

The Impact of Economic Policy Uncertainty on The Corporate ESG Performance

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Abstract: With the continuous deterioration of the global climate, ecological governance is gradually paid attention to by all countries, and green and sustainable development has also become an important indicator for investors to measure the development of enterprises. Based on the data of A-share listed companies in 2014-2022, this paper considers the impact of economic policy uncertainty on the ESG performance of enterprises from a macro perspective. The study found that the economic policy uncertainty has a negative impact on the ESG performance of enterprises, but the conclusions are different under different property rights properties. The rise of economic policy uncertainty has a positive impact on state-owned enterprises and a negative impact on non-state-owned enterprises.

Keywords: Economic policy uncertainty; ESG; Sustainable development.

1. Introduction

ESG is short for Environment, Social and Governance. The concept of ESG was originally generated by ethical investment and responsible investment, and was proposed by Goldman Sachs in 2006. After continuous improvement by international organizations and major investment institutions, a relatively complete indicator reflecting the sustainable development level of the company was formed. It has gradually replaced socially responsible investment as an indicator of investors' measurement of corporate investment prospects, and by the end of 2020, a third of the US professional managed investments have thought of the company's ESG performance. With the change of China's development stage and the proposal of the concept of "carbon neutrality", the attention to the ESG performance of enterprises has gradually increased. In November 2018, AMAC officially released the Research Report on ESG Evaluation System of Chinese Listed Companies, which put forward the core indicators to measure ESG of listed companies. In January 2022, the Shanghai Stock Exchange issued a notice to encourage technology companies to disclose ESG information, but China's ESG system is still in the exploratory stage.

Since the beginning of the 21st century, especially after the financial crisis, the economies of all countries have been greatly impacted, and the international market is in a downturn. Therefore, in order to stimulate economic recovery, countries have introduced a series of monetary policies and trade policies. The uncertainty of global economic policy has increased significantly, and it has gradually become a hot topic among scholars from all over the world. Due to the unpredictability of policies, business managers will take measures to reduce investment and curb innovation to reduce risks. Yonghai Wang[12] et al. proposed social responsibility to reduce risk, and Barko [1] et al. found that investors prefer enterprises with high ESG ratings. So, will companies raise their ESG ratings as economic policy uncertainty intensifies to address external risks? This paper selects the data of A-share listed companies from 2014 to 2022 to study the impact

of listing with economic policy uncertainty on the ESG performance of enterprises.

2. Literature References

2.1. Economic policy uncertainty

Economic policy uncertainty mainly refers to the uncertainty caused by the unpredictability of economic policies, which makes it impossible for enterprises to predict their impact on themselves. From a macro perspective, Bloom [2] suggests that economic policy uncertainty is an important factor leading to the recession. Born and Pfeifer[3] found that rising economic policy uncertainty had a negative impact on price levels and total social output. Pastor [4] found that this uncertainty also increases the risk of a stock price crash. From the micro point of view, the economic policy uncertainty mainly affects the investment and financing behavior of enterprises. Bernanke[5] They believe that economic policy uncertainty increases the cost of corporate access to information, thus affecting their short-term investment. Based on the data of Chinese enterprises, Pingui Rao[13] et al. found that when economic policy uncertainty rises, companies will reduce their investment. Yuchao Peng[14] found that the increase of economic policy uncertainty would reduce the holding amount of financial products and thus inhibit the financialization of enterprises. Xu [6] research shows that economic policy uncertainty increases the cost of equity and debt, thus reducing their innovation output. But the Xiaming Gu[15] et al. and others found that economic policy uncertainty would boost the number of patent applications filed by Chinese listed companies. Jifu Qiu[16] et al. pointed out that economic policy uncertainty can encourage enterprises to disclose social responsibility information to some extent, but cannot confirm the performance of corporate social responsibility.

2.2. ESG

ESG is a concrete projection of the concept of sustainable development in micro enterprises. Pastor L'ubos [7] et al. have established an investment model based on ESG performance, and believe that investors prefer stocks with

better performance of ESG. Chen [8] et al. believe that good social responsibility can optimize the financing channels of enterprises and reduce the financing costs. Burke [9] found that some of the board believed that the CEO's actions had led to bad corporate ESG reports. There are different views on the impact of ESG on corporate short-term financial performance, and some scholars believe that companies with higher ESG ratings have better financial performance. But Duque-Grisales et al [10] found that the ESG ratings of businesses in Latin America were negatively associated with financial performance. In the long run, ESG information can help outside investors choose companies with better performance, and Krueger and other [11] have found that ESG information can help investors avoid "black swan risk". Zhibin Li [17] et al. found that ESG information disclosure can significantly reduce the financing constraints of enterprises through the empirical data research of Chinese listed companies.

2.3. Economic policy uncertainty and the ESG

First, rising economic policy uncertainty often means a sluggish economy, allowing banks to trigger "self-protection mechanisms" that reduce credit issuance. At the same time, the uncertainty of economic policy will bring a lot of false and chaotic information, affect banks' judgment of the sustainable development of enterprises, and directly lead to the difficulty of enterprises to obtain funds. Second, economic policy uncertainty will reduce consumer demand and have an impact on corporate profits. In order to maintain short-term financial performance and business stability, managers will tend to hold cash to deal with uncertain risks, thus reducing various investments. As a long-term, intangible and large sunk-cost investment, ESG's impact on short-term performance is controversial. Therefore, companies tend to reduce ESG investment and thus reduce ESG performance, this paper proposes the following hypothesis:

Hypothesis: Economic policy uncertainty has a negative impact on corporate ESG performance.

3. Research Design

3.1. Model establishment

In order to examine the impact of economic policy uncertainty on the performance of enterprise ESG evaluation, this paper sets the following measurement model:

$$ESG_{it} = \beta_1 + \beta_2 \ln epu_t + \gamma Control_{i,t} + \mu_t + \varepsilon_{i,t} \quad (1)$$

The subscripts i and t indicate the enterprise and the year, respectively. The dependent variable ESG_{it} is the ESG score of the enterprise; $\ln epu_t$ is the logarithm of economic policy uncertainty; $Control_{i,t}$ is a common control variable; μ_t is a fixed effect; $\varepsilon_{i,t}$ is a random disturbance term.

3.2. Variable declaration

1. Independent Variables

In this paper, the uncertainty data of China's economic policy produced by Baker et al. are selected, and then the arithmetic average method is adopted to convert the monthly data into annual data. The greater the value, the greater the uncertainty of economic policy. Meanwhile, the annual data is taken logarithmically to obtain $\ln epu_t$.

2. Dependent Variables

SSI ESG Index rating covers a wide range and covers almost all the data of listed companies. Therefore, this paper selects the annual ESG scores of enterprises released by CSI to be the explained variables. SSI ESG Index also divided ESG into nine grades: C-AAA, with values of 1-9 respectively. In this paper, the grade score was tested as substitution.

3. Controlled variables

According to existing studies, enterprise size (Size), asset-liability ratio (Lev), return on total assets (ROA), Board size (Board), shareholding ratio of major shareholders (TOP1), and GDP growth rate (GDP) are selected as control variables. The specific variables are explained as follows:

Table 1. Variable definition

Type	Variable name	Variable symbol	Variable meaning
Dependent Variables	Enterprise ESG performance	ESG	SSI ESG Index were selected
	Economic policy uncertainty	$\ln epu$	Select the Chinese economic policy uncertainty data produced by Baker et al.
Independent Variables	Enterprise size	Size	Natural logarithm of the total assets at the end of the year
	Asset-liability ratio	Lev	The ratio of total liabilities to total assets
	Return on total assets	ROA	The ratio of net profit to total assets
	Board size	Board	The number of boards takes the natural log number
	Shareholding ratio of major shareholders	TOP1	The largest shareholder shareholding ratio
Controlled variables	GDP growth rate	GDP	GDP growth rate

3.3. Data source and sample selection

In this paper, the data of China's A-share listed companies from 2014 to 2022 are selected as the research object, and the samples of ST, * ST companies, financial and insurance

companies and missing data are excluded. Two-sided, 1% level Winsorize tail reduction was performed for the continuous variables, yielding 22,587 observations. Economic policy uncertainty data comes from www.policyuncertainty.com, ESG performance data from

Wind database, other financial data from CSMAR database, and GDP growth rate data from the World Bank database. All the data processing was done by Stata16.0.

4. Empirical Analysis

4.1. Descriptive analysis

Table 2 shows the descriptive statistical results of the variables. Among them, the average ESG performance of enterprises is 72.76 and the standard deviation is 5.745. The

difference between the two is large, indicating that there is a big difference in ESG performance of different enterprises, with the maximum value of 92.93 and the lowest score of 36.62. The maximum value of economic policy uncertainty is 6.674, and the minimum value is 4.817. The standard deviation and the mean value differ greatly, and the fluctuation is obvious. The maximum GDP growth rate was 6.404 and the minimum value was 2.239, with large fluctuations.

Table 2. Variable definition

Variable	Minimum	Maximum	Mean value	Variance
lnepu	22,587	4.817	6.674	6.021
ESG	22,587	36.62	92.93	72.76
Size	22,587	19.69	26.35	22.26
Lev	22,587	0.0505	0.888	0.415
ROA	22,587	-0.373	0.250	0.0394
Board	22,585	1.609	2.708	2.112
TOP1	22,587	8.020	74.96	33.68
GDP	22,587	2.239	8.447	6.404

4.2. Base regression

Economic policy uncertainty is used to regress the ESG performance of enterprises, and the fixed effects of enterprises and industries are added to ensure the reliability of the results. The results showed that the coefficient of

economic policy uncertainty was significantly negative at the level of 1%, which verified the hypothesis that economic policy uncertainty had a negative impact on the ESG performance of enterprises. When external risks increase significantly, companies focus more on short-term performance and may ignore or reduce investments in ESG.

Table 3. Base regression results table

Variable	Model
lnepu	-0.395*** (0.064)
Size	1.597*** (0.084)
Lev	-5.137*** (0.331)
ROA	3.487*** (0.534)
TOP1	0.025*** (0.006)
Board	-0.710** (0.283)
GDP	-0.047*** (0.016)
Constant	42.490*** (1.758)
R-squared	0.595
Fixed effect	yes

4.3. Robustness test

4.3.1. Replace dependent variables

In order to further verify the previous conclusion, this paper changed ESG score with ESG rating, considering the particularity of rating data, and used fixed order Logit regression to test whether the direction and significance of the parameter estimation coefficient change. The test results are shown in the first column of Table 4, and the direction and significance of the economic policy uncertainty coefficient have not changed, but the value has changed, which is consistent with the basic regression conclusion.

4.3.2. Replace independent variables

Economic policy lag effect, when the enterprise make related activities, due to the relative lag of input and output, performance may not significant in the current reaction in the next phase, so this paper adopts the lag phase of economic policy uncertainty indicators for robustness test, the results in the second column, the direction of the uncertainty coefficient of economic policy and significance did not change, shows that the economic policy uncertainty negative impact on enterprise ESG performance.

Table 4. Results of the robustness test

	(1)	(2)
lnepu	-0.166*** (0.045)	
epu_lag		-0.274*** (0.062)
Controls	yes	yes
R-squared		0.619
Fixed effect	yes	yes

4.4. Heterogeneity test

Enterprises with different property rights also have different sensitivity to economic policy uncertainty. In this paper, sample regression is used to analyze whether there is any difference in ESG performance between state-owned enterprises and non-state-owned enterprises when economic policy uncertainty increases. The results are shown in Table 5. The first and second columns are the regression results of non-SOEs and SOEs, respectively. The regression results of non-SOEs are the same as the benchmark regression results, that is, the economic policy uncertainty has a negative impact on the ESG performance of enterprises. However, the regression results of SOEs were opposite to the basic regression results, and the parameter coefficient was significantly positive at the level of 5%. First, rising economic policy uncertainty will exacerbate industry competition,

while SOEs are more closely linked to the government and will respond quickly and accurately to policy changes. And compared with non-state-owned enterprises, state-owned enterprises face less pressure on cash flow pressure and financing pressure. It is easier for state-owned enterprises to seize the opportunity during the period of increasing economic policy uncertainty, establish the brand image, and increase the ESG investment so as to have a better ESG performance. Second, SOEs should set an example in an environment that strongly advocates the disclosure of ESG information. To some extent, the relevant economic activities of SOEs also represent a certain policy direction, shouldering the responsibility of stabilizing the economy, ensuring employment and improving the environment. Therefore, in the period of rising economic policy uncertainty, SOEs have the motivation to improve their ESG performance.

Table 5. Results of the heterogeneity test

	(1)	(2)
lnepu	-0.919*** (0.087)	0.237** (0.098)
Controls	yes	yes
R-squared	0.585	0.635
Fixed effect	yes	yes

5. Conclusion

Based on the data of China's A-share listed companies in 2014-2022, this paper tests the impact of economic policy uncertainty on the ESG performance of enterprises. The study found that the uncertainty of economic policy has a negative impact on the ESG performance of enterprises. In the case of significantly increased external risks, enterprises will pay more attention to the short-term performance, which will reduce the ESG investment. The regression results of the explained variables and the conclusions of the underlying regression. Further analysis of the property rights of enterprises found that the regression results of non-state-owned enterprises were consistent with the basic regression, but the regression results of state-owned enterprises showed opposite results. However, combining with the functions and characteristics of state-owned enterprises, this paper believes that state-owned enterprises will improve the performance of ESG during the period of rising economic policy uncertainty. Due to the impact of COVID-19, the global economic downturn, and many enterprises are also facing operating difficulties. From the macro level, the government should give full play to the leading role, ensure the stability of the economy, and consider the differences in industries and property rights of enterprises, and take targeted economic

policies and measures to stimulate enterprises to invest in ESG. From the perspective of enterprises, managers should consider the uncertainty of economic policies when formulating investment strategies, do a good job in risk control, reasonably allocate company resources, and seek a balance between short-term development and long-term development of enterprises. From the perspective of investors, while considering the ESG performance of enterprises, we should also pay attention to the impact of economic policy uncertainty, and make reasonable use of relevant information for investment to reduce losses.

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