









# “Impact of transparent economy on high-tech enterprises in the modern business environment of China”

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# IMPACT OF TRANSPARENT ECONOMY ON HIGH-TECH ENTERPRISES IN THE MODERN BUSINESS ENVIRONMENT OF CHINA

## Abstract

High-quality information support for modern high-tech enterprises in any country is of undeniable relevance. An open, accessible, and fair, transparent economy creates an atmosphere of trust in which people easily perceive transparency, fairness, and efficiency of economic management. The purpose of this study is to determine the impact of a transparent economy on the investment environment, innovation, competitive advantage, government regulation, and the formation of corporate social responsibility in the modern business environment on the example of high-tech enterprises in China. This study uses a multiple linear regression model to analyze the impact of a transparent economy on high-tech enterprises. The research sources included the CSMAR database, China's stock market and accounting research, China's economic and financial research database, CRSP, COMPUSTAT, and others, and financial statements of selected high-tech companies. Sustainable development, R&D and innovation, investor relations, social responsibility, and market competitiveness are identified as key aspects of the relationship between a transparent economy and high-tech enterprises. The study confirmed a positive correlation between a transparent economy and the efficiency of resource allocation of high-tech enterprises, the innovation capabilities of high-tech enterprises, the market competitiveness of high-tech enterprises, and the efficiency of state supervision of high-tech enterprises.

**Keywords** high-tech enterprises, information asymmetry, innovations, investment environment, transparent economy

**JEL Classification** M21, O32

## INTRODUCTION

High-tech companies in the present global economy play a vital role in implementing innovation as well as economic growth and development. These companies often face some difficulties; however, if information asymmetry and corporate governance issues are not resolved amicably, their development process will be suffocated. Thus, a transparent economy results from the critical economic model, pushing forward new opportunities for high-tech companies.

A transparent economy, with its core attributes of transparency and openness, nurtures confidence, equity, and a more efficient exchange system. It focuses on the practicability of access to information where companies and organizations, be they large or small, are encouraged to show reports on their financial statements, details of the operations, and how decisions are made. Governments and regulators should be evident in the formulation and implementation of policies so that they ease public understanding and enhance government credibility. Another area of importance is market transparency, where a customer is empowered to make informed decisions through easy access to in-

formation on products and services. Furthermore, the specific characteristics and principles elaborated for this transparent economy are associated with responsibility and accountability, equity and inclusiveness, and sustainable development. Such features are collectively helpful in furthering economic activities that are both equitable and efficient, as well as credible.

Some of the features being discussed range from the transparency of the economic environment to high-tech enterprises, innovation and R&D transparency, market competitiveness, investor relationships, and social responsibility. With an increase in openness, enterprises can induce innovation that is needed, meet market demand, attract investments, and foster good relations with investors. Besides, high transparency in the economy largely ameliorates an investment environment for those high-tech companies to pay attention to information disclosure and data truthfulness so investors can make informed decisions.

Government policy support and adequate market supervision also make the investment environment better, ensuring the fairness of competition and protecting the high-tech enterprises' development space. The high degree of economic transparency positively affects high-tech enterprises in allocating resources, innovation, market competition, and government supervision. It is empirical evidence of transparency's benefits to corporate performance and provides valuable insights for policymakers and enterprises.

The research on the impact of a transparent economy on the activities of high-tech enterprises in the modern business environment is a valuable information component in the formation of financial relations for existing entrepreneurs and investors and the performance of control functions by representatives of public authorities in China.

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## 1. LITERATURE REVIEW

Scholars have paid considerable attention to the impact of a transparent economy on the activities of high-tech enterprises in the current business environment, both in China and internationally. A transparent economy is an economic model whose core characteristics are a high degree of transparency and openness. In this economic system, information flows freely and easily, including financial data, business operations, government policies, and market dynamics. The purpose of a transparent economy is to promote trust, fairness, and efficiency through this openness (Gao et al., 2019). A transparent economy emphasizes the openness and sharing of information. This means that companies and organizations need to disclose their financial reports, operational details, and decision-making processes. This openness is not limited to large companies but also includes small and medium-sized enterprises and non-profit organizations (Wang et al., 2020). A transparent economy advocates that governments and regulators be transparent when formulating and implementing policies. This in-

cludes disclosing the process of policy formulation, the expected impact of policies, and the results of policy implementation. The public can better understand how the government works, thereby improving the government's credibility and efficiency (Wang, Li, et al., 2023).

A transparent economy also includes market transparency. In a transparent market, consumers can easily obtain information about products and services, including price, quality, source, etc., which helps consumers make more informed decisions. Certification, brand, and business form have a clear impact on the sales channels of high-tech companies (Niu et al., 2021). A transparent economy is a multi-dimensional concept involving the openness of information, transparency of government, and transparency of the market. A transparent economy aims to build a more fair, efficient, and credible economic system through these measures. The crucial characteristics and principles of a transparent economy constitute its core values. These characteristics and principles jointly promote fairness, efficiency, and credibility of economic activities.

The core of a transparent economy is to ensure the disclosure and accessibility of information. This means that companies and organizations must make their financial reports, operational details, decision-making processes, and any information that may affect their business and stakeholders publicly available. This transparency of information applies not only to listed companies but also to small and medium-sized enterprises, non-profit organizations, and even government agencies (Li et al., 2012).

However, the impact of information technology on productivity has baffled researchers to date. When an economy undergoes technological transformation, the impact of information technology on productivity is not evident, particularly at the industry level of analysis, unlike similar studies at the individual and firm levels (Yeo, 2022).

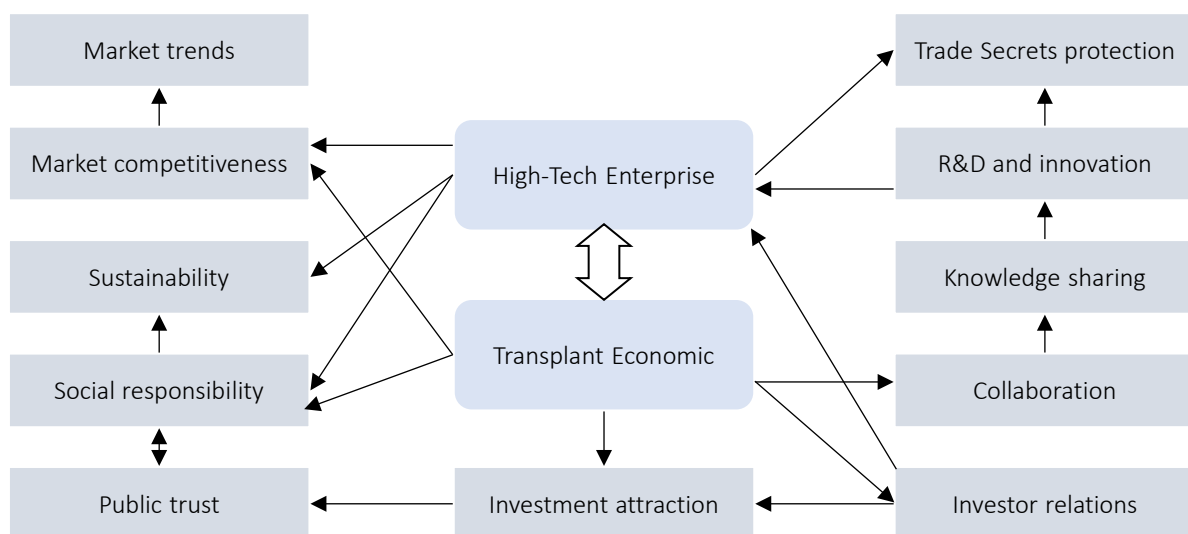
The government plays an important role in economic activities, and a transparent economy requires the government to be transparent when formulating and implementing policies. This includes making public the process by which the policy was developed, the intended impacts of the policy, and the results of its implementation. Increased government transparency can help enhance public understanding and support for policies and improve the government's credibility (Shkabatur, 2012).

In a transparent economy, market operations should also be highly transparent. This means consumers can easily access information about

products and services, such as price, quality, origin, etc. Increased market transparency helps consumers make more informed purchasing decisions while also promoting fair competition among businesses.

A transparent economy emphasizes that companies and organizations are responsible for their actions and decisions. This means that when a company or organization's behavior is problematic, it needs to be held accountable accordingly. This responsibility and accountability prevent improper behavior and protect the rights and interests of stakeholders.

Such an economy also pursues a fair and inclusive economic model. This means that all market participants, regardless of size, should enjoy equal opportunities and treatment. This fairness helps create a healthier and more sustainable economic environment. It also emphasizes the sustainability of economic activities. While pursuing profits, companies and organizations must also consider their impact on the environment and society. This concept of sustainable development helps protect the environment and promote the long-term well-being of society (Mason, 2020). Through these characteristics and principles, a transparent economy aims to build a more just, efficient, and credible economic system. This helps promote economic growth and increases public trust and satisfaction with economic activities. Empirical evidence on the relationship between the high-tech enterprise certi-



**Figure 1.** The logical connection of individual components of a transparent economy

fiction policy and innovation is mixed, with focus on innovation quantity and neglecting innovation quality or green innovation (Chen et al., 2023).

Based on the literature review, the study aims to identify the relationship between a transparent economy and high-tech enterprises, particularly their sustainability, R&D and innovation, investor relations, social responsibility, and market competitiveness (Figure 1). High-tech enterprises, such as technology or biotechnology companies, usually operate in a rapidly changing and highly competitive market environment. In this context, the principles and characteristics of a transparent economy are particularly critical for these enterprises.

High-tech enterprises often invest heavily in research and development (R&D) and innovation. A transparent economy requires these companies to maintain a level of transparency in their research and development processes, which not only helps build public trust but also facilitates communication with partners, investors, and regulators. Disclosing R&D progress and results can attract more investment while also helping regulators better understand the impact of new technologies (Chen et al., 2022). The principle of a transparent economy helps high-tech enterprises improve their market competitiveness. By disclosing information about their products and services, these companies can better communicate with consumers, meet market needs, and thus stand out from the competition. Transparency also helps companies identify market trends and consumer needs to adjust their strategies and products (Peng et al., 2023). A transparent economy helps high-tech enterprises identify market trends and consumer needs. Companies can more accurately grasp market dynamics and adjust their innovation strategies to meet market needs by analyzing public market data and consumer feedback. This kind of market-oriented innovation can help companies develop more market-competitive products and services. A transparent economy also promotes cooperation and alliances among enterprises. Based on information sharing and trust, high-tech enterprises can more easily find partners to jointly carry out R&D projects and commercialization activities. Such cooperation not only expands the resources and technology scope of enterprises but also enhances their competitiveness in the market (Lu et al., 2022).

High-tech enterprises usually require large amounts of funds to support their R&D and innovation activities. The principles of a transparent economy help build and maintain good relationships with investors. By disclosing their financial status, operating details, and strategic plans, these companies can attract more investors while also helping investors better understand the value and potential of the company.

With increased transparency, the investment environment has improved significantly for high-tech companies. A transparent economy emphasizes the disclosure of information and the authenticity of data, which enables investors to more accurately assess the value and potential of high-tech enterprises. For example, when a company discloses its research and development progress, financial status, and market strategy, investors can make more informed investment decisions based on this information. In addition, a transparent economy can also reduce information asymmetry and reduce investment risks, which is particularly important for high-tech enterprises with higher risks (Nasdaq Blog, n.d.). The implementation of a transparent economy has a significant impact on improving the investment environment for high-tech enterprises. By improving information transparency, government policy support, market supervision, and social recognition, high-tech enterprises can grow in a fairer and more just market environment, which is of great significance to promoting the development of the entire industry.

Government policy support and market supervision also play a key role in improving the investment environment. The government provides a good development environment for these enterprises by formulating tax policies, subsidy measures, laws, and regulations that are conducive to high-tech enterprises. At the same time, effective market supervision can ensure fair competition in the market and prevent unfair competition, which is crucial to protecting the development space of high-tech enterprises (Guo et al., 2022). Government subsidies can correct the positive externalities of innovation activities by sharing risks and reducing costs, thus encouraging enterprise innovation. Innovation is a costly economic activity, the benefits of which are uncertain. Therefore, companies prefer to make conservative invest-

ments, rather than to take risks with R&D (Tong et al., 2022). Society's recognition of a transparent economy and public attention to the development of high-tech enterprises have also created a good external environment for these enterprises. The public's emphasis on transparency prompts companies to improve their own transparency, which not only enhances the company's sense of social responsibility but also improves its image in the minds of the public. This positive public image helps high-tech enterprises attract more investment and talent, promoting rapid development (Wu et al., 2024).

High-tech enterprises often have an important impact on the environment and society. A transparent economy requires these companies to consider their social responsibilities and sustainable development while pursuing profits. Disclosure of its environmental impact and social responsibility activities can enhance public trust in a business while also helping companies better manage their risks and reputation (Yao et al., 2022). A highly transparent environment encourages companies to disclose their social responsibility activities, including environmental protection, employee rights protection, or community participation. This kind of disclosure not only enhances the company's social image but also improves its brand value and market competitiveness. High-tech enterprises may disclose their environmental protection measures and sustainable development strategies, such as reducing carbon emissions and using renewable energy. This kind of openness not only demonstrates the company's commitment to environmental protection but also encourages other companies to follow suit and jointly promote the sustainable development of the industry.

Under a transparent economic system, high-tech enterprises can better focus on innovation and gain competitive advantages. A highly transparent environment encourages companies to disclose their R&D processes and innovation results, which not only promotes knowledge sharing but also stimulates companies' innovation vitality. For example, when a company discloses its research and development progress on new technologies or new products, it can attract the attention and suggestions of experts inside and outside the industry, helping to accelerate the innovation process

(Zhong, 2018). It is worth noting that a transparent economy also brings certain challenges. High-tech enterprises need to balance the relationship between the disclosure of innovative information and the protection of trade secrets. Excessive information disclosure may leak key technologies and business strategies, providing opportunities for competitors. Therefore, enterprises need to formulate effective information disclosure strategies to ensure that they can take advantage of a transparent economy while protecting their core interests. A transparent economy has had a significant impact on the innovation and competitive advantages of high-tech enterprises. By promoting knowledge sharing, market-oriented innovation, and inter-enterprise cooperation, it provides a strong driving force for the development of high-tech enterprises. However, companies also need to carefully handle the relationship between information disclosure and business confidentiality to ensure steady progress under a transparent economic system.

In a transparent economic system, high-tech enterprises are more attractive due to their high degree of transparency and good corporate image. For many professionals, choosing a job is not only about salary but also about the company's values, development prospects, and working environment. A transparent economy emphasizes integrity, openness, and responsibility, which is consistent with the values of many modern professionals and, therefore, can attract more talents who pursue these values (Bhaduri & Ha-Brookshire, 2011). Companies in a transparent economy usually provide more career development opportunities. Due to the high transparency of corporate operations, employees can more clearly understand the company's operating conditions and development direction, and thus find a career development path that suits them.

At the same time, a transparent economy encourages information sharing and knowledge exchange within the company, which provides employees with space to learn and grow and enhances their loyalty and satisfaction with the company. A transparent economy also promotes corporate social responsibility. In a highly transparent social environment, companies pay more attention to their social image and responsibilities and actively

participate in social welfare activities, which helps to enhance the company's brand image and attract talents who care about social values and sustainable development (Cajander & Reiman, 2024). A transparent economy also poses certain challenges to companies' talent attraction. Enterprises must ensure that their transparency is not just superficial but truly implemented in the daily operations and management of the enterprise. Corporate transparency is positively related to competitive advantage, which in turn enhances managerial accounting measurements. Thus, corporate transparency is indeed an important tool for competitive advantage and will enhance firm financial performance (Gani et al., 2021). The study found that the globalization of product and talent markets has affected corporate governance in the software industry (Khanna & Palepu, 2004). Any sign of a lack of transparency can damage a business's reputation and, therefore, its talent attraction. A transparent economy has significantly increased the attractiveness of high-tech enterprises to talents. By emphasizing integrity, providing career development opportunities, and demonstrating social responsibility, a transparent economy creates favorable conditions for companies to attract and retain talent. However, companies also need to take care to maintain true and consistent transparency to maintain their edge in attracting talent. A transparent economy encourages companies to disclose their employee welfare and training policies to ensure that employee rights and interests are respected and protected. This includes providing fair pay, a great work environment, career development opportunities, and more. This openness helps attract and retain talent while increasing employee job satisfaction and loyalty (Gervais & Strobl, 2020).

Under a transparent economic system, high-tech enterprises pay more attention to and actively perform corporate social responsibility (CSR) (Marakova et al., 2021). Study suggests that corporate social responsibility directly impacts a company's financial performance, and this impact becomes more significant as the company's environmental, social, and governance scores improve (Coelho et al., 2023). A transparent economy also prompts high-tech companies to disclose their community involvement and philanthropic activities. By disclosing its contributions to social welfare undertakings, such as educational support

or poverty alleviation projects, companies can enhance their influence in the community and, at the same time, enhance public recognition of their brands. A transparent economy also brings certain challenges to the fulfillment of corporate social responsibilities. Companies need to ensure that their social responsibility activities are not just superficial but are truly put into practice and have a positive social impact. Any form of lack of social responsibility can damage a company's reputation and thus affect its long-term development (Grossman et al., 2008). A transparent economy has had a significant impact on the performance of high-tech enterprises' social responsibilities. By increasing the transparency of corporate activities, a transparent economy prompts companies to pay more attention to and disclose their social responsibility activities, enhancing the company's social image and its market competitiveness. However, companies must also ensure the authenticity and effectiveness of their social responsibility activities to maintain their good reputation under a transparent economic system (Liu et al., 2023).

In general, the connection between a transparent economy and high-tech enterprises is that increased transparency helps these enterprises achieve better performance in innovation, market competition, investor relations, and social responsibility. By following the principles of a transparent economy, high-tech enterprises can build a more just, efficient, and credible economic system.

In China, the government has been continuously promoting economic transparency, which has provided important support for the development of local high-tech enterprises. An open and fair market environment has been created through policy support and stronger regulation. Meanwhile, various sectors of society are also paying increasing attention to corporate social responsibility and sustainable development, which helps enhance Chinese high-tech enterprises' international competitiveness.

It is worth noting that although a transparent economy brings many benefits to high-tech enterprises in China, enterprises also need to carefully balance the relationship between information disclosure and the protection of trade secrets, ensuring that they can maximize the advantages brought by transparency while protecting their

core interests. Overall, the continuous promotion of economic transparency helps to cultivate more internationally competitive Chinese high-tech enterprises, injecting new vitality into the industry's development. Most of the western regions are traditional industries, and there are relatively few high-tech enterprises, the effect of business environment is not played, and the impact on local private enterprises' technological innovation is not significant (Wang, Cui, et al., 2023). Digital transformation enhances resource allocation efficiency by attracting external financing, both equity and debt financing. Furthermore, the contribution of digital transformation to enterprise resource allocation efficiency is more pronounced in the eastern region, high-tech industries, and non-state-owned enterprises. Digital transformation enhances resource allocation efficiency by attracting external financing, both equity and debt financing. Furthermore, the contribution of digital transformation to enterprise resource allocation efficiency is more pronounced in the eastern region, high-tech industries, and non-state-owned enterprises (Liu & He, 2024). The high-tech industry will be the decisive force in future industrial development. The agglomeration of the industry will help form economies of scale, thereby improving the effective allocation of resources and promoting productivity (Chen et al., 2019).

This study aims to determine the impact of a transparent economy on the investment environment, innovation, competitive advantage, government regulation, and corporate social responsibility building in the current business environment of high-tech enterprises in China.

Based on the above, this study proposes the following hypotheses:

- H1: *Transparent economy is positively related to the resource allocation efficiency of high-tech enterprises in China.*
- H2: *Transparent economy is positively related to the innovation capabilities of high-tech enterprises in China.*
- H3: *Transparent economy is positively related to the market competitiveness of high-tech enterprises in China.*

- H4: *Transparent economy is positively related to the efficiency of government supervision of high-tech enterprises in China.*

## 2. METHODS

The information sources of the study were the CSMAR database, China's stock market and accounting research, China's economic and financial research database (this database is positioned as a research-oriented accurate database), CRSP, COMPUSTAT, and other authoritative database standards for research and quantitative investment analysis.

When developing the analysis model to study the impact of a transparent economy on the development of high-tech enterprises, the principles of science, rationality, and efficiency were followed to ensure the accuracy and reliability of the analysis results (Goldfarb & Tucker, 2012).

This study uses a multiple linear regression model to analyze the impact of a transparent economy on high-tech enterprises. The multiple linear regression model is a commonly used analysis method in economics and social sciences, which can effectively handle the relationship between multiple independent variables and one dependent variable. The basic form of the model is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon, \quad (1)$$

where Y represents the development level of high-tech enterprises,  $X_1, X_2, \dots, X_n$  represent different dimensions of transparent economy, such as policy transparency, financial transparency, etc.,  $\beta_0$  is the intercept term,  $\beta_1, \beta_2, \dots, \beta_n$  are the coefficients of each variable, indicating the degree of influence of each dimension on the development of high-tech enterprises, and  $\varepsilon$  is the error term.

The dependent variable is the development level of high-tech enterprises (Y). The annual turnover growth rate of high-tech enterprises is used as an indicator to measure their development level. Independent variables include dimensions of transparent economy. For policy transparency ( $X_1$ ), the number of policy releases and the de-

gree of policy openness are used as measurement criteria. Financial transparency (X\_2) is measured by the degree of disclosure of a company's financial reports and the accuracy of its financial data. Market transparency (X\_3) considers the degree of disclosure of market information and the fairness of market rules. Legal transparency (X\_4) is measured by the degree of legal disclosure and transparency of law enforcement. Control variables include firm size, enterprise age, and industry type. The logarithm of the number of employees is used to control for the effect of firm size. The number of years from the establishment of the enterprise to the year of observation is used to control the impact of enterprise age. Dummy variables are introduced to control the impact of different industry types.

This study selected high-tech enterprises listed on the Shenzhen Stock Exchange from 2020 to 2022 as the research object. The paper selected listed companies that passed the "High-tech Enterprise Certification Management Measures" before 2012 and excluded those that have not disclosed R&D information. Then, the study removed those companies that were marked as ST or \*ST companies; in addition, companies with incomplete financial data were deleted. At the same time, companies with insufficient information disclosure were eliminated. Finally, companies with serious losses were excluded. After these screening steps, a sample of 10 listed companies and 120 valid data points was finally determined.

The research data come from the CSMAR database, and Excel2013 and SPSS software are used to organize and analyze the data. Next, data were collected and analyzed to reveal the specific impact of a transparent economy on the development of high-tech enterprises (Chen, 2022). Before conducting the empirical tests, based on the data from the CSMAR database and Juchao information network, the study conducted descriptive statistical

analysis on the relevant financial data of high-tech enterprises to better understand the characteristics and distribution of the data. Descriptive statistical analysis mainly includes calculating the minimum, maximum, mean, standard deviation, skewness, and kurtosis of the data.

To test the hypotheses, the study calculated the Pearson correlation coefficient and analyzed the relationship between the indicators of economic transparency and the efficiency of resource allocation, innovation capabilities, market competitiveness, and the effectiveness of state regulation of high-tech enterprises. After conducting the correlation analysis, regression analysis verified the hypotheses. Regression analysis can determine whether there is a causal relationship between variables, as well as the strength and direction of these relationships (Zhang et al., 2023).

### 3. RESULTS AND DISCUSSION

The study was conducted among listed companies in China. Table 1 presents descriptive statistics of the financial data of the studied high-tech enterprises.

The revenue, net profit, total assets, and debt-to-asset ratio of high-tech enterprises have different characteristics and distributions. In terms of revenue, the sample size is 120 high-tech enterprises, with a minimum of 58.184 billion yuan, a maximum of 147.965 billion yuan, a mean of 101.611 billion yuan, a standard deviation of 47.979 billion yuan, a skewness of 0.38, and a kurtosis of 2.35. This shows that the revenue of high-tech enterprises generally shows a more concentrated trend but also has certain volatility and dispersion. From the perspective of net profit, the sample size is also 120 high-tech enterprises, with a minimum of 47.7 billion yuan, a maximum of 26.7 billion yuan, a mean of 36.5 billion yuan, a standard deviation of

**Table 1.** Descriptive statistics of financial data of high-tech enterprises in China

| Variable                         | Sample size | Min     | Max     | Mean    | Standard Deviation | Skewness | Kurtosis |
|----------------------------------|-------------|---------|---------|---------|--------------------|----------|----------|
| Revenue (100 million yuan )      | 120         | 581.84  | 1479.65 | 1016.11 | 479.79             | 0.38     | 2.35     |
| Net profit (100 million yuan )   | 120         | 477     | 267     | 365     | 365                | 1.59     | 1.89     |
| Total assets (100 million yuan ) | 120         | 1343.41 | 1578.99 | 1407.99 | 612.226            | 2.03     | 0.358    |
| Assets and liabilities (%)       | 120         | 27.31%  | 57.92%  | 37.59%  | 563.83%            | -0.08    | 0        |

36.5 billion yuan, a skewness of 1.59, and a kurtosis of 1.89. Compared with revenue, net profit has greater volatility and dispersion and shows a more concentrated trend overall. From the perspective of total assets, the sample size is also 120 high-tech enterprises, with a minimum value of 134.341 billion yuan, a maximum value of 157.899 billion yuan, a mean of 140.799 billion yuan, a standard deviation of 61.2226 billion yuan, a skewness of 2.03, and a kurtosis of 0.358. This shows that the total assets of high-tech enterprises also show great volatility and dispersion. From the perspective of asset-liability ratio, the sample size is still 120 high-tech enterprises, with a minimum value of 27.31%, a maximum value of 57.92%, a mean of 37.59%, a standard deviation of 563.83%, a skewness of -0.08, and a kurtosis of 0. This shows that the asset-liability ratio of high-tech enterprises is generally at a low level, but at the same time, there is also greater volatility.

The financial data of high-tech enterprises show different characteristics and distributions on different indicators. A variety of factors, such as industry type, business size, or business strategy, may cause these differences. Further data mining and analysis are required to better understand and analyze these data. Next, correlation analysis and regression analysis further explored the impact of a transparent economy on high-tech enterprises. A corresponding analysis was applied to investigate the relationship between economic transparency indicators and the efficiency of resource allocation, innovation capabilities, market competitiveness, and the effectiveness of government regulation of high-tech enterprises in China. The Pearson correlation coefficient between the Economic Transparency Index and these indicators was calculated to assess the linear relationship between them.

Table 2 shows a positive correlation between resource allocation efficiency, innovation capability, and market competitiveness, as well as between government supervision efficiency and Economic Transparency Index, and the correlation coefficient is 1, indicating a complete positive linear relationship. This shows that improving resource allocation efficiency can promote high-tech enterprises to improve their innovation capability, market competitiveness, and government supervision efficiency, thus improving the Economic Transparency Index.

There is a positive correlation between innovation capability and market competitiveness, as well as between government regulatory efficiency and Economic Transparency Index, with correlation coefficients of 0.456, 0.587, and 0.675, respectively, indicating a strong positive linear relationship. This shows that improving innovation capability is conducive to enhancing the market competitiveness of high-tech enterprises, improving government regulatory efficiency, and thus improving the Economic Transparency Index. There is a positive correlation between government regulatory efficiency, market competitiveness, and the Economic Transparency Index, with correlation coefficients of 0.216 and 0.675, respectively, indicating a certain positive linear relationship. This shows that improving the efficiency of government supervision can help improve the market competitiveness of high-tech enterprises, thereby promoting the growth of the Economic Transparency Index.

There is a positive correlation between the Economic Transparency Index and resource allocation efficiency, innovation capability, and government supervision efficiency. The correlation coefficients are 0.543, 0.476, and 0.812, respec-

**Table 2.** Correlation coefficient between high-tech enterprise performance indicators and Economic Transparency Index in China

| Variable                         | Resource allocation efficiency | Creativity | Market competitiveness | Government regulatory efficiency | Economic Transparency Index |
|----------------------------------|--------------------------------|------------|------------------------|----------------------------------|-----------------------------|
| Resource allocation efficiency   | 1                              |            |                        |                                  |                             |
| Creativity                       | 0.456                          | 1          |                        |                                  |                             |
| Market competitiveness           | 0.327                          | 0.587      | 1                      |                                  |                             |
| Government regulatory efficiency | 0.216                          | 0.412      | 0.675                  | 1                                |                             |
| Economic Transparency Index      | 0.543                          | 0.476      | 0.652                  | 0.812                            | 1                           |

tively, indicating a strong positive linear relationship. This shows that improving the Economic Transparency Index can help optimize resource allocation, stimulate corporate innovation capabilities, and strengthen government supervision efficiency.

The results of the correlation analysis indicate that a transparent economy has a positive impact on high-tech enterprises. Table 3 shows the causal impact of a transparent economy on various performance indicators of high-tech enterprises, as well as the specific extent of these impacts.

As can be seen from Table 3, Y represents the resource allocation efficiency, innovation ability, market competitiveness, and government supervision efficiency of high-tech enterprises,  $\beta_0$  is the intercept term, and  $\beta_1$  is the coefficient of the Economic Transparency Index, represents the impact of a transparent economy on corporate performance,  $\beta_2$  represents the coefficient of the control variable, and  $\epsilon$  is the error term. Variable Y has a positive correlation with  $\beta_0$ ,  $\beta_1$ , and  $\beta_2$ . Among them,  $\beta_0$  has the strongest correlation with Y, which is 0.327; followed by  $\beta_1$ , which is 0.458; and  $\beta_2$ , which is 0.218. This shows that a transparent economy has the greatest impact on corporate performance, while control variables have a relatively small impact on corporate performance. It can also be seen from Table 3 that the  $R^2$  value is 0.216, indicating that the model fits the data well, but there is still room for improvement. The  $F$  value is 15.678 and the  $P$  value is less than 0.001, indicating that the model is statistically significant. Table 3 shows that a transparent economy has a positive impact on corporate performance,

and the impact is relatively large. However, this model still has certain limitations and needs further optimization and improvement.

Based on an empirical analysis of the impact of a transparent economy on China's high-tech enterprises, there is a significant positive correlation between a transparent economy and the resource allocation efficiency of high-tech enterprises. Empirical results show that increased transparency helps high-tech to allocate resources more effectively, supporting H1. There is a significant positive correlation between a transparent economy and the innovation capabilities of high-tech enterprises. This shows that a transparent economic environment can promote high-tech technological innovation and knowledge dissemination, verifying H2. A transparent economy also shows a significant positive correlation with the market competitiveness of high-tech enterprises. The improvement of transparency helps high-tech improve its competitiveness in a fair market environment, which is consistent with H3. A transparent economy shows a significant positive correlation with the efficiency of government supervision of high-tech enterprises. The improvement of government regulatory transparency helps high-tech to better understand and adapt to the policy environment, supporting H4.

In China, a transparent economy has a significant positive impact on high-tech enterprises in terms of resource allocation, innovation, market competition, and government supervision. These findings have important guiding significance for the strategic planning and policy formulation of high-tech enterprises in a transparent economic

**Table 3.** Regression analysis results of high-tech enterprise performance indicators and Economic Transparency Index in China

| Variable                    | Resource allocation efficiency | Creativity | Market competitiveness | Government regulatory efficiency |
|-----------------------------|--------------------------------|------------|------------------------|----------------------------------|
| Economic Transparency Index | 0.327                          | 0.458      | 0.412                  | 0.576                            |
| Control variable 1          | 0.218                          | 0.126      | 0.035                  | 0.039                            |
| Control variable 2          |                                |            | -0.018                 | -0.015                           |
| ...                         | ...                            | ...        | ...                    | ...                              |
| $R^2$                       | 0.216                          | 0.312      | 0.275                  | 0.358                            |
| F value                     | 15.678                         | 23.456     | 19.021                 | 27.118                           |
| P value                     | <0.001                         | <0.001     | <0.001                 | <0.001                           |

Note: Indicates significant at the 0.01 level (two-sided); control variables include enterprise size, enterprise age, industry characteristics and other factors that may affect enterprise performance.

environment. At the same time, this also provides policymakers and regulators with empirical evidence of the positive impact of transparency on corporate performance.

This analysis is mainly based on the financial data and market performance of high-tech enterprises, which may not fully cover the impact of a transparent economy on all types of enterprises. Data mainly came from public financial reports and market data, which may have certain information biases. Future research can further verify and improve the conclusions of this study through a wider range of data sources and more in-depth analysis. When discussing the impact of a transparent economy on high-tech enterprises, one needs to analyze the current situation and look forward to future research directions. Future research can further deepen the understanding of a transparent economy, including expanding its connotation and defining its extension. This involves the construction and improvement of the theoretical model of a transparent economy, as well as how to apply these theories in the economic environment of different countries and regions.

In addition, the quantitative standards and methods of a transparent economy are also the focus of research. How to more accurately measure the transparency of the economy through quantitative methods is crucial to understanding and evaluating its impact on high-tech enterprises. Additional research can pay more attention to the interactive mechanism between a transparent economy and high-tech enterprises. This includes how a transparent economy affects the innovation, research and development, and market strategies of high-tech enterprises, as well as how high-tech enterprises can

enhance their market competitiveness by improving their own transparency. The study of this interactive mechanism can gain a deeper understanding of the specific impact of a transparent economy on the development of high-tech enterprises.

Given the varying performance of transparent economies around the world, conducting cross-national comparative research would be a valuable direction. By comparing the policies and practices of a transparent economy in different countries or regions and their impact on high-tech enterprises, research can reveal which factors are key to promoting or hindering the positive role of a transparent economy. Such research can not only provide a reference for policymakers but also help high-tech enterprises better adapt to and take advantage of a transparent economy. Future research can focus more on policy recommendations based on transparent economy theory and the effect evaluation of these policies after implementation. Especially in the field of high-tech enterprises, how to promote the development of a transparent economy through policy means and the impact of these policies on enterprise development, market environment, and other aspects after implementation are all issues worthy of in-depth study.

Through the above research perspectives, researchers can gain a more comprehensive understanding of the impact of a transparent economy on high-tech enterprises and provide recommendations for future research directions. With the acceleration of global economic integration and digitalization, information asymmetry, the importance of a transparent economy will become more and more prominent, and its impact on high-tech enterprises will be more far-reaching.

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## CONCLUSION

The study aimed to identify the role of transparent economy in the high-tech industry in China. The results offer financial and economic implications for strategic planning and policy-making of high-tech enterprises in China's transparent economic environment. At the same time, it also provides policymakers and regulators with empirical evidence of the positive impact of transparency on corporate performance.

The relationship between a transparent economy and high-tech enterprises' sustainability, R&D and innovation, investor relations, social responsibility, and market competitiveness is defined. A sample of 10 listed companies and 120 reliable data points were identified. The analysis is based mainly on the

financial performance of high-tech companies and may not fully capture the impact of a transparent economy on all types of companies. The input data mainly came from public financial statements and market data, so there may be some information bias. In the future, in the context of information asymmetry, it is possible to confirm and clarify the conclusions of this study by expanding the sources of data and the list of indicators (involving non-financial indicators and the experience of other countries) and conducting a more detailed analysis.

Having studied the impact of a transparent economy on high-tech enterprises in China, there is a positive correlation between a transparent economy and the efficiency of resource allocation of high-tech enterprises, the innovation capabilities of high-tech enterprises, the market competitiveness of high-tech enterprises, and the effectiveness of state supervision of high-tech enterprises.

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