systems

MDPI

Article

The Impact of the Resource-Exhausted City Program on Manufacturing Enterprises' Performance: A Policy Measures Perspective

Da Gao [1], Xiaotian Zhou [1], Zhiliang Yan [2,*] and Xinlin Mo [3]

[1] School of Law and Business, Wuhan Institute of Technology, Wuhan 430205, China; gaoda@hust.edu.cn
[2] School of Management, Xiamen University, Xiamen 361005, China
[3] School of Economics, Huazhong University of Science and Technology, Wuhan 430070, China
* Correspondence: zlyani@163.com

Abstract: The transformation of resource-based cities has a crucial impact on the development of local manufacturing enterprises. This study aims to assess the impact of the Resource-Exhausted City Program (RECP) on the performance of manufacturing enterprises, with a particular focus on the role of policy measures. Using data on manufacturing enterprises from 2004 to 2014, this study employs multiple difference-in-difference methods to investigate the impact of the RECP on corporate performance and its potential mechanisms. The results show that (1) the RECP can significantly improve the performance of firms in the pilot areas; (2) the implementation of RECP contributes to the improvement of manufacturing enterprises' performance by using policy measures, mainly including subsidies, tax incentives and access to low-interest loans; and (3) the supportive effects of the RECP are more pronounced in outward-oriented, state-owned and larger manufacturing enterprises. This study provides new insights into the relationship between resource-exhausted city policies and corporate performance.

Keywords: Resource-Exhausted City Program; manufacturing corporate performance; political resource; multiple difference-in-difference

check for updates

Citation: Gao, D.; Zhou, X.; Yan, Z.; Mo, X. The Impact of the Resource-Exhausted City Program on Manufacturing Enterprises' Performance: A Policy Measures Perspective. *Systems* **2023**, *11*, 415. https://doi.org/10.3390/systems11080415

Academic Editor: Gandolfo Dominici

Received: 3 July 2023
Revised: 29 July 2023
Accepted: 6 August 2023
Published: 11 August 2023

Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https://creativecommons.org/licenses/by/4.0/).

1. Introduction

In the early 1990s, the decline of the Ruhr region in Germany, the Lorraine industrial zone in France, and the plight of economic development in resource-rich countries such as Angola, Sudan and the Congo prompted scholars to rethink the relationship between natural resources and economic growth [1]. A large body of empirical evidence supports the resource curse theory at the cross-country [2–4] and regional levels [5,6]. As a result, the transformation of resource-exhausted cities has become a common problem faced by countries around the world. From the rust belt in the United States to the Ruhr in Germany, from the Lorraine region in France to the Kitakyushu region in Japan, from Bolivar in Venezuela to Baku in Azerbaijan, and so on, the decline and rebirth of resource-exhausted cities have constantly occurred. Meanwhile, some resource-based cities in China are suffering from resource exhaustion due to excessive economic development at the expense of the environment in the early years. The difficulties faced by China's resource-depleted cities are increasingly being recognized. In Erdos, Jiaozuo and Fuxin, for example, coal resources have been depleted by excessive mining. Forest cover in cities such as Yichun has declined rapidly. The depletion of natural resources has led these cities to experience economic stagnation or even negative growth [7,8], along with ecological crises [9,10].

In order to achieve sustainable economic development and innovative transformation of resource-depleted cities, China issued the Opinions of the State Council on Promoting Sustainable Development of Resource-based Cities (hereinafter referred to as "Opinions") in 2007. The Chinese government assessed a total of 69 cities as resource-depleted cities in 2008,

2009, and 2012, and since then, the transformation of resource-based cities in China has begun to work closely with the government rather than relying solely on resource-based cities and enterprises [11]. As a result, resource-dependent cities and local manufacturing firms have been supported by a range of priority policies such as funding and projects [12,13].

The measures of the Resource-Exhausted City Program (RECP) have enabled governments to begin intervening in the industrial transition of resource-exhausted cities to a greater extent, while effectively guiding the development of these cities [14,15]. Many resource-exhausted regions have benefited from the policy measures of this program and successfully transformed. The role of government in the transition process has been discussed and emphasized in many existing studies [12,16,17]. However, most of these studies have focused on the macro level, such as provinces and cities, rather than the micro level, such as firms. Firms, as an important component of cities, play a pivotal role in the transformation and development of cities. For example, in terms of subsidies, local governments have increased R&D subsidies to firms [14,18], which has increased firms' preference for innovation and patent applications. In terms of taxation, local governments are encouraged to grant more tax breaks so that local firms have more funds for transformational development [19,20]. In terms of interest loans, local governments provide sufficient funds and loans with lower interest rates for enterprises to improve their production and business models and upgrade their industrial structures [21,22]. However, limited efforts have been made to assess whether RECP can break the resource curse at the firm level.

Meanwhile, research on corporate performance has received extensive attention, which is mainly divided into internal and external influencing factors. On the one hand, internal factors consist of corporate governance [23,24], corporate foresight practices [25,26], and gender diversity of the board [27,28]. On the other hand, external factors can consist of digitsation [29,30] and political relevance [31,32]. For example, [27] used 394 French companies as a sample to confirm the existence of a positive correlation between corporate performance and female directors. Martín-Peña et al. [29] found that a digitized office can improve business performance, and in Gao et al. [30] it is suggested that digitisation can help reduce the cost of running a business and improve business performance.

To fill this gap, this study explores the causal relationship between the RECP and manufacturing corporate performance and its potential mechanisms. Firstly, a multiple difference-in-difference (DID) approach is employed to examine the impact of the RECP on corporate performance in cities where the program has been implemented. The results reveal a significant positive contribution of the RECP to the performance of local manufacturing firms. At the same time, a random sample was randomly sampled for a placebo test to exclude relevant policies and thereby assess the net impact of the RECP on local corporate performance, and a series of robustness tests were used to reconfirm the validity of the conclusions. Secondly, this paper further elaborates on the potential channels through which the RECP affects the performance of pilot local manufacturing firms, and we find that local firms can rely on government resources, i.e., higher corporate tax breaks, higher government subsidies, and lower corporate loan rates, to improve manufacturing corporate performance after RECP implementation. Finally, heterogeneity tests reveal that the impact of RECP on corporate performance is more pronounced for state-owned, larger, and export-oriented manufacturing firms operating within the pilot region.

This paper contributes to the existing research in three aspects. Firstly, this study takes the RECP as a quasi-natural experiment and adopts the multiple DID method for the first time to explore the causal relationship between the RECP and the performance of manufacturing enterprises, filling the gap in related research. Secondly, this study explores the influence mechanisms of the RECP on the performance of manufacturing firms from the perspective of policy measures. Government subsidies, tax breaks, low-interest loans and other policy measures help industrial enterprises in resource-dependent cities break the curse of natural resources. Thirdly, this study finds that the RECP shows significant heterogeneity in terms of firm affiliation, firm size, and the nature of the firm's business.

Statistically, this interesting finding has meaningful policy implications for trade-offs between natural and policy measures.

The subsequent sections of this paper are organized as follows. Section 2 offers a comprehensive background and presents the research hypotheses. Section 3 outlines the methodology. In Section 4, the empirical results are presented and analyzed. Section 5 presents robustness tests and a discussion. Finally, Section 6 presents our conclusions and the implications of the study.

2. Background and Research Hypothesis

2.1. Background of the RECP in China

The transformation of resource-based cities has become a common problem faced by countries around the world. From America's rust belt to Germany's Ruhr, from France's Lorraine to Japan's Kitakyushu, and from Venezuela's Bolivar to Azerbaijan's Baku, the decline and rebirth of resource-depleted cities is taking place. At the same time, there is growing recognition of the difficulties faced by China's resource-depleted cities [33]. The characteristics of resource-based cities are that they rely on natural resources as the leading industry. Additionally, the single economic structure leads to a single employment structure, and when resources are depleted and enterprises are weak, the problems of laid-off workers and unemployment then appear. Therefore, it has become a vital issue for these cities to seek new economic growth areas to achieve sustainable development and help related firms transform. China has been strategically addressing urban environmental and resource issues in recent years [34,35].

To address the resource issue, the government has devised a range of policies and measures, such as the Resource-Exhausted City Program (RECP), which is a locally based strategic plan (https://www.gov.cn/zwgk/2013-12/03/content_2540070.htm, accessed on 10 July 2023). Fuxin City was listed in 2001 as the first national pilot city for resource-exhausted city economic transition. A series of related documents and measures were issued in the following years, but mostly as guidance. In 2007, China issued the Opinions. Since then, governments have begun to actively participate in the economic transformation and upgrading of relevant firms. There were 69 resource-exhausted cities in all included in the program, with the first batch of 12 cities starting in 2008, the second batch of 32 cities beginning in 2009, and the program was implemented in a third batch of 25 cities in 2012. Figure 1 shows the distribution of resource-based cities of three batches.

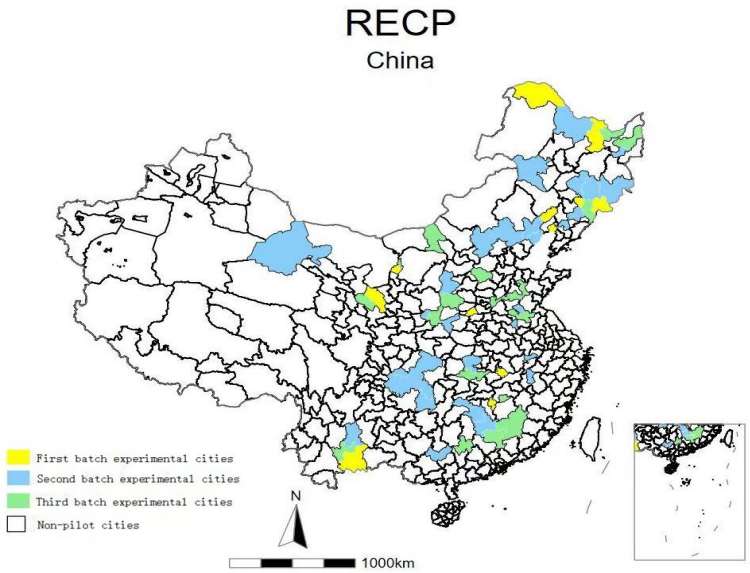


Figure 1. Map showing the distribution of multiple batches of resource-based cities. Source: This figure was drawn by the authors using stata17 software.

The RECP fiscal transfer payments increased from 3.48 billion yuan in 2008 to 5 billion yuan [14]. These included provision of funds to local enterprises, projects, subsidies, taxes and other incentives. These policy measures have greatly reduced the pressure on the performance of enterprises in resource-depleted cities. Under the guidance of local government policies, many enterprises have resolved the output value dilemma caused by the depletion of natural resources. Instead, with the help of policy measures, they continue to achieve transformation and upgrading.

2.2. Research Hypothesis

Before the RECP was implemented, companies located in resource-depleted cities were having difficulties growing because of the exhaustion of natural resources. Due to natural resource exhaustion and lack of outputs, a large number of factory workers were not paid or even laid off. In severe cases, mass incidents and social incidents were frequently triggered, which seriously threatened local public security. However, since the national policy was mainly based on guidance, although relevant firms were eager to transform, these firms relied on their own efforts and independent transformation [11]. Without the help of external forces such as the policy measures of local governments, transformation and development in these firms were difficult since they gradually suffered from the "resource curse". However, when the RECP was implemented, local governments took the lead in exploring the road to urban diversification due to the pressure of performance evaluation and other indicators. In the process of exploring industrial transformation paths, governments provided possible transformation and upgrading incentives for relevant enterprises, as well as subsidies and tax incentives to induce technological change [36,37]. Enterprises thus gain valuable incentives. Based on these incentives, many enterprises have successfully transformed into sustainable businesses that provide employment and attract talent. Based on the above analysis, this study proposes the following hypothesis.

Hypothesis 1. *The RECP can significantly improve manufacturing enterprises' performance.*

The Resource-Exhausted City Programs (RECP) encompasses various initiatives aimed at promoting enterprise transformation and enhancing the performance assessment of local officials, thereby facilitating the implementation of preferential policies by the local government [14]. Recognizing the pivotal role of local governments in driving corporate transition and development, it is crucial to explore the mechanisms through which governmental influence is exerted on enterprises. Government subsidies, tax relief, and low-interest loans emerge as important policy tools that effectively contribute to improving corporate performance [21]. Targeted subsidies and low-interest loans provided by the government can stimulate technological advancements within enterprises, while tax relief provisions allow businesses to allocate more financial resources to transformative endeavours. Based on the aforementioned analysis, this study proposes the following hypothesis:

Hypothesis 2. *The implementation of the RECP promotes corporate performance by leveraging policy measures, specifically through channels such as subsidies, taxes, and low-interest loans.*

Following the implementation of the Resource-Exhausted City Programs (RECP), the local manufacturing industry has experienced an infusion of policy measures, prompting an investigation into the varying impacts of resources such as low-interest loans and subsidies on different types of enterprises. Firstly, it is observed that policy measures allocated by local governments exhibit a proclivity towards supporting state-owned enterprises (SOEs), resulting in these entities receiving more substantial governmental assistance. Secondly, drawing on the findings of [30,38], a positive correlation is established between the scale of an enterprise and the strength of the relationship between corporate social responsibility and performance. In their pursuit of career advancement, local government officials engage in competitive tournaments, channelling a greater proportion of policy measures to larger enterprises under the auspices of national policies aimed at facilitating green transformation.

However, smaller enterprises encounter limitations in accessing these resources due to their relatively diminutive size. Lastly, informed by the tenets of the industrial linkage theory, it is observed that the resource industry in developing countries typically exhibits a low level of correlation with other industries. This implies a significant reliance on imported capital goods and the external processing of primary products. Consequently, export-oriented manufacturing enterprises, when subjected to the RECP, may derive benefits from policy measures tailored to their specific import–export nature. Based on the aforementioned analysis, this study proposes the following hypothesis:

Hypothesis 3. *The implementation of the RECP significantly promotes the performance of state-owned, large-scale, and export-oriented manufacturing enterprises.*

3. Methodology and Data

3.1. Methodology

This study uses the Resource-Exhausted City Program (RECP) as a quasi-natural experiment to examine its net impact on corporate performance. The analysis focuses on manufacturing firms, and data from the Industrial Enterprise Database covering the period from 2004 to 2014 are selected for investigation. Given that the RECP policy was implemented in three distinct phases between 2008 and 2012, this paper uses a multiple difference-in-differences (DID) approach with different time points to accurately identify the policy effects. The traditional DID method assumes that all individuals in the processing group are affected by the policy at the same time, but there will be cases where individuals in the processing group accept processing at different times. The use of the multiple DID method allows for the control of time-invariant, firm-specific omitted variables while accounting for time-varying factors and national shocks to relevant variables, which is a significant advantage [39]. The benchmark model is specified as follows:

$$Y_{it} = \alpha + \beta_1 RECP_{it} + \lambda X_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (1)$$

In Equation (1), Y_{it} denotes corporate performance in firm i and year t, which is constructed with enterprise Added Value (ADD) and Return on Assets (ROA). $RECP_{it}$ represents the difference-in-difference term. Therefore, the coefficient β_1 of $RECP_{it}$ represents the impact of the Resource-Exhausted City Program on enterprise performance. X_{it} is a sequence of control variables for corporate characteristics, including firm age, firm size, firm capital, gearing, whether firms are SOEs or non-SOEs, and whether they are exporting or non-exporting firms. μ_i signifies the firm fixed effect, while γ_t indicates the year fixed effect. They control for time-invariant and omitted urban factors and national shocks which affect performance. ε_{it} is the error term.

3.2. Variables

3.2.1. Core Explanatory Variable

During the sample period, the implementation of the Resource-Exhausted City Program (RECP) remained consistent. The policy rollout occurred in three phases, specifically in the years 2008, 2009, and 2012, targeting a total of 69 resource-exhausted cities. As a result, the treatment group comprises 9005 samples collected from these cities, while the control group consists of 317,434 samples obtained from non-RECP cities. To assign the policy dummy variable, the Opinions stipulate that the financial transfer payment city list be combined with the resource-exhausted cities to determine the time of implementation. If a firm is located in a city chosen for the RECP and operates after the policy's implementation, it is assigned a value of 1; otherwise, it is assigned a value of 0.

3.2.2. Dependent Variable

Referring to [40,41], this study selects two commonly used proxies, enterprise Added Value (ADD) and Return on Assets (ROA), to measure corporate performances. ADD indicates the value added by an enterprise in the production process. Compared with the

total output or sales of an enterprise, ADD can reflect the economic performance of an enterprise more accurately. Return on Assets (ROA) denotes the ratio of an enterprise's income to its total assets in a certain period, which is an indicator of the level of the comprehensive utilization of corporate assets and profitability.

3.2.3. Other Control Variables

This study controls for firm age (FA), firm size (FS), firm capital (FC), firm debt ratio (FDR), and indications for SOEs and exporting firms (EF) to eliminate other factors that may interfere with the identification of the RECP effect [42,43]. Among those control variables, the FS is generated by the natural logarithm of total assets; the natural logarithm of the establishment time measures the FA; FDR is calculated as the proportion of total responsibility to total assets; and FC is measured by the natural logarithm of the enterprise's fixed assets.

3.3. Data Source

This study focuses on manufacturing firms in China. To facilitate the comparison of corporate performance between firms that participated in the Resource-Exhausted City Program (RECP) and those that did not, a sample of 326,439 firm data from nearly 30,000 industrial firms is selected, covering the period from 2004 to 2014. The firm-level data used in this analysis were obtained from reputable databases, including the China Industrial Enterprise Database and the China Stock Market and Accounting Research Database (CSMAR). Descriptive statistics of the sample are presented in Table 1, which include the sample mean and variance of the control group, which consists of 317,434 observations. In addition, the mean and variance of the treated group, consisting of 9005 observations, are presented in columns three to five of the table.

Table 1. Descriptive statistics.

	Control Group			**Test Group**			**Full Sample**		
	Obs.	**Mean**	**Variance**	**Obs.**	**Mean**	**Variance**	**Obs.**	**Mean**	**Variance**
ADD	317,434	9.985	1.284	9005	10.179	1.310	326,439	9.990	1.285
ROA	317,434	0.106	0.228	9005	0.193	0.337	326,439	0.108	0.232
FA	317,434	2.440	0.712	9005	2.410	0.808	326,439	2.439	0.714
FS	317,434	11.264	1.447	9005	11.287	1.586	326,439	11.265	1.451
FC	317,434	10.007	1.537	9005	10.277	1.696	326,439	10.015	1.543
FDR	317,434	3.043	4.306	9005	3.782	5.987	326,439	3.063	4.363
SOE	317,434	0.163	0.369	9005	0.274	0.446	326,439	0.166	0.372
EF	317,434	0.399	0.490	9005	0.150	0.357	326,439	0.393	0.488

4. Empirical Results

4.1. Baseline Regression Result

This study identifies the effect of the RECP on manufacturing corporate performance using a multi-period DID method, controlling for time fixed, industry fixed, and individual fixed effects, and their respective interaction terms. Table 2 reports the estimated results of the baseline regression. Columns (1)–(4) of Table 2 estimate the firm Added Value as a measurement indicator, while columns (5)–(8) are the regression results when the dependent variable is replaced with ROA. The results show that whether replacing explanatory variables or controlling firm, industry, and year fixed effects, the RECP has a significant improvement effect on corporate performances. This result is reliable after including other control variables and using robustness standard errors. Specifically, the results in columns (1) and (3) illustrate that the RECP significantly enhances corporate performance when controlling only for industry and time fixed effects. Resource-based firms such as those producing coal, oil, non-ferrous metals, and other products account for a significant proportion of the RECP sites. Therefore, to avoid the interference of these

individual differences between industries, we control both the year and industry fixed effects in column (1), column (2), and column (4). We also add other related control variables, including firm age, firm size, firm capital, asset–liability ratio, and indicator for the SOE and the exporting firms.

Table 2. The baseline results of the RECP on corporate performance.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ADD				ROA			
RECP	0.128 **	0.139 ***	0.157 ***	0.188 ***	0.063 ***	0.048 **	0.036 *	0.074 ***
	(0.045)	(0.033)	(0.034)	(0.037)	(0.017)	(0.016)	(0.016)	(0.014)
Control	N	Y	Y	Y	N	Y	Y	Y
Firm FE				Y				Y
Ind FE	Y	Y			Y	Y		
Year FE	Y	Y		Y	Y	Y		Y
Ind-year FE			Y				Y	
Region-year FE			Y				Y	
N	326,439	326,439	326,439	326,439	326,439	326,439	326,439	326,439
R^2	0.157	0.627	0.632	0.776	0.052	0.103	0.121	0.476

Notes: The standard errors of robustness at the industry level are the numbers shown in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Control variables include firm age, size, capital, asset–liability ratio, and whether it is a state-owned firm or an export firm.

The results demonstrate that the favorable effect of the RECP on firms remains significant after controlling for relevant variables. Since the RECP announced the list of selected cities in three batches in 2008, 2009, and 2012, to control the differences in the year selection, columns (3) and (5) control the cross-product terms of the year, industry, and region, respectively. When conditional on the inclusion of other control variables, we can conclude that the RECP can improve a firm's performance. Finally, we directly control for firm-level and year fixed effects in columns (4) and (8). The results and analysis above confirm that Hypothesis 1 is valid. Our estimated results show that the performance-promoting effect of the RECP on firms is significant at the 1% level, which is generally consistent with the findings of [10].

4.2. Parallel Trend and Dynamic Effect Test

The prerequisite for applying the DID measure is to verify whether the common trend hypothesis is supported. Therefore, drawing on [44], we adopt the event analysis method for the dynamic effect test under quasi-natural experimental conditions at multiple time points. We set up the following model:

$$Y_{it} = \alpha + \sum_{-4 \le j \le 5} \beta_j RECP_{it} + \lambda X_{it} + \mu_i + \gamma_t + \varepsilon_{it} \quad (2)$$

Here, β_j denotes the impact generated from before period 4 to after period 5 of treatment. β_0 indicates the impact of processing the current period, so when the year is the current period of processing, the value of $RECP_{it}$ is 1; otherwise, the value is 0. The other variables are defined as above.

Column (1) of Table 3 shows that the coefficients of the dummy variables are not statistically different from 0 in all four periods before joining the program, indicating there is no difference in corporate performance. However, the coefficients become statistically positive in the current period of RECP implementation and the following five periods, suggesting that the RECP contributes to improving corporate performance. When we replace the proxy variable with ROA, the result in column (2) also supports the above conclusion. Therefore, we have sufficient reasons to confirm that the parallel trend is supported and that the multi-period DID method is reasonable for this study. Implementing the RECP can significantly benefit corporate performance.

Table 3. Dynamic effect tests for RECP.

	(1)	(2)
	ADD	**ROA**
Before4	0.133	0.069
	(0.144)	(0.124)
Before3	0.161	0.069
	(0.142)	(0.126)
Before2	0.174	0.077
	(0.145)	(0.120)
Before1	0.206	0.070
	(0.136)	(0.114)
Current	0.141	0.068
	(0.136)	(0.118)
After1	0.173 ***	0.074 ***
	(0.052)	(0.020)
After2	0.113 *	0.020
	(0.048)	(0.020)
After3	0.164 ***	0.047 *
	(0.041)	(0.019)
After4	0.117 **	0.024
	(0.039)	(0.019)
After5	0.106 *	0.024
	(0.052)	(0.021)
Control	Y	Y
Ind FE	Y	Y
Year FE	Y	Y
N	326,439	326,439
R^2	0.627	0.104

Notes: The standard errors of robustness at the industry level are the numbers shown in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Control variables include firm age, size, capital, asset–liability ratio, and whether it is a state-owned firm or an export firm.

4.3. The Impact of the RECP on the Performance of Resource-Based Firms

To examine the impact of the RECP on the performance of resource-based enterprises, we construct a distinct sample comprising exclusively resource-based firms. Furthermore, based on their ownership structure, we categorize these firms into two groups: resource-based state-owned enterprises (SOEs) and resource-based non-SOEs. This division enables us to conduct a detailed investigation into whether the implementation of the RECP policy breaks the resource curse theory in the context of resource-based enterprises. Table 4 shows the results for resource-based firms. Specifically, columns (1)–(3) employ ADD as a proxy of corporate performance, and columns (4)–(6) introduce ROA as a measure of corporate performance. Among them, columns (1) and (3) report the total influence of the RECP on resource-based firms in the program implementation sites. The results illustrate that the RECP significantly benefits the performance of these resource-based firms, consistent with [45]. Columns (2) and (3) present results of the resource-based SOEs and resource-based non-SOEs as separate sub-samples when the proxy variable of corporate performance is ADD. We conclude that the RECP affects the performance of resource-based SOEs insignificantly, but it has a significant role in promoting the performance of resource-based non-SOEs. When we replace the proxy variable ADD with ROA, we find that the results in columns (5) and (6) are also similar to the results in columns (1)–(3). Therefore, we can conclude that implementing the RECP positively affects the performance of local resource-based firms.

Table 4. The impact of the RECP on the performance of resource-based firms.

	(1)	(2)	(3)	(4)	(5)	(6)
	ADD			ROA		
	Resource-Based Firms	Resource-Based SOEs	Resource-Based Non-SOEs	Resource-Based Firms	Resource-Based SOEs	Resource-Based Non-SOEs
RECP	0.101 *	−0.120	0.203 ***	0.047 **	−0.013	0.074 **
	(0.056)	(0.071)	(0.070)	(0.023)	(0.011)	(0.030)
Control	Y	Y	Y	Y	Y	Y
Ind FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
N	66,160	17,940	48,208	66,160	17,940	48,208
R^2	0.641	0.187	0.138	0.150	0.187	0.138

Notes: The standard errors of robustness at the industry level are shown in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Control variables include firm age, size, capital, asset–liability ratio, and whether it is a state-owned firm or an export firm.

Furthermore, by primarily enhancing the performance of resource-based non-SOEs, the RECP helps stimulate the transformation of these enterprises and break the resource curse. However, the program has no significant effect on the development of resource-based SOEs, which is similar to the conclusion of [8]. One possible explanation is that local governments are under RECP performance assessment pressure. Compared with SOEs, which already enjoy more favorable policy measures and more stable development, non-SOEs rapidly transform and develop under tightening natural resources in market economy conditions. This occurs by employing initiative and relying on obtaining more policy measures from the RECP to achieve certain goals. As [46] points out, the RECP changed partially the distribution of preferential treatment by the government between SOEs and non-SOEs.

4.4. Mechanism Test

The above results demonstrate statistically that the RECP helps improve corporate performance. We then evaluated how the RECP benefits corporate performance. Referring to [39], if the effect of the RECP on the performance of regional firms is theoretically predictable, it will give us more confidence in the conclusion. It also reveals the potential mechanisms by which the RECP affects the performance of regional firms. Specifically, suppose the RECP enables local firms to access policy measures to improve performance. In that case, the RECP's impact should be higher in resource-based firms where RECP-induced policies are more effective. Implementing the RECP has been a challenging task for local governments, which prompted them to introduce a sequence of favorable policies to encourage the transformation of local firms [47]. Therefore, this paper attempts to verify that the implementation of the RECP causes firms to access more policy measures to induce transformation and improve corporate performance. This is verified based on policy measures such as subsidies, taxes, and interest.

Table 5 reports the mechanisms by which the RECP affects resource-based firms' performance. Columns (1)–(3) of the table are based on the full sample. One plausible mechanism is policy incentives for program cities, including government subsidies, taxes, and interest. The significantly positive coefficients of the RECP in columns (1) and (3) indicate that local governments display a stronger inclination towards promoting the transformation and upgrading of firms in RECP cities through the provision of subsidies and favorable interest rates. Government subsidies and low-interest loans are important policy measures that make valuable contributions to corporate performance [21]. Also, the significant negative coefficient of the RECP in column (2) indicates that the RECP may cause local governments to give more tax breaks to local firms. In this way, more funds become available to firms for transformation and development. The positive impact of the RECP on government tax breaks has boosted local business growth. This interesting

finding is similar to that reported in [19]. Therefore, the above results and analysis confirm Hypothesis 2.

Table 5. RECP mechanism analysis of the full sample and resource-based corporate performance.

	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample			Resource-Based Firms		
	Subsidies	Taxation	Interest	Subsidies	Taxation	Interest
RECP	0.470 **	−0.553 ***	0.236 *	1.741 *	−0.120 ***	0.507 **
	(0.263)	(0.103)	(0.094)	(0.780)	(0.028)	(0.275)
Control	Y	Y	Y	Y	Y	Y
Ind FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
N	98,057	100,263	166,482	4606	4830	9382
R^2	0.511	0.675	0.574	0.550	0.698	0.635

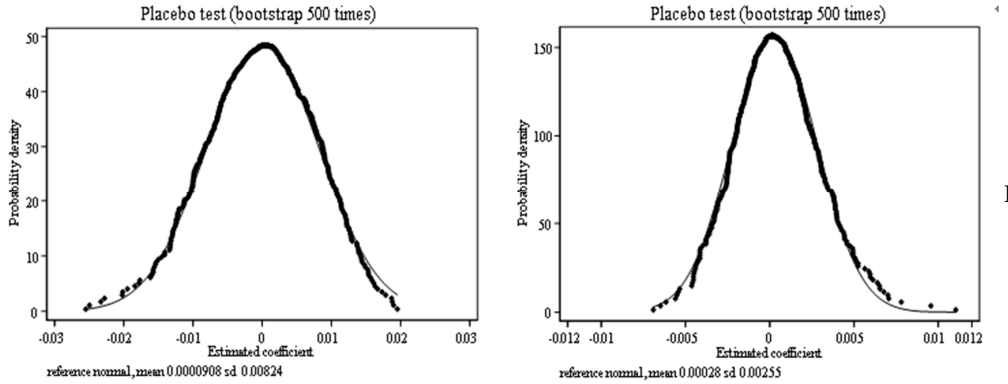
Notes: The standard errors of robustness at the industry level are shown in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Control variables include firm age, size, capital, asset–liability ratio, and whether it is a state-owned firm or an export firm.

Furthermore, local governments are more inclined to resource-based firms in RECP cities, providing more policy measures such as subsidies, taxation, and low-interest loans. Therefore, to strengthen the test of the mechanism channel, we select resource-based firms as the sub-sample and re-regress the model, the results of which are shown in columns (4)–(6) of Table 5. Even resource-based firms, which are deeply dependent on natural resources, can still benefit from the RECP to improve their performance through increased subsidies, reduced taxes, and other political resource support. With the help of policy measures, resource-based firms can improve their production and operation models, while carrying out transformations to reverse the degradation of profitability brought about by previous business models that relied heavily on natural resources, thereby breaking the resource curse effect [48].

4.5. Robustness Test

4.5.1. Placebo Test

In this section, we assess whether the influence of some other important environmental, economic and political factors or other unobservable factors may lead to bias when exploring how the RECP affects corporate performance [48]. For this analysis, we use randomized samples for placebo testing. In the process, we randomly select cities that introduced the RECP from the sample and repeat this process 500 times to obtain a sample of 500 pseudo-firms. We regress the pseudo-firm sample and collect the estimated coefficients. Finally, we compare the coefficients of the real firm sample and the pseudo-firm sample. Figure 2 illustrates the coefficient distribution. The left side of Figure 2 is the regression with ADD as the explanatory variable proxy, and the right side is the regression with ROA instead. The curve here represents a pseudo-estimated distribution of 500 times. It can be seen from the results on the left that when ADD is used as the proxy variable, the estimated coefficient of the RECP for corporate performance is 0.188, which is too far from the curve to be drawn under the existing scale range. When we use ROA as the proxy variable to examine the performance of the RECP on corporate performance, the estimated coefficient is 0.074, which is also outside the curve, and yields similar results. Additionally, Figure 2 exhibits a concentration of estimates from the random assignment around 0, indicating the absence of a substantial influence on the pseudo-treated sample. This observation implies that the observed effects on corporate performance attributed to the RECP are not spurious. Therefore, the placebo test findings reinforce our confidence in the regression results, further substantiating the significant impact of the RECP on corporate performance.



Placebo test coefficient distribution. y = ROA

Placebo test coefficient distribution. y = ADD

Figure 2. Placebo test of the RECP on corporate performance. Source: This figure was drawn by the authors using stata17 software.

4.5.2. Exclude Contemporaneous Policies

China has attached great importance to improving the urban environment in recent years and has successively promulgated a series of environmental regulatory measures [49]. Therefore, many environmental regulation measures are being implemented simultaneously while implementing the RECP. These environmental policies may have affected corporate performance during the sample period. For example, starting from 2005, every three years, some cities were designated as civilized national cities. (Cities that have won the title of civilized national towns are hereinafter referred to as "civilized cities"). In 2010, the country proposed pollution control targets for "two control areas". In 2011, the selection of national model cities for environmental protection was also implemented. As these policies all play effective roles in promoting firm development and improving industrial structure, there might be an overlap with the RECP that impacts our experimental results. To minimize the interference of other environmental policies, we remove the relevant policies and regress Equation (1) again. Table 6 presents the results. Using ADD as the proxy variable, columns (1)–(4) in the table present the results excluding the two control area cities, model cities for environmental protection, civilized pilot cities, and cities with all above mentioned three policies, respectively. All the RECP coefficients are significantly positive at the 1% level. The results remain unchanged when the dependent variable is replaced with ROA. Therefore, we have sufficient reason to believe that the RECP can effectively help improve local firms' performance without the intervention of other environmental protection policies.

Table 6. Excluding contemporaneous policies.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Two Control Areas	**Environmental Model City**	**National Civilized City**	**All**	**Two Control Areas**	**Environmental Model City**	**National Civilized City**	**All**
	ADD				**ROA**			
RECP	0.207 ***	0.152 ***	0.155 ***	0.216 ***	0.087 ***	0.038 *	0.043 **	0.062 ***
	(0.039)	(0.032)	(0.033)	(0.037)	(0.017)	(0.016)	(0.016)	(0.016)
Control	Y	Y	Y	Y	Y	Y	Y	Y
Ind FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
N	238,271	185,346	258,625	102,539	238,271	185,346	258,625	102,539
R^2	0.633	0.620	0.623	0.625	0.115	0.124	0.112	0.152

Notes: The standard errors of robustness at the industry level are shown in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Control variables include firm age, size, capital, asset–liability ratio, and whether it is a state-owned firm or an export firm.

4.5.3. Further Robustness Test

Table 7 reports the results of further robustness tests. Model (1) and Model (2) control for the expected effect. Since before the RECP was formally put forward in 2008, the state issued a series of related measures to address urban development problems caused by resource exhaustion. The State Council also issued relevant documents in 2007. Therefore, we were concerned that the RECP was likely predicted in 2007 and had an early impact on business performance. To test whether the prospect of the policy's implementation had an impact on corporate performance, we control the expected effect variable in Equation (1) by adjusting the impact on the processing term in 2007. The results are listed in columns (1) and (2) in Table 7. The coefficient of the RECP is still significantly positive, suggesting that the RECP can still effectively benefit the performance of local firms without the policy being predicted in advance.

Table 7. Robustness test.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ADD	**ROA**	**ADD**	**ROA**	**ADD**	**ROA**	**ADD**	**ROA**	**ADD**	**ROA**
RECP	0.141 ***	0.049 **	0.139 ***	0.048 **	0.139 ***	0.048 **	0.204 ***	0.043 *	0.078 *	0.028 **
	(0.033)	(0.016)	(0.033)	(0.016)	(0.030)	(0.016)	(0.037)	(0.017)	(0.031)	(0.016)
Dummy2007 × treat	0.233 ***	0.087 ***								
	(0.038)	(0.017)								
Control	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ind FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	326,439	326,439	326,370	326,370	326,439	326,439	326,439	326,343	218,648	218,648
R^2	0.627	0.104	0.627	0.103	0.627	0.103	0.719	0.094	0.623	0.122

Notes: The standard errors of robustness at the industry level are shown in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Models (1) and (2) control the expected effect; Models (3) and (4) employ PSM-DID; Models (5) and (6) cluster the explanatory variables to the city level; Model (7) replaces the explanatory variable with the firm's gross output value; Model (8) replaces the explanatory variable with the firm's return on net assets; Models (9) and (10) retain only prefecture-level cities in the provinces to which the pilot cities belong as the control group.

Models (3) and (4) employ the PSM-DID method. Data bias and variable confounding may result in unreliable estimates. We used a combined DID and PSM (PSM-DID) design to re-examine the empirical results to control for systematic discrepancies between the treated and control groups. The coefficients of the RECP are significantly positive in Models (3) and (4), which is consistent with the DID estimates. We can conclude that the findings above have a certain robustness.

Model (5) and Model (6) cluster the explanatory variables at the city level. There are 69 cities selected for the RECP, but these cities vary in geographic location, economic development, and industry distribution. To exclude possible bias in the regression results due to inter-city differences, we cluster the explanatory variables to the city level to obtain Model (5) and Model (6). The RECP coefficients in columns (5) and (6) are significantly positive, indicating that the differences between cities do not significantly impact the results.

In Model (7) and Model (8) we replace the explanatory variables. To exclude possible differences in the results due to the randomness of indicator selection, we replace the dependent variable Y_{it} in Equation (1) with the firm's gross output value and the firm's return on net assets to obtain Model (7) and Model (8), respectively. The total output and the return on net assets are also representative measures of corporate performance. It can be seen in columns (7) and (8) that after replacing the dependent variable, the results are still significantly positive, indicating the robustness of the above findings.

Model (9) and Model (10) retain only prefecture-level cities in the provinces to which the pilot cities belong as the control group. Firms in some of China's developed cities and provinces have experienced dramatic growth in corporate performance due to their location advantages, advantages in new industry development, etc. To avoid the interference of these firms, we retain only the provincial prefectures in the province to which the pilot

city belongs as the control group in the regression. As seen in columns (9) and (10), the results are still significantly positive, indicating that the RECP still significantly improves corporate performance and that the finding has a certain degree of robustness.

4.6. Heterogeneity Analysis

As the development of different firms varies, the beneficial effect of the RECP on performance may also vary from firm to firm. To further explore the various effects of the RECP on corporate performance, this section assesses the heterogeneity of firm property rights, firm size, and the nature of firm business. The results are shown in Table 8.

Table 8. Heterogeneity analysis.

	(1)	(2)	(3)	(4)	(5)	(6)
	ADD			ROA		
RECP × SOEs	0.210 ***			0.082 ***		
	(0.040)			(0.019)		
RECP × non-SOEs	−0.060			−0.047 ***		
	(0.044)			(0.010)		
Firm size		0.600 ***			−0.046 ***	
		(0.009)			(0.003)	
RECP × Firm size		0.009 **			0.003 *	
		(0.003)			(0.001)	
RECP × export			0.150 ***			0.049 **
			(0.036)			(0.017)
RECP × non-export			0.066			0.042
			(0.064)			(0.025)
Control	Y	Y	Y	Y	Y	Y
Ind FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
N	326,439	326,439	326,439	326,439	326,439	326,439
R^2	0.627	0.627	0.627	0.104	0.103	0.103

Notes: The standard errors of robustness at the industry level are shown in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Control variables include firm age, size, capital, asset–liability ratio, and whether it is a state-owned firm or an export firm.

First, we conduct a heterogeneous analysis of firm property rights. Firms are classified into SOEs and non-SOEs according to the nature of their ownership and the respective effects of the RECP are examined. The first two rows of Table 8 show that the RECP is more effective in improving the performance of SOEs, which means that policy measures provided by local governments contribute more to the performance of SOEs. One reason appears to be that SOEs have easier access to policy measures and dividends than non-SOEs. Therefore, the RECP has a greater advantage in transforming SOEs. This result is similar to that reported in [50].

Second, we perform a heterogeneity analysis of firm size. Firms of different sizes may differ in profitability, resource acquisition capabilities, and operating efficiency. Therefore, the effect of implementing the RECP may also vary. Since the corporate size is a continuous variable, we multiply the sample corporate size by the RECP. The regression results in the fourth row in Table 8 are all significantly positive, suggesting that the larger the firm size, the greater the impact of the RECP on corporate performance. This conclusion is similar to that reported by [38], who proposed that the larger the firm size, the stronger the connection between firm social responsibility and performance.

Third, our heterogeneity analysis is based on the nature of the company's business. According to industrial linkage theory, resource industries in developing countries have low industrial linkages with other industries and thus make few contributions to the growth of other sectors. On the one hand, the low income levels of workers in resource industries and insufficient effective demand suppress the demand for domestic consumer goods. The

resource sector, on the other hand, relies on imports for almost all the capital goods it needs. All the primary products produced are sold abroad for processing, which also inhibits the growth of the domestic processing industry. Therefore, we divide the sample firms into exporters and non-exporters according to their business scope. The results in the last two rows in Table 8 indicate that, compared with non-export firms, the RECP has a more obvious favorable effect on export-oriented firms, which is similar to the findings reported by [51]. Therefore, the above results and analysis confirm Hypothesis 3.

5. Discussion

The Resource-Exhausted City Program (RECP) allows the government to intervene to a greater extent in the industrial transformation of resource-exhausted cities. The impact of the RECP on firms has been discussed and highlighted in many existing studies [12,16]. However, few studies have examined the impact of the RECP on the performance of manufacturing firms and the role of policy measures in this. However, paying attention to the impact of the RECP on manufacturing corporate performance is of great significance for the future development and transformation of manufacturing firms. Therefore, the objective of this paper is to use the multiple difference-in-difference method to examine the impact of the RECP on the performance of urban enterprises and its impact mechanisms. The results of this study show that the RECP has made a significant positive contribution to the performance of local manufacturing firms. At the same time, a series of robustness tests were conducted by randomly selecting samples for the placebo test and excluding other relevant policies to assess the net impact of the RECP on the performance of local enterprises. These tests reconfirmed the validity of the conclusions. Second, this paper further elaborates on the potential channels through which the RECP affects the performance of the pilot local manufacturing enterprises. Our research confirms the role of policy measures in the influence of the RECP on enterprise performance, that is, local enterprises can rely on government resources, namely higher corporate income tax deductions, higher government subsidies, and lower corporate loan interest rates, to improve the performance of manufacturing enterprises. Finally, heterogeneity tests are also conducted and the results show that the impact of the RECP on corporate performance is more significant in the state-owned, large and export-oriented manufacturing firms in the pilot area.

6. Conclusions and Policy Implications

This study examines the impact of the Resource-Exhausted City Program (RECP), a prominent place-based policy, on corporate performance in China over the period 2004–2014. The empirical results reveal several key findings: the implementation of the RECP has significantly improved corporate performance in the pilot cities. These results are consistently verified through a series of robustness checks that demonstrate the reliability of the findings. A plausible mechanism underlying this effect is the increased availability of government resources brought about by the RECP. Specifically, we find that the RECP positively affects corporate performance through various channels, including subsidies, tax incentives, soft loans, and other means. Moreover, our results indicate that the RECP also benefits the performance of resource-based firms through the aforementioned channels, suggesting a potential avenue for these firms to escape the resource curse. Through heterogeneity analysis, we find that the impact of the RECP is more pronounced on the performance of export-oriented, state-owned, and larger firms. Overall, our study sheds light on the effectiveness of the RECP in improving corporate performance and provides insights into the mechanisms through which this policy intervention works.

In this study, the RECP is used as a quasi-natural experiment, and the causal relationship between the RECP and the performance of manufacturing enterprises is examined for the first time using multiple DID methods, which fills a gap in the related research. In addition, this study explores the mechanisms of the RECP's influence on the performance of manufacturing enterprises from the perspective of policy measures, such as government subsidies, tax breaks, low-interest loans and other measures that have been shown to help

manufacturing enterprises in resource-dependent cities break the curse of natural resources. However, although the research in this study is innovative to some extent and these findings have valuable implications for policymakers in promoting economic development, this study also has some limitations. For example, the RECP policy interventions may differ across industries, but this paper does not explore them in more detail. Therefore, this study plans to extend the existing research in two ways. First, we plan to further explore the impact of the RECP policies on manufacturing firms in different industries to identify the specific impacts on these firms. Second, we plan to investigate the impact of RECP policies on the environmental performance of listed companies.

Based on the above conclusions, this study provides the following policy implications. First, local governments should balance the distribution of preferential treatment to SOEs and non-SOEs. Due to the performance appraisal pressure on officials and to better accomplish the goals, local governments are more inclined to subsidize non-SOEs. However, the development of SOEs is also important for increasing the vitality of a city's economic growth. Therefore, it is hoped that local governments can increase their political support for SOEs in their future policies and help these firms succeed in their transition. Second, there should be increased government subsidies, tax relief, and low-interest loans to firms which require them, especially resource-based firms. In the analysis of the RECP mechanism, we have verified that the government can effectively promote the development of local enterprises by leveraging policy measures such as subsidies, low-interest loans, and tax breaks for enterprises. Therefore, the mechanisms proposed in this paper provide a reference for local governments aiming to help enterprises transform successfully and as rapidly as possible. Third, multiple assessments and incentive mechanisms should be conducted in parallel. The RECP has greatly facilitated the implementation of local government policies by adding the completion of enterprise transformation to the performance appraisal of officials, but this has also created disadvantages such as uneven distribution of benefits to SOEs and non-SOEs. Therefore, in addition to officer performance reviews, other relevant incentives should be implemented simultaneously to maximize the availability of measures to all enterprises that need them.

Author Contributions: Conceptualization, D.G. and Z.Y.; methodology, X.Z.; software, X.M.; validation, X.Z., Z.Y. and X.M.; formal analysis, X.Z.; investigation, Z.Y.; resources, D.G.; data curation, X.Z.; writing—original draft preparation, D.G. and Z.Y.; writing—review and editing, D.G. and X.Z.; visualization, Z.Y.; supervision, D.G.; project administration, Z.Y.; funding acquisition, D.G. All authors have read and agreed to the published version of the manuscript.

Funding: This work was supported by Fund of Wuhan Institute of Technology, Grant/Award Number: XJ2023003307.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Bulte, E.H.; Damania, R.; Deacon, R.T. Resource intensity, institutions, and development. *World Dev.* **2005**, *33*, 1029–1044. [CrossRef]
2. Gylfason, T.; Zoega, G. Natural resources and economic growth: The role of investment. *World Econ.* **2006**, *29*, 1091–1115. [CrossRef]
3. Gao, D.; Tan, L.; Mo, X.; Xiong, R. Blue Sky Defense for Carbon Emission Trading Policies: A Perspective on the Spatial Spillover Effects of Total Factor Carbon Efficiency. *Systems* **2023**, *11*, 382. [CrossRef]
4. Sala-i-Martin, X.; Subramanian, A. Addressing the natural resource curse: An illustration from Nigeria. *J. Afr. Econ.* **2013**, *22*, 570–615. [CrossRef]
5. Donald, G. Freeman. The 'Resource Curse' and regional US development. *Appl. Econ. Lett.* **2009**, *16*, 527–530.
6. James, A.; Aadland, D. The curse of natural resources: An empirical investigation of US counties. *Resour. Energy Econ.* **2011**, *33*, 440–453. [CrossRef]
7. Xing, M.; Luo, F. Comparative study on the optimization path of industrial value chain in China's resource-based cities. *Sustainability* **2018**, *10*, 1338. [CrossRef]

8. Li, G.; Wen, H. The low-carbon effect of pursuing the honor of civilization? A quasi-experiment in Chinese cities. *Econ. Anal. Policy* **2023**, *78*, 343–357. [CrossRef]
9. Li, W.; Yi, P.; Zhang, D.; Zhou, Y. Assessment of coordinated development between social economy and ecological environment: A case study of resource-based cities in Northeastern China. *Sustain. Cities Soc.* **2020**, *59*, 102208. [CrossRef]
10. Song, M.; Peng, L.; Shang, Y.; Zhao, X. Green technology progress and total factor productivity of resource-based enterprises: A perspective of technical compensation of environmental regulation. *Technol. Forecast. Soc. Chang.* **2022**, *174*, 121276. [CrossRef]
11. Wen, H.; Liang, W.; Lee, C.C. China's progress toward sustainable development in pursuit of carbon neutrality: Regional differences and dynamic evolution. *Environ. Impact Assess. Rev.* **2023**, *98*, 106959. [CrossRef]
12. Sun, Y.; Liao, W.C. Resource-Exhausted City Transition to continue industrial development. *China Econ. Rev.* **2021**, *67*, 101623. [CrossRef]
13. Gao, D.; Yan, Z.; Zhou, X.; Mo, X. Smarter and Prosperous: Digital Transformation and Enterprise Performance. *Systems* **2023**, *11*, 329. [CrossRef]
14. Lu, H.; Liu, M.; Song, W. Place-based policies, government intervention, and regional innovation: Evidence from China's Resource-Exhausted City program. *Resour. Policy* **2022**, *75*, 102438. [CrossRef]
15. Liu, B.; Wang, J.; Jing, Z.; Tang, Q. Measurement of sustainable transformation capability of resource-based cities based on fuzzy membership function: A case study of Shanxi Province, China. *Resour. Policy* **2020**, *68*, 101739. [CrossRef]
16. Lashitew, A.A.; Werker, E. Do natural resources help or hinder development? Resource abundance, dependence, and the role of institutions. *Resour. Energy Econ.* **2020**, *61*, 101183. [CrossRef]
17. Jiang, X.; Li, G.; Fu, W. Government environmental governance, structural adjustment and air quality: A quasi-natural experiment based on the Three-year Action Plan to Win the Blue Sky Defense War. *J. Environ. Manag.* **2021**, *277*, 111470. [CrossRef]
18. Li, G.; Gao, D.; Li, Y. Impacts of Market-based Environmental Regulation on Green Total Factor Energy Efficiency in China. *China World Econ.* **2023**, *31*, 92–114. [CrossRef]
19. Zhang, D.; Vigne, S.A. The causal effect on firm performance of China's financing–pollution emission reduction policy: Firm-level evidence. *J. Environ. Manag.* **2021**, *279*, 111609. [CrossRef]
20. Wang, G.; Cheng, K.; Salman, M. High-speed Railway and Green Total Factor Productivity: Taking Industrial Structure as a Mediator. *J. Knowl. Econ.* **2023**, 1–29. [CrossRef]
21. Fang, L.; Lerner, J.; Wu, C.; Zhang, Q. Corruption, government subsidies, and innovation: Evidence from China (No. w25098). *Natl. Bur. Econ. Res.* **2018**. [CrossRef]
22. Gao, D.; Li, G.; Yu, J. Does digitization improve green total factor energy efficiency? Evidence from Chinese 213 cities. *Energy* **2022**, *247*, 123395. [CrossRef]
23. Bhagat, S.; Bolton, B. Corporate governance and firm performance: The sequel. *J. Corp. Financ.* **2019**, *58*, 142–168. [CrossRef]
24. Core, J.E.; Guay, W.R.; Rusticus, T.O. Does weak governance cause weak stock returns? An examination of firm operating performance and investors' expectations. *J. Financ.* **2006**, *61*, 655–687. [CrossRef]
25. Ruff, F. The advanced role of corporate foresight in innovation and strategic management—Reflections on practical experiences from the automotive industry. *Technol. Forecast. Soc. Chang.* **2015**, *101*, 37–48. [CrossRef]
26. Rohrbeck, R.; Kum, M.E. Corporate foresight and its impact on firm performance: A longitudinal analysis. *Technol. Forecast. Soc. Chang.* **2018**, *129*, 105–116. [CrossRef]
27. Bennouri, M.; Chtioui, T.; Nagati, H.; Nekhili, M. Female board directorship and firm performance: What really matters? *J. Bank. Financ.* **2018**, *88*, 267–291. [CrossRef]
28. Simionescu, L.N.; Gherghina, Ş.C.; Tawil, H.; Sheikha, Z. Does board gender diversity affect firm performance? Empirical evidence from Standard Poor's 500 Information Technology Sector. *Financ. Innov.* **2021**, *7*, 52. [CrossRef]
29. Martín-Peña, M.L.; Sánchez-López, J.M.; Díaz-Garrido, E. Servitization and digitalization in manufacturing: The influence on firm performance. *J. Bus. Ind. Mark.* **2019**, *35*, 564–574. [CrossRef]
30. Gao, D.; Li, Y.; Tan, L. Can environmental regulation break the political resource curse: Evidence from heavy polluting private listed companies in China. *J. Environ. Plan. Manag.* **2023**, 1–27. [CrossRef]
31. Pang, C.; Wang, Y. Political connections, legal environments and firm performance around the world. *Int. J. Financ. Econ.* **2020**, *26*, 77–87. [CrossRef]
32. Giosi, A.; Caiffa, M. Political connections, media impact and state-owned enterprises: An empirical analysis on corporate financial performance. *J. Public Budg. Account. Financ. Manag.* **2020**, *33*, 261–288. [CrossRef]
33. Li, H.; Long, R.; Chen, H. Economic transition policies in Chinese resource-based cities: An overview of government efforts. *Energy Policy* **2013**, *55*, 251–260. [CrossRef]
34. Fan, F.; Zhang, X. Transformation effect of resource-based cities based on PSM-DID model: An empirical analysis from China. *Environ. Impact Assess. Rev.* **2021**, *91*, 106648. [CrossRef]
35. Wen, H.; Jiang, M.; Zheng, S. Impact of information and communication technologies on corporate energy intensity: Evidence from cross-country microdata. *J. Environ. Plan. Manag.* **2022**, 1–22. [CrossRef]
36. Zhou, F.; Wang, X. The carbon emissions trading scheme and green technology innovation in China: A new structural economics perspective. *Econ. Anal. Policy* **2022**, *74*, 365–381. [CrossRef]
37. Wang, L.H.; Shao, J. Environmental information disclosure and energy efficiency: Empirical evidence from China. *Environ. Dev. Sustain.* **2023**. [CrossRef]

38. Hernández, J.P.S.I.; Yañez-Araque, B.; Moreno-García, J. Moderating effect of firm size on the influence of corporate social responsibility in the economic performance of micro-, small-and medium-sized enterprises. *Technol. Forecast. Soc. Chang.* **2020**, *151*, 119774. [CrossRef]
39. Beck, T.; Levine, R.; Levkov, A. Big bad banks? The winners and losers from bank deregulation in the United States. *J. Financ.* **2010**, *65*, 1637–1667. [CrossRef]
40. Kyere, M.; Ausloos, M. Corporate governance and firms financial performance in the United Kingdom. *Int. J. Financ. Econ.* **2021**, *26*, 1871–1885. [CrossRef]
41. Li, G.; Gao, D.; Shi, X.X. How does information and communication technology affect carbon efficiency? Evidence at China's city level. *Energy Environ.* **2023**. [CrossRef]
42. Al-Gamrh, B.; Ismail, K.N.I.K.; Ahsan, T.; Alquhaif, A. Investment opportunities, corporate governance quality, and firm performance in the UAE. *J. Account. Emerg. Econ.* **2020**, *10*, 261–276. [CrossRef]
43. Rehman, Z.U.; Khan, A.; Rahman, A. Corporate social responsibility's influence on firm risk and firm performance: The mediating role of firm reputation. *Corp. Soc. Responsib. Environ. Manag.* **2020**, *27*, 2991–3005. [CrossRef]
44. Liu, Q.; Qiu, L.D. Intermediate input imports and innovations: Evidence from Chinese firms' patent filings. *J. Int. Econ.* **2016**, *103*, 166–183. [CrossRef]
45. Li, Q.; Liu, S.; Yang, M.; Xu, F. The effects of China's sustainable development policy for resource-based cities on local industrial transformation. *Resour. Policy* **2021**, *71*, 101940. [CrossRef]
46. Li, B.; Dewan, H. Efficiency differences among China's resource-based cities and their determinants. *Resour. Policy* **2017**, *51*, 31–38. [CrossRef]
47. Atil, A.; Nawaz, K.; Lahiani, A.; Roubaud, D. Are natural resources a blessing or a curse for financial development in Pakistan? The importance of oil prices, economic growth and economic globalization. *Resour. Policy* **2020**, *67*, 101683. [CrossRef]
48. Cheng, Z.; Li, X.; Wang, M. Resource curse and green economic growth. *Resour. Policy* **2021**, *74*, 102325. [CrossRef]
49. Wang, G.; Salman, M. The driving influence of multidimensional urbanization on green total factor productivity in China: Evidence from spatiotemporal analysis. *Environ. Sci. Pollut. Res.* **2023**, *30*, 52026–52048. [CrossRef]
50. Yao, S.; Pan, Y.; Sensoy, A.; Uddin, G.S.; Cheng, F. Green credit policy and firm performance: What we learn from China. *Energy Econ.* **2021**, *101*, 105415. [CrossRef]
51. Mihajlović, L.S.; Trajković, S. The importance of marketing instruments for market approach and operation of export companies. *J. Process Manag. New Technol.* **2020**, *8*, 18–23. [CrossRef]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.