidly, and although many of them, there is a lack of effective methods to obtain information related to family businesses. Moreover, the regulatory requirements for Chinese listed companies, which must disclose a large amount of information regularly, facilitate our research. Therefore, listed family companies in China are more meaningful for global family companies to study.

In this study, listed family companies on the main board of Shanghai and Shenzhen A-shares in China are taken as the research object. To ensure the continuity and timeliness of the data, panel data from 2012 to 2021 are selected. The sources and tools used for the sample data selected in this study are as follows: STATA was used to analyze the collected data statistically; the level of executive familiality was found and calculated from the Cathay Capital database (CSMAR) to determine; the internal control index was collected from the Diebold internal control index library; Excel and other tools were used to calculate the transparency of accounting information and the data to be calculated; the upper and lower 1% principle was used to The continuous variables were tailor-made according to the principle of top and bottom 1%, aiming to eliminate the influence of extreme outliers (Loang & Ahmad, 2022). In this study, 983 listed family companies with 5,934 samples are considered valid samples.

### Multiple Regression Analysis

This study first examines the effect of family firms on the effectiveness of internal controls by constructing a multiple linear regression model of:

\[
ICI_{it} = \beta_0 + \beta_1 \cdot FM_{i,t-1} + \sum \text{YEAR} + \sum \text{INDUSTRY} + \epsilon_{i,t}
\]  

(Equation 1)

In Equation 1, ICI denotes internal control effectiveness, FM denotes the level of executive familiality, i denotes different firms, t denotes the year of the year, and the coefficients \( \beta_1 \) in the model, if significantly negative, then this validates hypothesis H1, which represents that when executive familiality is higher, internal control effectiveness is lower.

\[
ICI_{it} = \beta_0 + \beta_1 \cdot SIZE_{i,t-1} + \sum \text{YEAR} + \sum \text{INDUSTRY} + \epsilon_{i,t}
\]  

(Equation 2)

---

**Table 2: Share of family businesses in multiple countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>90.00%</td>
</tr>
<tr>
<td>Japan</td>
<td>89.00%</td>
</tr>
<tr>
<td>France</td>
<td>50.00%</td>
</tr>
<tr>
<td>Italy</td>
<td>80.00%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>88.00%</td>
</tr>
<tr>
<td>World Top 500</td>
<td>40.00%</td>
</tr>
</tbody>
</table>
In Equation 2, ICI denotes internal control effectiveness, SIZE denotes firm size, i denotes different firms, t denotes the year of the year, and the coefficients $\beta_1$ in the model, if significantly positive, then this validates hypothesis H2, which represents that when the firm size is larger, the internal control effectiveness is higher.

$$ICI_{it} = \beta_0 + \beta_1 \cdot SIZE_{it} + \sum YEAR + \sum INDUSTRY + \epsilon_{it}$$ (Equation 3)

In Equation 3, ICI denotes internal control effectiveness, LY denotes the number of years the firm has been listed, i denotes different firms, t denotes the year of the year. If the coefficients $\beta_i$ in the model are significantly negative, then this verifies hypothesis H3, which represents that the effectiveness of internal control is lower when the firm has been listed for a longer period of time.

$$ICI_{it} = \beta_0 + \beta_i \cdot LY_{it} + \sum YEAR + \sum INDUSTRY + \epsilon_{it}$$ (Equation 4)

In Equation 4, ICI indicates the effectiveness of internal control, LEV indicates the gearing of the firm, i indicates different firms, t indicates the year of the year, and if the coefficient $\beta_i$ in the model is significantly negative, then this verifies hypothesis H4, which represents that the effectiveness of internal control is lower when the firm’s gearing is higher.

$$ICI_{it} = \beta_0 + \beta_i \cdot LEV_{it} + \sum YEAR + \sum INDUSTRY + \epsilon_{it}$$ (Equation 5)

In Equation 5, ICI denotes internal control effectiveness, TOP1 denotes the shareholding ratio of the first largest shareholder, i denotes different firms, t denotes the year. If the coefficients $\beta_i$ in the model are significantly positive, then this verifies hypothesis H5, which represents that when the shareholding ratio of the first largest shareholder of a firm is higher, the effectiveness of internal control is higher.

On this basis, a multiple linear regression model is constructed to test the influence of information transparency on the effectiveness of family business and internal control:

$$ICI_{it} = \beta_0 + \beta_1 \cdot FM_{it} + \beta_2 \cdot TOAI_{it} + \beta_3 \cdot TOAI_{it-1} + \sum YEAR + \sum INDUSTRY + \epsilon_{it}$$ (Equation 6)

ICI denotes internal control effectiveness, FM denotes the level of executive familiality, TOAI denotes transparency of information, i denotes different firms, t denotes the year. If significantly negative, hypothesis H6 is proved, indicating that the higher the transparency of information, the smaller the role of family members of executives in their family firms on the effectiveness of internal control.
Results and discussion

Analysis of Regression Results
This research begins with descriptive analysis, and descriptive statistics help describe, display, and summarize the data meaningfully. Table 2 shows the descriptive statistics of the variables covered as follows.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICI</td>
<td>5,934</td>
<td>669.1317</td>
<td>43.8942</td>
<td>269.4900</td>
<td>883.3400</td>
</tr>
<tr>
<td>FM</td>
<td>5,934</td>
<td>0.4142</td>
<td>0.2369</td>
<td>0.0000</td>
<td>1.6556</td>
</tr>
<tr>
<td>TRANS</td>
<td>5,934</td>
<td>0.0678</td>
<td>0.0932</td>
<td>0.0004</td>
<td>3.6405</td>
</tr>
<tr>
<td>SIZE</td>
<td>5,934</td>
<td>21.9791</td>
<td>1.0698</td>
<td>19.5550</td>
<td>27.0107</td>
</tr>
<tr>
<td>LY</td>
<td>5,934</td>
<td>7.5187</td>
<td>5.6489</td>
<td>1.0000</td>
<td>29.0000</td>
</tr>
<tr>
<td>LEV</td>
<td>5,934</td>
<td>0.3702</td>
<td>0.1841</td>
<td>0.0084</td>
<td>0.9444</td>
</tr>
<tr>
<td>TOP1</td>
<td>5,934</td>
<td>33.5276</td>
<td>13.6142</td>
<td>4.0800</td>
<td>88.5500</td>
</tr>
</tbody>
</table>

From Table 2, it can be seen that there is a large difference between the maximum value (883.3400) and the minimum value (269.4900) of the Internal Control Index (ICI) in the study sample, which indicates that the quality and efficiency of internal control implementation varies from company to company and there is significant variability. The overall mean value of 669.1317 indicates that the overall level of internal control is generally high in most companies. Nonetheless, the Internal Control Index (ICI) standard deviation is 43.8942, indicating high volatility among the sample data.

The maximum value of the level of executive familiality (FM) is 1.6556, and the minimum value is 0.00, which is a large difference, indicating that the level of executive familiality in Chinese listed companies varies greatly. Information transparency (TRANS) has a maximum value of 3.6405 and a minimum value of 0.0004, with an overall average of 0.0678, indicating that information transparency is relatively low overall. The maximum shareholding ratio of the first controlling owner is 88.5500, the minimum is 4.0800, and the average value is 33.5276, indicating that the shareholding ratio of the first controlling owner is quite different in China's listed family enterprises. The mean value of the asset-liability ratio (LEV) is 0.3702, indicating that most companies have healthy operating conditions and good future development.

Correlation Analysis
To avoid the possibility that the existence of multicollinearity between variables may interfere with the multiple regression analysis conducted below, the Pearson correlation test was performed on the selected variables to provide a preliminary reference for the multiple regression analysis conducted below, and the results of the Pearson test are shown in Table 3.
The coefficient of FM and ICI is -0.029, and there is a significant negative correlation at the 5% confidence level, indicating that the higher the level of senior management's family will decrease the effectiveness of internal control, which supports hypothesis H1 of this study. The coefficient of SIZE and ICI is 0.172, and there is a significant positive correlation at the 1% confidence level, indicating that the larger the size of the enterprise, the higher the effectiveness of internal control, which supports hypothesis H2 of this study. The coefficient of LY and ICI is -0.014, and the correlation indicates no significant relationship between them, which may be related to the failure to control other variables. The hypothesis of H3 will be studied in detail in the regression analysis. The relationship between LEV, TOP1 and ICI is significantly positive at 1% confidence level, which also supports hypotheses H4 and H5 of this study. In addition, the coefficient of information transparency (TRANS) and internal control effectiveness (ICI) is 0.091. A significant positive correlation at 1% confidence level indicates that information transparency and internal control effectiveness change in the same direction. The higher the information transparency, the higher the internal control effectiveness, supporting hypothesis H6 of this study. The correlation coefficients among the variables are overwhelmingly less than 0.5, indicating that the model studied in this study does not have serious multicollinearity problems. Nevertheless, to further investigate the causal relationship among the variables and explain the very few cases with large correlation coefficients, this study conducted a VIF multicollinearity test and multiple regression analysis in the follow-up as a way to investigate the specific interaction paths among the variables.

**Variance Inflation Factor**
Multicollinearity refers to a high correlation between the explanatory variables in the linear regression model that distorts the model estimation or makes it difficult to estimate accurately. The VIF method tests whether there is multicollinearity due to the coefficient. When the VIF value is less than 10, strictly speaking, it should be less than 5, indicating no multicollinearity (Ntambu & Loang, 2022). According to the results of Table 4, the VIF values are less than 10 and less than 5, which means that the constructed model is good and there is no multicollinearity. The following regression analysis can be continued.
Table 4: VIF Multicollinearity Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>1.72</td>
<td>0.5820</td>
</tr>
<tr>
<td>LEV</td>
<td>1.48</td>
<td>0.6744</td>
</tr>
<tr>
<td>LY</td>
<td>1.38</td>
<td>0.7243</td>
</tr>
<tr>
<td>FM</td>
<td>1.08</td>
<td>0.9276</td>
</tr>
<tr>
<td>TOP1</td>
<td>1.04</td>
<td>0.9604</td>
</tr>
<tr>
<td>TRANS</td>
<td>1</td>
<td>0.9951</td>
</tr>
<tr>
<td>Mean VIF</td>
<td>1.28</td>
<td></td>
</tr>
</tbody>
</table>

Multiple Regression Analysis

This study conducted regression on Models 1 to 5 to analyze the influence of family enterprises on the effectiveness of internal control. The regression results are shown in Table 5.

Table 5: Regression Analysis of Family Firm Level on Internal Control Effectiveness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>T-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM</td>
<td>-6.992***</td>
<td>-2.900</td>
<td>0.004</td>
</tr>
<tr>
<td>SIZE</td>
<td>11.637***</td>
<td>16.710</td>
<td>0.000</td>
</tr>
<tr>
<td>LY</td>
<td>-0.535***</td>
<td>-4.230</td>
<td>0.000</td>
</tr>
<tr>
<td>LEV</td>
<td>-8.978**</td>
<td>-2.350</td>
<td>0.019</td>
</tr>
<tr>
<td>TOP1</td>
<td>0.131***</td>
<td>3.150</td>
<td>0.002</td>
</tr>
<tr>
<td>_cons</td>
<td>481.184***</td>
<td>30.440</td>
<td>0.000</td>
</tr>
<tr>
<td>Year</td>
<td>YSE</td>
<td>YSE</td>
<td>YSE</td>
</tr>
<tr>
<td>Industry</td>
<td>YSE</td>
<td>YSE</td>
<td>YSE</td>
</tr>
<tr>
<td>Obs</td>
<td>5934</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.737</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows a significant negative relationship between executive family size (FM) and internal control effectiveness (ICI) at the 1% level with a regression coefficient of -6.992. This result validates hypothesis H1, which states that the higher the level of executive family size, the lower the effectiveness of internal control. The size of the enterprise (SIZE) has a significant positive relationship at the 1% level with a regression coefficient of 11.637. This result verifies H2 that there is a positive effect on the effectiveness of internal control, indicating that the larger the scale of production and operation of the enterprise, the better the internal system construction, which is conducive to improving the effectiveness of internal control.

Years on the market (LY) has a significant negative relationship at the 1% level with a regression coefficient of -0.535, which verifies H3. The longer the company has been on the market, the lower the effectiveness of internal control.

The company's LEV has a significant negative correlation at the 5% level with a regression coefficient of -8.978, which verifies H4, indicating that the higher the company's gearing, the lower the effectiveness of internal control. Finally, the coefficient of TOP1 is 0.131, which passes the significance test at 1% confidence level. The result indicates that the larger the shareholding of the first largest shareholder, the more concentrated the company's rights, and
the larger shareholders are better able to exercise effective control over the company. The result is consistent with what is mentioned in the study of Senzhi (2021), which is that the larger shareholders are better able to monitor the company under effective control.

In this study, the interaction term of executive family level and information transparency was added to the previous model to test the influence of information transparency on the relationship between the executive family level and internal control effectiveness. The regression results are shown in Table 6.

**Table 6: Impact of Information Transparency on The Relationship Between Executive Familiality And Internal Control Effectiveness**

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>T-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM</td>
<td>-5.151**</td>
<td>-2.140</td>
<td>0.032</td>
</tr>
<tr>
<td>TRANS</td>
<td>46.595***</td>
<td>8.010</td>
<td>0.000</td>
</tr>
<tr>
<td>FM*TRANS</td>
<td>192.012***</td>
<td>5.080</td>
<td>0.000</td>
</tr>
<tr>
<td>SIZE</td>
<td>11.679***</td>
<td>16.860</td>
<td>0.000</td>
</tr>
<tr>
<td>LY</td>
<td>-0.526***</td>
<td>-4.190</td>
<td>0.000</td>
</tr>
<tr>
<td>LEV</td>
<td>-10.104***</td>
<td>-2.660</td>
<td>0.008</td>
</tr>
<tr>
<td>TOP1</td>
<td>0.121***</td>
<td>2.920</td>
<td>0.003</td>
</tr>
<tr>
<td>_cons</td>
<td>476.918***</td>
<td>30.350</td>
<td>0.000</td>
</tr>
<tr>
<td>Year</td>
<td>YSE</td>
<td>YSE</td>
<td>YSE</td>
</tr>
<tr>
<td>Industry</td>
<td>YSE</td>
<td>YSE</td>
<td>YSE</td>
</tr>
<tr>
<td>Obs</td>
<td></td>
<td></td>
<td>5934</td>
</tr>
<tr>
<td>R-squared</td>
<td></td>
<td></td>
<td>0.649</td>
</tr>
</tbody>
</table>

To verify hypothesis 6, FM*TRANS was added based on models 1-5 to explore whether information transparency impacted the relationship between senior executive family orientation and internal control effectiveness. As shown in Table 4.5, the regression coefficient of TRANS is 46.595 and passes the significance test at 1% confidence level. The interaction term FM*TRANS and the effectiveness of internal control have a positive influence at the significance level of 1%. The interaction term coefficient is 192.012, indicating that information transparency has a significant positive effect on the impact of the family of senior executives on the effectiveness of internal control, which is specifically manifested as an inhibitory effect. It shows that information transparency has a negative effect on the main effect, and low information transparency can easily produce the problem of inadequate supervision. Accounting information transparency is easily manipulated in this environment, and internal controls cannot play their due role. Therefore, assuming that conclusion H6 is verified, information transparency significantly influences the relationship between executive family and internal control effectiveness. This also corroborates the study of Jacoby, Liu, Wang, Wu & Zhang (2019) conclusion that increasing the transparency of information about family firms inhibits the loss of financial risk caused by the shelter of kinship in family firms.
Conclusions and Policy Implication
The relationship between family firms and the effectiveness of internal control is explored from the perspective of family firms. The results of the study found that: the higher the level of familiarization of executives, the longer the time to go public, and the higher the asset-liability ratio, all of which lead to lower the effectiveness of the company's internal control. Because of the national characteristics of China, the consciousness among families is very strong, and the level of familiarization gradually increases with time going public. Therefore, when more family members are within the executive team, they are more likely to reach a consensus and use more secretive measures to benefit the family and themselves by undermining the interests of the company and other shareholders. Such behaviour leads to an increase in gearing and inevitably leads to a failure of the internal control system, resulting in inefficient internal controls (Loang, Ahmad & Naveenan, 2022).

When the company's size reaches a certain level, or the shareholding of the largest shareholder reaches a certain level, it will increase internal control effectiveness and become a significant positive moderating effect. This means that with an increased concentration of ownership, the majority shareholder is more committed to improving the company's performance. The concentration of power of the majority shareholder can better monitor the company so that management is less likely to engage in risky activities, and under the supervision of management, has to disclose more information, reducing the information asymmetry problem. Theoretical and empirical analysis shows that the higher the information transparency, the more significant the effect on the effectiveness of internal control in family firms. The higher the transparency of information about the company, the more information about internal control will be disclosed, which will restrain the control behaviour of the family executives and therefore promote the effective operation of internal control has a negative impact on the effectiveness of internal control.

Policy Implication
The results of the analysis and test above enable the interrelationship between the executive, transparency of accounting information and internal control to be confirmed and contribute to increasing the effectiveness of internal control. The conclusions show that, firstly, if the appropriate level of executive is ensured, effective supervision and auditing can be increased, the disadvantaged party can be effectively protected, investors can be ensured to accurately grasp the true value embedded in investment projects, surplus management of accounting information can be suppressed, and thus the quality and efficiency of internal control implementation can be increased. Secondly, the transparency of accounting information has a certain positive effect on the relationship between the senior executive family and the effectiveness of internal control. Therefore, the way to enhance the effectiveness of internal control can be the scientific and reasonable arrangement of the senior management team or a sound accounting information disclosure system.

Family companies should strengthen the quality of the executive team, reduce the level of family-oriented executives, avoid the phenomenon of nepotism, and focus on hiring a team of external professional managers in the intergenerational inheritance who have more professional abilities and can assume the responsibilities and powers given by the corresponding positions. At the same time, they will strictly comply with professional ethics to obtain the corresponding salary for their benefit in the long run. Professional ethics promote the progress of corporate performance and consciously maintain the construction of an information transparency system to obtain more external investment through true corporate information, and take the initiative
to improve the effectiveness of internal control to promote the achievement of overall corporate goals.

To strengthen the construction of an information transparency system, we should not only hope to improve information transparency by strict constraints at the legal level but also provide corresponding standardized and systematic training and study for corporate managers. Secondly, we should refer to overseas experience to provide institutional guarantees for maintaining information transparency at the legal level and eliminate information asymmetry as much as possible in the system so that the internal controllers of enterprises and external investors can trade under equal information conditions. A sound legal framework can provide a sound basis for ensuring information transparency and promote a complete information transparency system. In addition, we should step up enforcement and penalties to strengthen the fight against information falsification and really build a complete penalty system for information transparency. We can restrain companies that deliberately reduce information transparency from fines and market bans and hold those responsible criminally liable if necessary. Lastly, we should give full play to the media's role and use the Internet to increase the exposure of enterprises that compromise information transparency.

The whole process of setting internal control objectives, implementing internal control and giving feedback on the effectiveness of internal control in family enterprises should be strictly supervised. Each process link has a profound impact on internal control, and each link must be strictly monitored to ensure the effectiveness of internal control. Secondly, the family business should improve the established internal control objectives, and the development of internal control, in the long run, should be consistent with the enterprise's long-term goals. In addition, the personnel working in the internal control department of the family business should improve the selection criteria or organize the existing personnel for in-depth study to ensure that their level and ability in internal control can match the position, which can ensure the effective operation of internal control and ensure the efficiency of internal control. Finally, establishing an internal audit department for the effectiveness and efficiency of internal control implementation and maintaining its independence will enable fair and impartial supervision and evaluation of the effectiveness and efficiency of internal control completion.

**Limitation**

Throughout the research process, this study strives to ensure that the data collection is comprehensive and objective, the research methods used are accurate, and the research findings are reliable. However, in practice, due to the inherent limitations in various aspects such as data collection, screening and processing, this research has many shortcomings.

There is still a lack of a widely recognized indicator for measuring information transparency in the academic field. Information transparency should be a dynamic process. The indicators drawn from this study are based on the results of company annual reports under static conditions, which may lack precision in the measurement process. The surplus management selected in this study is only one of the preventive connotations of information transparency, which can reflect the level of information transparency to a certain extent. However, it is too single, and the empirical research results are limited in application. There are limitations in the selection of the sample. This study lacks attention to unlisted family enterprises, only focuses on the effectiveness of internal control of listed family enterprises, and does not discuss unlisted family enterprises in depth. Nonetheless, there are a large number of unlisted family enterprises
in reality. Due to the limitation of data availability, this study does not include this part of enterprises in the discussion. Therefore, the conclusion has some limitations.

**Recommendations for Future Studies**

Future research can adopt some suggestions. Firstly, to address the abovementioned limitations, this study believes that future research on “information transparency of executive family and effectiveness of internal control” can be further developed in the following aspects. To enrich the indicators for measuring information transparency, future studies can build more suitable indicators based on the different national conditions of each market. To expand the research perspective, other perspectives can be selected to analyze further the relationship between family enterprises and the effectiveness of internal control, such as the introduction of equity incentives, financing decisions and other factors to further explore the relationship between the two. Future studies can include the study of internal control effectiveness of non-listed family enterprises, or the current situation of family enterprises in multiple countries can be included in the study to ensure more objective conclusions.

**Reference**


