Supplemental Appendix

"Polluted IPOs"

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CONTENT:

A Applying LDA to analyzing review questions

In order to enable the topic model to convey as much information as possible, we pre-processed the text before using the latent Dirichlet allocation (LDA) algorithm following several steps: 1. Remove the samples recorded as "no questions," and samples with question length in the 1% and 99% percentiles; 2. Remove all numbers and punctuation marks in the text; 3. Apply word segmentation package (*jieba*) to separate Chinese words. Unlike Latin languages, Chinese has no spaces between words, hence requiring word dictionary and segmentation to process the text. We add some additional financial terms[19] to the defined dictionary. 4. Remove the stop words in the text with the Chinese stop words table, which sorted out a total of 740 frequently used functional words, mainly including adverbs (e.g., some, especially, why) and conjunctions (e.g., although, otherwise, but). 5. We also remove other functional words commonly used in the context of the review question, such as millions, description, above, etc., and remove all company names. 6. Keep only the words with the frequency of the top 2,000 (out of 14,509) for analysis.

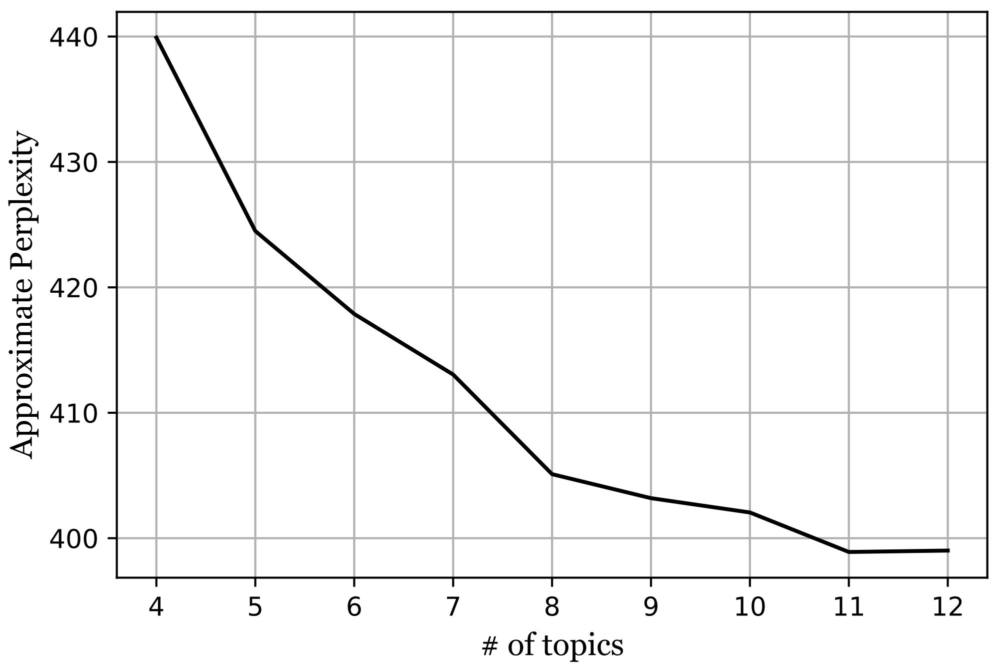
These processes remove invalid information in the inquiry process, and improves the efficiency of the LDA algorithm, enabling it to summarize key question topics. Referring to the literature on text analysis algorithms, we determined the number of topics estimated by the model according to the Perplexity score. The lower the parameter, the higher the model's generalization ability and the better fitting degree of text. As can be seen from the figure, when the number of topics increases from 7 to 8, the score decreases sharply, so the number of topics is set to 8. The results of the LDA topic model include the probability distribution of all words in in all topics, as well as all topics in all questions. We define the topic of the question

[19] The terms added include: information disclosure, controlling shareholder, independence, internal control, administrative penalty, business model, material change, shareholding structure, managerial board, core technology, investment project, raised funds, industrial policy, account receivables, and reporting period. In the default segmentation of *jieba* package, the length of the words is usually 2–3 characters in Chinese, so unless the above words are added separately, they will be processed into more than two words. For example, "information disclosure" is treated as "information" and "disclosure," which makes it difficult to express the meaning of the words themselves.

as the topic with the highest probability. Appendix Table 1 lists the top 20 keywords with the frequency of occurrence under the corresponding topic.

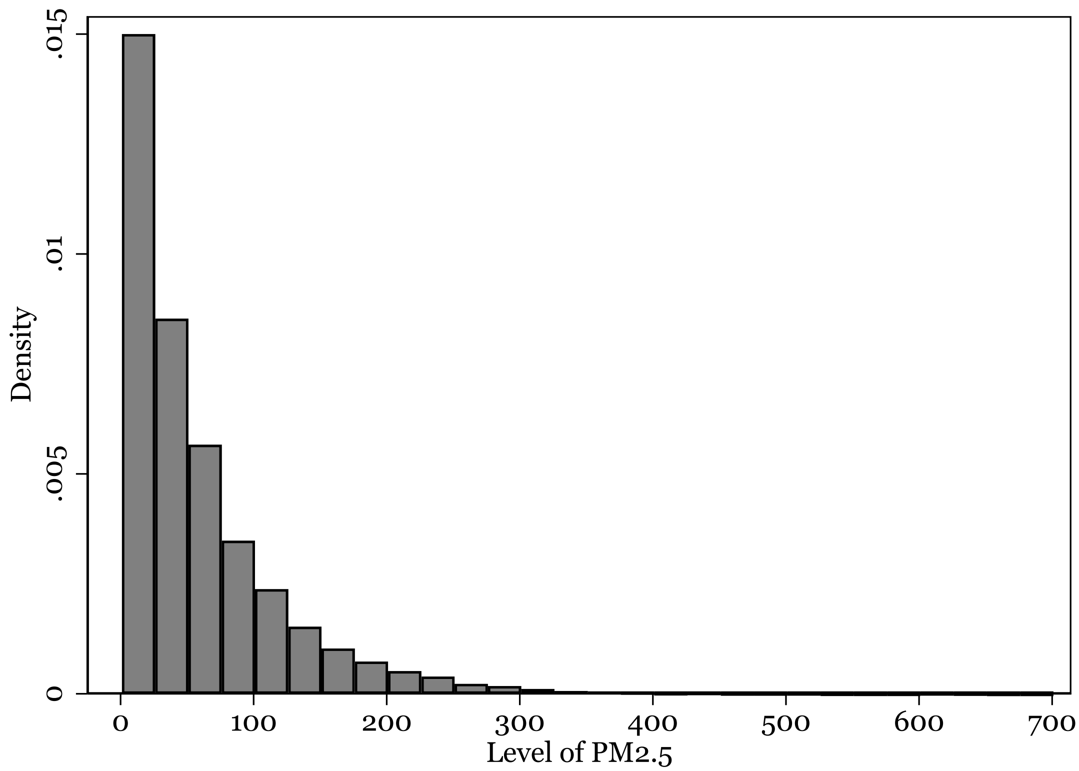
Internet Appendix Figure 1: Perplexity Score for Different Number of Topics

This figure shows the perplexity score for categorizing IPO review questions into various number of topics ranging from 4 to 12.



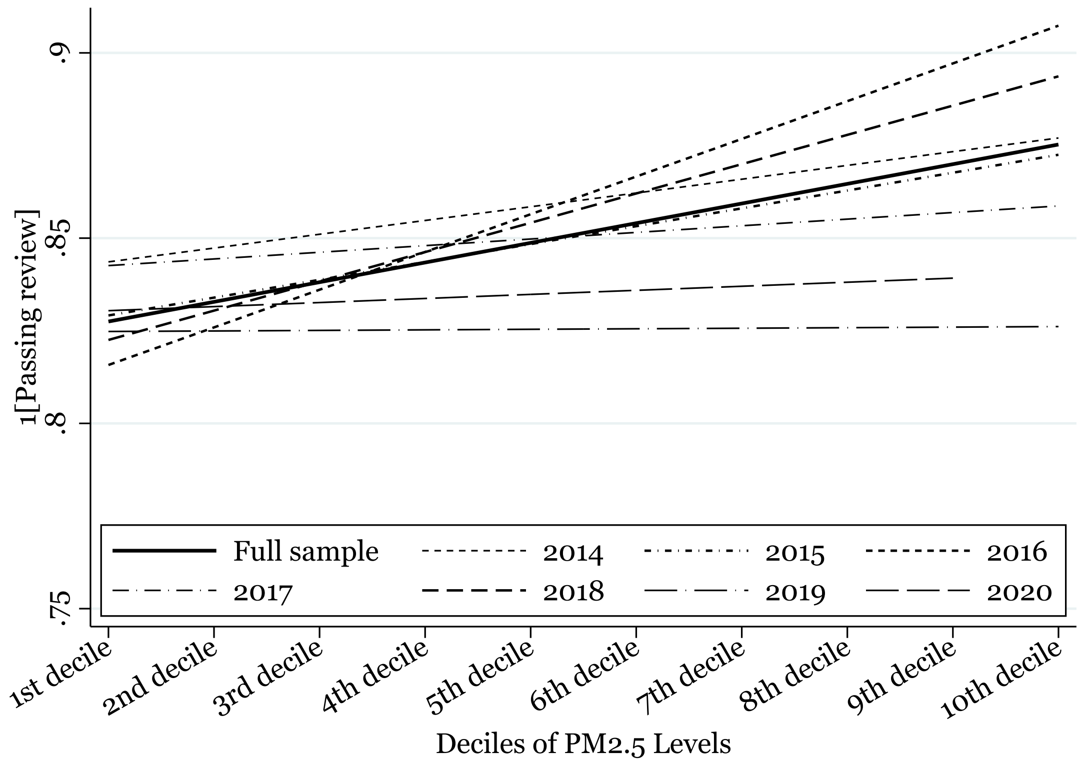
Internet Appendix Figure 2: Histogram of Average Daily Levels of PM2.5

This figure presents the histogram of average daily level of PM2.5 (in $\mu g/m^3$) during working hours (i.e., between 8:00 and 18:00) at Xizhimen station, the air pollution monitoring station closest to the CSRC.



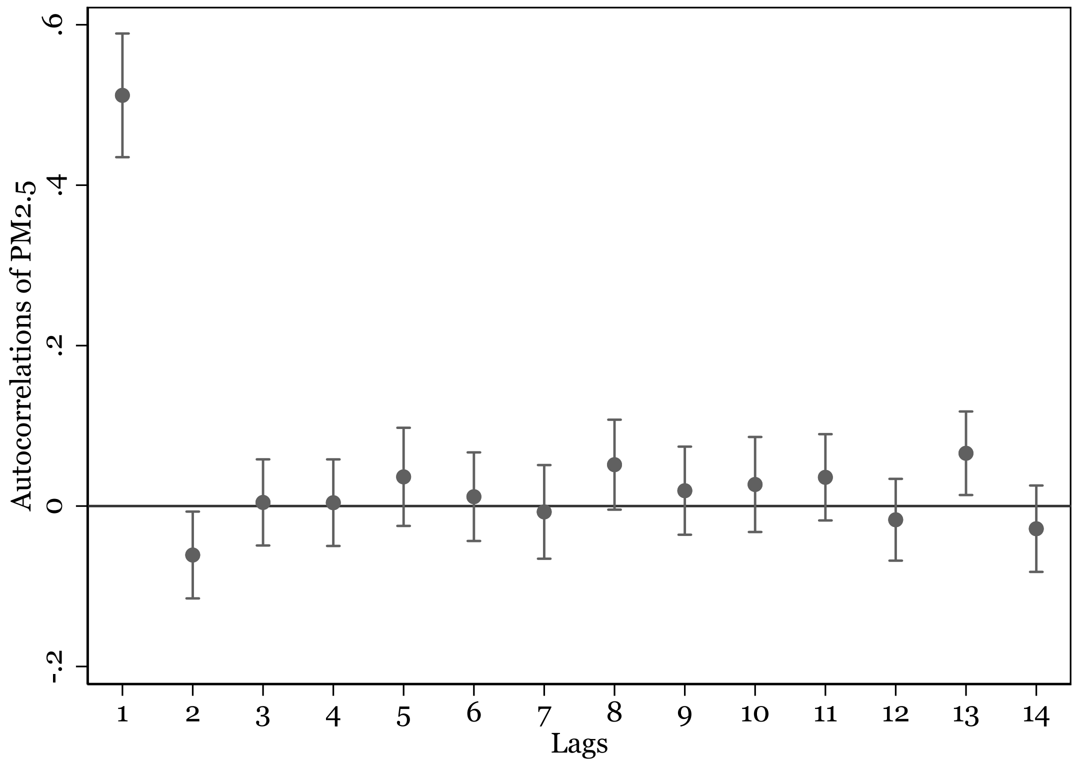
Internet Appendix Figure 3: Relationship between IPO Pass Rate and Deciles of Average Daily PM2.5 Levels, By Year

This figure shows the average IPO pass rate by declines of PM2.5, both for the whole sample (solid line) and by each year (non-solid lines). The x-axis shows deciles of PM2.5 levels.



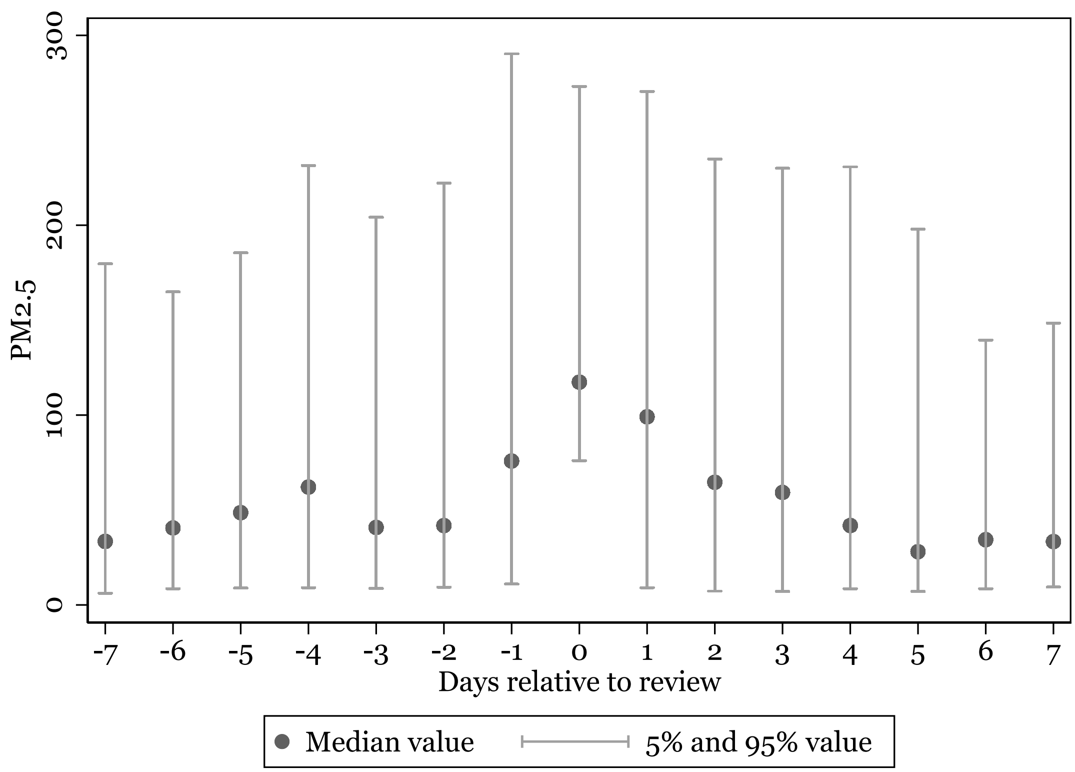
Internet Appendix Figure 4: Autocorrelation of PM2.5 at CSRC

This figure shows the autocorrelation of average daily level of PM2.5 during working hours at CSRC. The whiskers show the 95% confidence interval.



Internet Appendix Figure 5: Variation of PM2.5 Before and After the Review Day

This figure shows the variation of average daily level of PM2.5 within a 15-day window, from seven days before to seven days after when the average level of PM2.5 on review day is higher than 75 $\mu g/m^3$. The whiskers show the 95% confidence interval.



Internet Appendix Table 1: Type, Topics and Key Words of Review Questions

This table lists inquiry question topics generated by the LDA model. The model sorts questions into 8 topics and lists the frequency of words within each topic. We show the top 20 keywords here.

Type	Label	Keywords
Complex questions	Operating risk	Relevant, verification, production, existence, condition, representation, operation, opinion, impact, risk, material, system, validity, process, environmental protection, regulation, implementation, acquisition, use, compliance
	Profitability	Gross margin, reasons, reasonableness, verification, product, peer, comparable, representative, opinion, difference, above, principal, situation, decline, process, revenue, combination, clarity, variation, cost
	Shareholder	Verification, existence, shareholder, equity, actual controller, representative, opinion, transfer, relevant, cause, share, process, situation, investment, employee, holding, rationality, holding, clarity, enterprise
	Related transactions	Association, existence, transaction, related party, capital, fair, situation, verification, pricing, procurement, group, interest, reasonableness, cause, correlation, representation, opinion, relationship, loan, shareholder
Intuitive questions	Accounts receivables	Condition, rerification, cause, effect, accounts receivable, operation, existence, revenue, representation, adequacy, risk, opinion, combination, continuance, provision, reasonableness, preparation, rerformance, inventory, material
	Main business	Sales, customer, existence, distributor, check, condition, principal, cause, mode, rationality, purchase, supplier, representative, revenue, process, opinion, distribution, relationship, product, overseas
	Accounting standards	Verification, recognition, relevance, revenue, representation, situation, compliance, contract, project, opinion, regulation, enterprise, accounting standards, amount, accounting, existence, cause, treatment, process, performance
	Supplier and Customer	Business, presence, verification, major, customer, technology, representative, related, service, competition, opinion, situation, product, enterprise, risk, cooperation, R&D, industry, combination, supplier

Internet Appendix Table 2: IPO Review Outcomes by Year

This table shows the summary of review outcomes by year. "Approval" means the review committee approves the listing application. "Non-approval" means the review committee rejects the listing application. "Suspension of voting" means a decision would be delayed to a month later.

Year	N	Approval	Non-approval	Suspension of voting
2014	103	94.17%	4.85%	0.97%
2015	226	92.92%	4.87%	2.21%
2016	253	93.28%	5.14%	1.58%
2017	436	80.50%	14.91%	4.59%
2018	153	69.93%	25.49%	4.58%
2019	125	63.20%	36.00%	0.80%
2020	192	97.40%	0.52%	2.08%
All	1,488	85.15%	12.03%	2.82%

Internet Appendix Table 3: Variable Definitions

This table presents definitions of all variables used in the analyses.

Variables	Description
Panel A. Key variables	
1[Passing review]	An indicator that takes on the value of one if firm passes the approval of IPO
PM2.5	Level of PM2.5 concentration in $\mu g/m^3$ around CSRC during working time 8:00-18:00
Temperature	Temperature around CSRC during working time (Degree Celsus)
1[Rain]	An indicator that takes on the value of one if precipitation is larger than 0 around CSRC
Windspeed	Wind speed around CSRC during working time (m/s)
Sales	Average total sales within 3 years prior to the meeting (million RMB)
lnSales	Natural Logarithm of firms' average total sales within 3 years prior to the meeting.
Profitability	Average net profit margin 3 years prior to the meeting
Leverage	Average leverage ratio within 3 years prior to the meeting
Intangibles	Average intangibles ratio within 3 years prior to the meeting
CurrentRatio	Average current ratio within 3 years prior to the meeting
1[SOE]	An indicator that takes on the value of one if firm is state-owned
1[Foreign]	An indicator that takes on the value of one if firm is foreign-owned
1[FirstReview]	An indicator that takes on the value of one if firm is reviewed by committee for the first time.
1[Female]_mean	Percentage of female members in the review committee of the conference
1[Fulltime]_mean	Percentage of full-time CSRC employee in the review committee of the conference
Degree_mean	Average value of members' degree in the review committee of the conference, 0 for bachelor, 1 for mastor and 2 for PhD.
Experience_mean	Average value of members' term in the review committee.
Panel B. Air pollution and weather	
PM2.5_night	Level of PM2.5 concentration in $\mu g/m^3$ around CSRC during night 20:00-24:00
PM2.5_dawn	Level of PM2.5 concentration in $\mu g/m^3$ around CSRC during dawn 0:00-5:00
PM2.5_Tianjin	Level of PM2.5 concentration in $\mu g/m^3$ in Tianjin, a city close to Beijing
PM2.5_announcementday	Level of PM2.5 concentration in $\mu g/m^3$ on the day when the review is assigned, within a week before the review
PM2.5_randomday	Level of PM2.5 concentration in $\mu g/m^3$ 30 days before the review
Panel C. Firm characteristics	
1[Polluted industries]	An indicator that takes on the value of one if firm industry is heavily polluting defined by the Ministry of Ecology and Environment of China.
1[Green industries]	An indicator that takes on the value of one if firm industry is environmentally friendly
1[R&D expense >0]	An indicator that takes on the value of one if firm has positive capital expenditure prior to the meeting
1[>=2 industry sectors]	An indicator that takes on the value of one if firm operates in more than one industry sectors
1[Non-Connection]	An indicator that takes on the value of one if the firm is not politically-connected, i.e. its CEO is not currently or formerly a government officer
1[Non-Central Connection]	An indicator that takes on the value of one if the firm CEO is not currently an officer of the central government
Panel D. Questions raised during the meeting	
Total Number of questions	Total number of questions
Length of questions	Total number of Chinese characters of questions
Number of paragraphs	Number of paragraphs of questions, with each paragraph often representing a separate topic of discussion
Number of follow-up questions in a paragraph	The number of questions raised in a paragraph
1[Complex > Intuitive questions]	An indicator that takes on the value of one if there are more complex questions than intuitive questions. Complex and intuitive are defined by question topics generated by LDA topic model.
Complex questions (%)	Percentage of complex questions in total number of quetions in a review meeting
Panel E. Post-IPO performance	
$BHAR_t$	Market-adjusted buy-and-hold abnormal return, calculated as the difference of the buy-and-hold returns between an IPO firm's stock and the market return of the Shanghai Shenzhen Composite 300 Index, cumulated over t period of time.
EBITDA/Sales	Average EBITDA-to-sales ratio within 3 years after listing
Profit margin	Average net profit margin, defined as net profit-to-sales ratio, within 3 years after listing
ROA	Average return on assets, defined as gross profit-to-total assets, within 3 years after listing
EPS	Average earnings per share, defined as basic earnings per share (EPS) after deducting non-recurring profit and losses, within 3 years after listing

Internet Appendix Table 4: Summary Statistics

This table presents summary statistics of all variables used in the analysis. All variables are defined in Online Appendix Table 3.

Variables:	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(50)	Pctl(75)	Max
Panel A. Key variables								
1[Passing review]	1,488	0.851	0.356	0	1	1	1	1
PM2.5	1,488	56.8	62.0	3.0	17.5	36.7	74.2	584.9
Temperature	1,488	13.120	11.470	-12.230	1.723	14.390	24.180	34.150
1[Rain]	1,488	0.275	0.447	0	0	0	1	1
Windspeed	1,488	2.640	1.307	0.727	1.727	2.364	3.182	8.364
Sales (in Million RMB)	1,488	1630.3	9916.9	42.000	261.794	513.439	1053.768	295078
lnSales	1,488	20.138	1.194	17.553	19.383	20.057	20.776	26.411
Profitability	1,488	0.155	0.116	-0.073	0.085	0.130	0.201	1.133
Leverage	1,488	0.415	0.209	0.000	0.272	0.403	0.535	1.000
Intangibles	1,488	0.0488	0.0513	0	0.0139	0.039	0.0672	0.524
CurrentRatio	1,488	2.325	2.324	0.000	1.280	1.777	2.633	42.000
1[SOE]	1,488	0.080	0.271	0	0	0	0	1
1[Foreign]	1,488	0.034	0.182	0	0	0	0	1
1[FirstReview]	1,488	0.947	0.224	0	1	1	1	1
1[Female]_mean	1,488	0.256	0.277	0.000	0.000	0.167	0.400	1.000
1[Fulltime]_mean	1,488	0.873	0.202	0.000	0.750	1.000	1.000	1.000
Degree_mean	1,488	0.686	0.578	0.000	0.000	0.750	1.000	2.000
Experience_mean	1,488	1.319	0.442	1.000	1.000	1.143	1.464	3.000
Panel B. Air pollution and weather								
PM2.5_night	1,488	74.4	86.7	2.0	23.7	48.3	92.0	605.3
PM2.5_dawn	1,488	66.7	78.2	3.0	19.6	43.8	82.1	620.0
PM2.5_Tianjin	1,477	60.6	52.0	6.2	24.1	48.4	81.4	381.1
PM2.5_announcementday	1,488	63.1	69.2	2.0	18.0	40.0	92.0	605.0
PM2.5_randomday	1,488	57.2	57.3	1.0	16.0	39.0	76.0	605.0
Panel C. Firm characteristics								
1[Polluted industries]	1,488	0.176	0.381	0	0	0	0	1
1[Green industries]	1,488	0.073	0.261	0	0	0	0	1
1[R&D expense >0]	1,488	0.097	0.297	0	0	0	0	1
1[>=2 industry sectors]	1,488	0.355	0.479	0	0	0	1	1
1[Non-Connection]	1,488	0.572	0.495	0	0	1	1	1
1[Non-Central Connection]	1,488	0.763	0.426	0	1	1	1	1
Panel D. Questions raised on the meeting								
Total number of questions	1,254	15.867	8.054	0	9	16	23	37
Length of questions	1,254	786.9	379.3	0	467	793	1,071	2,107
Number of paragraphs	1,254	3.554	1.231	0	3	4	5	8
Number of follow-up questions in a paragraph	1,253	4.451	1.820	0.750	3	4.500	5.667	14.500
1[Complex > Intuitive questions]	1,253	0.347	0.476	0	0	0	1	1
Complex questions (%)	1,253	0.451	0.287	0	0.250	0.500	0.667	1
Panel E. Post-IPO performance								
$BHAR_{1year}$	1,071	0.846	1.451	-1.627	0.043	0.507	1.257	22.590
EBITDA/Sales	1,203	44.570	48.735	-72.951	20.893	33.987	52.910	834.833
Profit margin	1,203	13.204	10.358	-70.474	7.227	11.207	17.907	102.825
ROA	1,203	6.856	4.001	-17.751	4.340	6.489	8.916	26.312
EPS	1,146	0.733	0.721	-0.687	0.343	0.563	0.890	9.180

Internet Appendix Table 5: Baseline Specifications with Reviewer Fixed Effects

This table presents the baseline results with individual member fixed effects. All columns include individual member fixed effects, as well as control variables and industry, province, calendar quarter, day of week fixed effects. Columns (1) – (2) use IPO-level sample, and columns (3) – (4) use IPO–reviewer sample. Standard errors are clustered by industry-year and reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable: 1[Passing review]			
Sample:	IPO level		IPO – reviewer level	
	(1)	(2)	(3)	(4)
PM2.5	0.040***		0.038***	
	(0.010)		(0.008)	
PM2.5 (75-115)		0.010		0.013
		(0.031)		(0.028)
PM2.5 (115-150)		0.056**		0.066***
		(0.023)		(0.013)
PM2.5 (>150)		0.119***		0.108***
		(0.038)		(0.026)
Observations	1,488	1,488	9,022	9,022
R^2	0.383	0.383	0.397	0.400
Dep var. mean	0.85	0.85	0.90	0.90
% change	4.70	6.58, 13.98	4.47	7.76, 12.69

Internet Appendix Table 6: Member Replacements: Reasons and Time Distribution

This table show the number of cases when a committee member may be replaced a few days before the review session and when the replacement occurs, by year. There are a total of 30 member replacement cases in our study sample.

Year of meeting	Reasons			Number of days before review		
	Conflict of interest	Sick leave	Other reasons	1	2	3
2014	3	0	2	1	3	1
2015	5	1	0	0	1	5
2016	0	0	1	0	1	0
2017	2	0	5	1	5	1
2018	4	0	2	5	0	1
2019	0	1	0	1	0	0
2020	1	0	3	2	0	2
Total	15	2	13	10	10	10

Internet Appendix Table 7: Balance Test

This table reports results from balance tests using OLS and 2SLS regressions. For each firm or member characteristic listed as the outcome variable, we regress it on a indicator variable equal to one if the PM2.5 level on the meeting day is below the annual median. Both OLS and 2SLS estimates are reported, with standard errors in parentheses. All variables are defined in Online Appendix Table 3.

	OLS		*2SLS*	
Panel A. Firm characteristics				
Sales	0.622	(0.514)	-0.871	(1.439)
Profitability	-0.005	(0.006)	0.013	(0.017)
Leverage	-0.016	(0.011)	-0.032	(0.030)
Intangibles	-0.001	(0.003)	-0.002	(0.007)
CurrentRatio	-0.192	(0.120)	0.166	(0.337)
1[SOE]	0.019	(0.014)	0.101**	(0.040)
1[Foreign]	0.010	(0.009)	0.041	(0.026)
1[FirstReview]	0.019	(0.012)	-0.038	(0.055)
1[Polluting industries]	-0.006	(0.020)	0.013	(0.032)
1[Green industries]	0.011	(0.014)	0.019	(0.038)
Panel B. Member characteristics				
1[Female]_mean	-0.024*	(0.014)	-0.063	(0.040)
1[Fulltime]_mean	0.008	(0.010)	0.053*	(0.029)
Degree_mean	-0.010	(0.030)	0.119	(0.084)
Experience_mean	0.009	(0.023)	-0.244***	(0.066)

Internet Appendix Table 8: Robustness Tests

This table shows the robustness tests considering IPO-related policies and other factors that may affect the pass rate. Column (1) includes the committee employment period fixed effects. Column (2) only includes observations from the main board. Column (3) excludes sample after June, 2019 when the pilot registration system was introduced for the STAR market. Columns (4)–(6) exclude samples during the policy stimulus period, the era with tight pollution control, and during the COVID-19 pandemic period. Column (7) includes month fixed effects. Column (8) controls for level of PM2.5 of the city where firm is registered on the review day, and column (9) includes city fixed effects. Column (10) excludes samples involving CSRC committee members who are reported to be corrupted after the IPO review. All regressions include control variables and fixed effects as in column (3) of Table 2. Standard errors are clustered by industry-year, and reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable: 1[Passing review]				
	Term period FE	Main board sample	Excluding period after STAR exchange	Excluding stimulus period	Excluding pollution control period
	(1)	(2)	(3)	(4)	(5)
PM2.5	0.046***	0.052***	0.047***	0.061***	0.059**
	(0.009)	(0.016)	(0.010)	(0.016)	(0.025)
Observations	1,488	701	1,226	905	464
Adjusted R^2	0.355	0.360	0.360	0.392	0.547
	Excluding Covid period	Month FE	Controling for firm city PM2.5	Firm city FE	Excluding corrupt reviewers
	(6)	(7)	(8)	(9)	(10)
PM2.5	0.047***	0.043***	0.042***	0.050***	0.051***
	(0.009)	(0.009)	(0.010)	(0.011)	(0.010)
Observations	1,296	1,487	1,046	1,110	1,155
Adjusted R^2	0.355	0.358	0.340	0.330	0.380

Internet Appendix Table 9: Falsification Tests

This table shows the effect of PM2.5 at different locations and time periods. Column (1) includes PM2.5 during different periods at the baseline station. Column (2) includes PM2.5 in Tianjin, a city close to Beijing. Column (3) includes PM2.5 on the day when the review committee is assigned, about a week before the review day, and column (4) includes PM2.5 30 days before review. All variables are defined in Online Appendix Table 3. All regressions include control variables and fixed effects as in column (3) of Table 2. Standard errors are clustered by industry-year and reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable: 1[Passing review]				
	Time	Other area	Announcement day	Random day
	(1)	(2)	(3)	(4)
PM2.5	0.036***	0.042***	0.046***	0.046***
	(0.013)	(0.012)	(0.009)	(0.009)
PM2.5_night	0.022			
	(0.018)			
PM2.5_dawn	-0.009			
	(0.021)			
PM2.5_Tianjin		0.009		
		(0.016)		
PM2.5_assignmentday			0.007	
			(0.011)	
PM2.5_randomday				-0.014
				(0.015)
Observations	1,488	1,476	1,488	1,488
Adjusted R^2	0.355	0.355	0.355	0.355

Internet Appendix Table 10: Dynamic Effects

This table shows the result of dynamic estimates. All regressions include control variables and fixed effects as in column (3) of Table 2. Standard errors are clustered by industry-year, and reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable: 1[Passing review]		
	(1)	(2)
PM2.5_T-5	-0.020*	-0.018*
	(0.011)	(0.010)
PM2.5_T-4	0.008	0.003
	(0.013)	(0.012)
PM2.5_T-3	-0.004	-0.002
	(0.017)	(0.018)
PM2.5_T-2	-0.006	-0.006
	(0.022)	(0.022)
PM2.5_T-1	-0.000	-0.001
	(0.015)	(0.016)
PM2.5	0.039***	0.038***
	(0.009)	(0.013)
PM2.5_T+1		0.003
		(0.019)
PM2.5_T+2		-0.006
		(0.012)
PM2.5_T+3		-0.014
		(0.021)
PM2.5_T+4		0.019*
		(0.010)
PM2.5_T+5		-0.000
		(0.009)
Observations	1,351	1,319
Adjusted R^2	0.380	0.380

Internet Appendix Table 11: Heterogeneous Effects – Firm Characteristics

This table presents the result of heterogeneity analysis by IPO firms' industries, complexity and political-connection. All regressions include control variables and fixed effects as in column (3) of Table 2. All variables are defined in Online Appendix Table 3. Standard errors are clustered by industry-year and reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable: 1[Passing review]					
	By Industries		By Complexity		By Political Connection	
	(1)	(2)	(3)	(4)	(5)	(6)
PM2.5	0.051***	0.040***	0.036***	0.030**	0.022**	0.001
	(0.010)	(0.008)	(0.009)	(0.012)	(0.011)	(0.016)
1[Polluting industries]	0.026					
	(0.030)					
PM2.5*1[Polluting industries]	-0.054**					
	(0.026)					
1[Green industries]		-0.086				
		(0.081)				
PM2.5 * 1[Green industries]		0.151**				
		(0.065)				
1[RD expense>0]			-0.406***			
			(0.072)			
PM2.5 * 1[RD expense>0]			0.125**			
			(0.063)			
1[>= 2 industry sectors (p75)]				-0.134***		
				(0.021)		
PM2.5 * 1[>= 2 industry sectors (p75)]				0.047**		
				(0.018)		
1[Non-Connection]					-0.213***	
					(0.046)	
PM2.5 * 1[Non-Connection]					0.054**	
					(0.020)	
1[Non-Central Connection]						-0.159***
						(0.039)
PM2.5 * 1[Non-Central Connection]						0.064***
						(0.021)
Observations	1,488	1,488	1,488	1,488	1,488	1,488
Adjusted R^2	0.355	0.357	0.423	0.375	0.402	0.374

Internet Appendix Table 12: Review Questions and Pass Rate

This table shows how inquiry questions raised during the meeting affects the pass rate. Columns (1)–(4) show the effect of the number and length of questions, and (5)–(6) show the effect of questions' complexity. All variables are defined in Online Appendix Table 3. All regressions include control variables and fixed effects as in column (3) of Table 2. Standard errors are clustered by industry-year and reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable: 1[Passing review]					
	(1)	(2)	(3)	(4)	(5)	(6)
Total number of questions	-0.014***					
	(0.002)					
Length of questions		-0.000***				
		(0.000)				
Number of paragraphs			-0.030***			
			(0.009)			
Number of follow-up questions in a paragraph				-0.033***		
				(0.012)		
1[Complex > Intuitive questions]					-0.002	
					(0.014)	
Complex questions (%)						-0.022
						(0.029)
Observations	1,254	1,254	1,254	1,253	1,253	1,253
Adjusted R^2	0.421	0.436	0.391	0.398	0.382	0.383

Internet Appendix Table 13: Heterogeneous Effects – Member Characteristics

This table presents heterogeneous effects on members' characteristics. Columns (1)–(4) include the interaction term of PM2.5 and the dummy variable indicating whether: (1) the member did not work in Beijing before becoming a CSRC reviewer, (2) the member did not work in northern China, (3) the member is older than sample median, or (4) the member is than sample median and is male. All variables are defined in Online Appendix Table 3. All regressions include control variables and fixed effects as in column (3) of Table 2. Standard errors are clustered by industry-year, reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent variable: 1[Passing review]				
	(1)	(2)	(3)	(4)
PM2.5	0.029***	0.030***	0.016**	0.019***
	(0.007)	(0.007)	(0.006)	(0.006)
1[Non-Beijing resident]	0.070*			
	(0.039)			
PM2.5 * 1[Non-Beijing resident]	0.013*			
	(0.007)			
1[Non-northern resident]		0.071*		
		(0.039)		
PM2.5 * 1[Non-northern resident]		0.012**		
		(0.006)		
1[Elder]			-0.138*	
			(0.072)	
PM2.5 * 1[Elder]			0.018**	
			(0.007)	
1[Elder male]				-0.016
				(0.060)
PM2.5 * 1[Elder male]				0.014**
				(0.007)
Observations	9,022	9,022	4,191	4,191
Adjusted R^2	0.390	0.390	0.390	0.390

Internet Appendix Table 14: Post-IPO Performance

This table presents the post-IPO performance by the level of PM2.5 on the review day. The dependent variables of columns (1)–(4) are the average EBITDA to sales ratio, net profit margin, ROA, and EPS, respectively, within three years after IPO. All variables are defined in Online Appendix Table 3. All regressions include control variables and fixed effects as in column (3) of Table 2. Standard errors are clustered by industry-year, reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Dependent Variable:	EBITDA/Sales	Profit margin	ROA	EPS
	(1)	(2)	(3)	(4)
PM2.5	-0.012	0.031	-0.102	-0.024
	(0.014)	(0.300)	(0.171)	(0.018)
Observations	1,203	1,203	1,203	1,196
Adjusted R^2	0.380	0.380	0.380	0.380
Dep. var mean	44.570	13.204	6.856	0.733

Internet Appendix Table 15: Post-IPO performance: Firm Heterogeneity

This table presents firms' heterogeneity in post-IPO stock and financial performance, by firms' industries, complexity and political-connection as in Online Appendix Table 11. The dependent variable in Panel A and Panel B are the firm's market-adjusted buy-and-hold abnormal return in one year after listing, and the average EBITDA ratio in three years after listing, respectively. All regressions include control variables and fixed effects as in column (3) of Table 2. Standard errors are clustered by industry-year, reported below the regression coefficients. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Dependent variable: $BHAR_{1year}$						
	By Industries		By Complexity		By Political Connection	
	(1)	(2)	(3)	(4)	(5)	(6)
PM2.5	-0.028	-0.032	-0.030	0.023	-0.090*	-0.153**
	(0.056)	(0.046)	(0.050)	(0.070)	(0.047)	(0.073)
1[Polluting industries]	-0.077					
	(0.120)					
PM2.5 * 1[Polluting industries]	-0.065					
	(0.135)					
1[Green industries]		-0.078				
		(0.375)				
PM2.5 * 1[Green industries]		-0.038				
		(0.209)				
1[RD expense>0]			0.315			
			(0.335)			
PM2.5 * 1[RD expense>0]			-0.058			
			(0.224)			
1[>= 2 industry sectors (p75)]				0.276		
				(0.196)		
PM2.5 * 1[>= 2 industry sectors (p75)]				-0.189		
				(0.143)		
1[Non-Connection]					-0.172*	
					(0.096)	
PM2.5 * 1[Non-Connection]					0.176**	
					(0.085)	
1[Non-Central Connection]						-0.223
						(0.137)
PM2.5 * 1[Non-Central Connection]						0.181*
						(0.093)
Observations	1,069	1,069	1,069	1,069	1,069	1,069
Adjusted R^2	0.205	0.204	0.206	0.208	0.206	0.207

Panel B. Dependent variable: EBITDA/Sales						
	By Industries		By Complexity		By Political Connection	
	(1)	(2)	(3)	(4)	(5)	(6)
PM2.5 * 1[Polluting industries]	-2.099					
	(1.932)					
1[Green industries]		-3.609				
		(9.157)				
PM2.5 * 1[Green industries]		4.339				
		(7.594)				
1[RD expense>0]			2.616			
			(7.573)			
PM2.5 * 1[RD expense>0]			-3.134			
			(6.680)			
1[>= 2 industry sectors (p75)]				-2.019		
				(3.885)		
PM2.5 * 1[>= 2 industry sectors (p75)]				2.421		
				(4.434)		
1[Non-Connection]					-3.743	
					(2.363)	
PM2.5 * 1[Non-Connection]					2.306	
					(2.314)	
1[Non-Central Connection]						-1.314
						(2.911)
PM2.5 * 1[Non-Central Connection]						1.069
						(3.459)
Observations	1,203	1,203	1,203	1,203	1,203	1,203
Adjusted R^2	0.568	0.568	0.568	0.568	0.568	0.568

Internet Appendix Table 16: Firms Characteristics in Multiple Reviews

This table compares characteristics of firms that was reviewed multiple times. The first column shows characteristics before the firm is rejected in the first round of review, and the second column shows those right before the firm passes the subsequent review. The number of observations is 62 and 58, respectively. All variables are defined in Online Appendix Table 3.

	Rejected in the 1st review	*Passing the subsequent review*	*Diff*	*p-value*
Panel A. Firm characteristics				
Assets (in Billion RMB)	1.980	1.922	0.059	0.900
Sales (in Billion RMB)	1.270	1.236	0.033	0.915
Profitability	0.149	0.154	-0.005	0.774
Leverage	0.426	0.424	0.003	0.931
Intangibles	0.054	0.056	-0.002	0.853
CurrentRatio	2.005	2.042	-0.037	0.891
Panel B. Member characteristics				
1[Female]	0.325	0.275	0.049	0.247
1[Fulltime]	0.907	0.921	-0.014	0.624
1[Bachelor]	0.795	0.645	0.151	0.160
Experience	1.222	1.191	0.031	0.627
Age	43.228	44.187	-0.959	0.266