

# Transparency without Democracy: The Unexpected Effects of China's Environmental Disclosure Policy

YELING TAN\*

*This article examines the impact of transparency regulations enacted under authoritarian conditions, through a study of China's environmental transparency measures. Given China's decentralized administrative structure, environmental disclosure ends up being weakest in the most polluted cities. However, the measures have allowed nongovernmental organizations (NGOs) to affect environmental governance through unusual pathways. Multinational companies (MNCs) have used NGO pollution databases to monitor Chinese suppliers, whereas local governments have responded to a transparency index with greater NGO engagement. That said, these civil society initiatives have had limited impact on key stakeholder behavior. For the environment ministry, enforcement costs remain high. Local government behavior depends on their economic priorities and the nature of their relations with enterprises. Chinese enterprise behavior depends on the character of their relations with government and MNCs. Given China's authoritarian structure, improved governance does not translate into stronger accountability, challenging common assumptions about the relationship between transparency and accountability.*

## 1. Introduction

Three decades of rapid economic growth have brought a new generation of challenges to China's leaders. In particular, pollution problems are multiplying alongside rapid industrialization, straining not just the long-term sustainability of China's development, but also social stability, as environmental issues become a growing source of citizen discontent. The government's policies have started to reflect the need to balance continued economic transformation with better environmental management.<sup>1</sup> As part of this policy shift, China established a set of Open Environmental Information (OEI) measures in 2008, requiring government agencies to proactively disclose a range of environmental information.

Transparency regulations have become an increasingly popular tool globally and in a range of issue areas, from the environment to anticorruption and service delivery. The promulgation of such regulations,

\*Harvard University

however, tends to be driven by untested assumptions about why transparency is desired or effective. McGee and Gaventa's (2010) review of transparency and accountability initiatives around the world highlights the limited conclusions that can be drawn about the relationship between transparency and governance outcomes. Protransparency arguments tend to combine both normative and technocratic justifications, asserting transparency as an end in itself and assuming that access to information improves both welfare and accountability. Progress in strengthening transparency initiatives is hindered by a lack of clarity over the objectives of these regulations, and the specific pathways through which change occurs.

Moreover, advocates of transparency often present transparency and democracy as two intimately connected—and possibly inseparable—concepts. The normative assumption is that transparency is essential to democracy. On the technocratic side, proponents argue that transparency regulations work best when there is political space for citizens and civil society to use disclosed information to hold the state to account.<sup>2</sup> However, there is little literature about how transparency works in the absence of democracy, particularly in political environments such as China, where transparency policies are driven by technocratic objectives, implemented under conditions of bureaucratic fragmentation, and governed within a system of single party rule.<sup>3</sup>

This article seeks to answer two questions. First, can information transparency be achieved in an authoritarian setting? The analysis examines if China's OEI measures have led to improved environmental transparency, by assessing the strength of four pathways through which the measures could be implemented. Second, what role does civil society play in using transparency to improve governance, and what are the implications for accountability? The focus on nongovernmental organizations (NGOs) tests the common assumption that transparency improves governance by empowering nonstate actors to hold the state to account. This question is important in the Chinese context given the state's desire to control NGOs while also relying on nonstate organizations to provide a range of public services. The article employs the Fung, Graham, and Weil (2007) targeted transparency framework to examine the impact of two NGO initiatives targeted at business and government. With business, the Institute of Public and Environmental Affairs (IPE) uses government data to establish online databases of enterprise air and water violations. The IPE has also partnered with the Natural Resources Defense Council (NRDC) to create a Pollution Information Transparency Index (PITI) to rank 113 municipal governments across China on their levels of environmental disclosure.

The article finds that the OEI measures failed to increase transparency in precisely the most polluted localities in China and discusses why the major pathways for increasing disclosure turn out to be weak, given China's governance structure. The article also finds that NGO disclosure initiatives have improved environmental outcomes through unusual pathways. In

particular, multinational companies (MNCs) such as Nike and Walmart have been using the online databases to monitor Chinese suppliers, exerting pressure through the international supply chain to improve the environmental practices of local enterprises. The PITI, by ranking the environmental transparency of municipal governments, has created incentives for at least one municipality to improve its disclosure practices, increased media coverage of government transparency, and generated closer engagement between governments and NGOs. Finally, the article argues that successful cases of improved governance have occurred not through isolated pathways but rather through multiple actors working in concert to overcome weaknesses in China's governance structure. The evidence presented in this article challenges popular notions about the impact of transparency initiatives in nondemocratic contexts and raises the need to rethink assumptions about the exact channels through which transparency-driven change takes place.

The next section introduces China's environmental disclosure measures. Section 3 analyzes the implementation of these measures and why the expected channels between state, enterprise, and citizen fail to work. Section 4 introduces the Fung, Graham, and Weil (2007) targeted transparency framework and discusses how two NGO disclosure initiatives have strengthened environmental outcomes via unusual pathways. Section 5 discusses the governance impact and implications for accountability, and Section 6 concludes.

## 2. China's Environmental Transparency Regulations

China's Open Government Information regulations came into force on May 1, 2008 requiring state administrative agencies to proactively release information related to their work and allowing citizens the ability to request information. On the same day, the Ministry of Environmental Protection's (MEP; 2008) Measures on Open Environmental Information (OEI) came into effect, requiring governments to disclose information on: (1) environmental laws, regulations, and standards; (2) allocation of emissions quotas and permits; (3) pollution fees and penalties collected; (4) exemptions, reductions, or postponements granted; (5) outcomes of investigations into public complaints; and (6) lists of violators of environmental regulations.<sup>4</sup>

The MEP's motivations for the transparency measures were manifold: (1) to strengthen the ministry's regulatory power vis-à-vis other agencies more focused on economic development; (2) to strengthen incentives for local governments to enforce environmental regulations, by raising the MEP's monitoring ability; and (3) to improve channels for citizen participation, particularly given the rising number of environment-related protests. In the words of MEP Vice Minister Pan Yue: "Disclosing environmental information enables the public [to] understand the environmental decisions and plans of local governments, . . . restrains the

‘will of officialdom’ and abuse of power, . . . and gives full play to the role of media and society to supervise law enforcement. . . . Disclosing environmental information may also force polluting enterprises to shoulder their due economic and social cost” (Ministry of Environmental Protection 2010b).

China’s OEI measures are unique in several ways. First, it places the burden of disclosure on government rather than industry. Only enterprises that have exceeded pollution standards are required to disclose their emissions. Second, the measures are mandated in that they emanate from the MEP, but hold less weight than laws, including the State Secrets Law and Archives Law. Third, the measures are technocratically designed to improve governance outcomes rather than to protect any set of rights—in contrast for example to the Toxics Release Inventory, which is based on the U.S. Freedom of Information Act. These regulatory characteristics, and China’s political and bureaucratic environment, combine to weaken the normal pathways through which transparency regulations might work to increase disclosure, as the next section discusses.

### 3. The Challenge of Implementation

The key challenge to implementing policies in China stems from its decentralized governance system, described by Kenneth Lieberthal and Michel Oksenberg (1988) as “fragmented authoritarianism.” Although national policies on issues—such as pollution control—are drafted in Beijing, their implementation is left to subnational governments that often have other goals, such as economic growth. Moreover, functional departments at subnational levels report to both central agencies and the local government at which they operate, creating dual authority relations. Monitoring agencies<sup>5</sup> are weak for the same reasons—the subnational units of these agencies report to both local governments and their central ministries.

This section discusses how the implementation of the OEI measures is affected by the alignment of state and society interests within China’s governance structure. The objectives of major actors are summarized as follows: The MEP aims to use the OEI measures to improve environmental outcomes, by strengthening its monitoring of local governments and polluting enterprises. This article divides local governments into progrowth and proenvironment types. The former seeks to maximize economic growth, whereas the latter seeks to balance growth with environmental sustainability. The Environmental Protection Bureaus (EPBs) working within local governments aim to balance conflicting objectives: implementing MEP policies, obeying the local government, and responding to citizen complaints. Enterprises maximize profits, and NGOs aim to advance their organizational goals while preserving their space to operate in China. Finally, citizens seek to have their pollution problems resolved.

Bureaucratic fragmentation in China means that as central regulations are channeled through the layers of the state, policy intent becomes

diluted and distorted. Implementation of the transparency measures ends up depending on local government objectives, enterprise–state bargaining relations, and incentives for local governments to respond to citizen and civil society pressure. This article analyzes the implementation process through four possible pathways: (1) central and local state, with the MEP delegating the responsibility of disclosure to local governments; (2) state and enterprises, with local governments regulating polluting enterprises by releasing the names of violators and requiring violators to disclose their emissions; (3) state and citizens, with citizens placing pressure on the state to be more transparent; and (4) state and civil society, with NGOs creating initiatives to scrutinize government behavior.

In order to assess the implementation of the OEI measures, this section relies in part on the PITI, created by NGOs IPE and NRDC. The PITI assesses the performance of 113 municipalities in implementing the OEI measures across eight categories. These include disclosures of: enterprise violations, results of EPB enforcement campaigns, clean production audit information, enterprise environmental performance ratings, disposition of petitions and complaints, environmental impact assessment reports and project completion approvals, discharge fee data, and responses to public information requests. Basic compliance with the OEI measures was set at 60 points out of a total of 100 (details in Institute of Public and Environmental Affairs and Natural Resources Defense Council 2010).

The 2009 assessment, made one year after the OEI measures came into effect, reveals the challenge of policy implementation in China. The average PITI score was 31 points out of 100, with only four cities scoring higher than the minimum compliance level of 60 points (Institute of Public and Environmental Affairs and Natural Resources Defense Council 2010). Table 1 shows the results of ordinary least squares regressions, testing possible factors affecting PITI scores. Model (1) tests the effect of basic economic variables (log of gross domestic product [GDP] per capita and unemployment), levels of pollution (sulfur dioxide and waste water discharge), and government capacity (measured by fiscal balance as a share of GDP). Given that implementing the OEI measures requires governments to disclose information on enterprise pollution, models (2)–(4) include variables related to state–enterprise relations. Model (2) includes government loans to the industrial sector as a share of GDP, to test if enterprise financial dependency on government has an effect on government environmental disclosure. Model (3) includes the average output per enterprise as a share of gross industrial output, to test if the average size of enterprises in an economy affects government transparency. Model (4) includes the same indicator of average size of enterprises but distinguishes between those that are domestically versus foreign funded. Model (5) adds revenue from international and domestic tourism, to test if tourism activity, which tend to be more sensitive to pollution, affects government transparency. (Descriptive statistics are in the Appendix.)

TABLE 1  
Factors Affecting 2009 PITI Scores

Explanatory Variables	Dependent Variable: PITI Score				
	(1)	(2)	(3)	(4)	(5)
Ln GDP per capita	2.514 (2.840)	2.663 (2.523)	2.980 (2.151)	2.935 (2.192)	1.253 (2.212)
Unemployment (% population)	-1.891 (2.946)	-4.069 (2.846)	-4.207 (2.781)	-4.080 (2.836)	-3.190 (2.877)
SO <sub>2</sub> emissions (tons thousands)/gross industrial output	-7.269*** (2.226)	-7.130*** (2.183)	-4.567** (2.073)	-4.938** (2.242)	-4.871** (2.268)
Wastewater discharge (tons millions)/gross industrial output	-2.850 (3.500)	-0.951 (3.339)	-1.551 (3.227)	-2.630 (3.579)	-3.444 (3.647)
Government fiscal balance (% GDP)	0.699** (0.274)	0.461*** (0.167)	0.339* (0.189)	0.337* (0.183)	0.315* (0.173)
Loans to industrial sector (% GDP)		0.624*** (0.152)	0.639*** (0.125)	0.635*** (0.133)	0.697*** (0.138)
Average output per enterprise (% gross industrial output)			-16.86*** (3.175)		
Average output per domestically funded enterprise (% gross industrial output)				-16.47*** (5.261)	-14.91*** (4.523)
Average output per foreign funded enterprise (% gross industrial output)				1.631 (6.403)	1.749 (6.596)
International tourism revenue (% GDP)					22.50** (10.55)
Domestic tourism revenue (% GDP)					-0.146 (0.210)
Constant	38.08*** (5.200)	30.59*** (4.820)	31.16*** (4.685)	31.33*** (4.821)	31.13*** (5.022)
Observations	111	111	111	109	104
R-squared	0.290	0.379	0.448	0.444	0.479

Sources: 2009 PITI score from NRDC and IPE. Explanatory variables calculated from 2008 CEIC data.

Note: Robust standard errors in parentheses.

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

GDP, gross domestic product; PITI, Pollution Information Transparency Index; NRDC, Natural Resources Defense Council; IPE, Institute of Public and Environmental Affairs.

### Central–Local State Pathway

The main burden of implementing the OEI measures falls on the EPBs within each local government. EPBs receive their policy directives from the MEP, but local governments control EPB resources as well as personnel promotion decisions. As the bureaus also have to respond to citizen complaints, they as agents essentially report to three principals—the MEP, the local government, and the public. This situation makes aligning EPB incentives particularly challenging. Environmental policies are often subverted at local levels as bureaus come under pressure by local governments to overlook violations or lower pollution fines on account of other priorities (Economy 2005; Lieberthal 1997). The weak bureaucratic position of EPBs means that local government type plays an important role in affecting the implementation of the OEI measures. Table 1 shows that cities with higher levels of sulfur dioxide emissions perform more poorly in environmental disclosure. This finding, that implementation of the OEI measures is poorer in precisely those localities that are more polluted (and therefore likely to be progrowth), underscores the MEP's challenge of enforcement in a decentralized bureaucracy.

Implementation of the OEI measures depends not just on government type but also capacity. Table 1 shows that a city's PITI score is positively correlated with government fiscal balance. This relationship could reflect the administrative costs to implementing the OEI measures, from hiring staff to building Web sites and responding to requests for information. Lorentzen, Landry, and Yasuda (2010) similarly find that government revenues are positively related to PITI scores. The importance of government type and capacity is further underscored by the tendency for cities that did well in the PITI to have had experience with implementing disclosure-based policies from the early 2000s. These cities, such as Shanghai, enjoyed government-wide support for transparency, which could have alleviated potential conflicts of interest between EPBs and local government leadership (Beijing University Center for Public Participation Studies and Support 2010; Horsley 2004).

### State–Enterprise Pathway

The OEI measures require that states disclose information on enterprises that have violated pollution standards. However, economic growth remains an overriding priority for most localities, leading government incentives to be closely aligned with those of industry. As Lieberthal (1997) describes, "Although government and enterprise appear separate it is more realistic to regard the two as a joint local territorial corporation, with the township government serving as the corporate headquarters and the enterprises serving as the various business arms."

This close relationship translates into poorer bargaining power for EPBs vis-à-vis enterprises, leading to perverse enforcement outcomes.

First, the need to heed local government objectives of promoting economic growth leads EPBs to exercise incomplete, or “pragmatic enforcement” (Ma and Ortolano 2000, 128). Rules are applied on a case-by-case basis and often on the basis of informal ties (*guanxi*) (Ma and Ortolano 2000, 83–88). Second, enforcement also depends on enterprise ownership, profitability, and cost structure. Studies have found that state-owned enterprises (SOEs) appear to have more bargaining power with the state (Wang et al. 2003), with 90% of private enterprises paying their fines on time, compared to 59% for SOEs in two localities (Ma and Ortolano 2000, 145). Third, pressure on EPBs to find their own revenue sources means that EPBs seek to price the fee structure to maximize revenue rather than to regulate pollution. One study found that pollution fines provided Foshan EPB with twice as much revenue than from the city government (Sinkule and Ortolano 1995, 178).

The closeness of state–enterprise relations therefore undermines OEI implementation. Table 1 shows a positive relationship between government transparency and loans to the industrial sector. One interpretation could be that EPBs have stronger bargaining power when enterprises are reliant on government loans. Moreover, the average size of enterprises in a city is negatively correlated to transparency (model 4). This finding could reflect state–enterprise bargaining relations, with cities whose economic growth is dependent on a smaller number of larger enterprises being more reluctant to disclose pollution information. Models (4) and (5) further show that the negative relationship holds for domestically funded enterprises but not for foreign-funded enterprises, which further supports the hypothesis that state–enterprise relations have a strong effect on government transparency (Lorentzen, Landry, and Yasuda 2010 find similar results).

That said, other factors could counteract the effect of state–enterprise relations. Model (5) shows a positive relationship between a city’s revenue from international (but not domestic) tourism and environmental transparency. One explanation could be that international tourism is negatively affected by pollution, which gives governments whose economies are more dependent on international tourism an incentive for stronger environmental management.

### State–Citizen Pathway

Pressure for states to disclose environmental information could also come from citizens. Given the MEP’s weak enforcement capabilities, it has increasingly enlisted extra-bureaucratic support, from NGOs to citizens and the media (Economy 2005, 111). In Carlos Lo and Sai Wing Leung’s (2000) study of Guangzhou, EPB officials described some success in mobilizing public opinion to counter intragovernment opposition to strengthening environmental governance. In general, however, state–citizen accountability relations are weak as local government officials are

upwardly accountable to higher levels of the state rather than to society, and legal protection of citizen rights remains thin. In the case of using the OEI measures, citizen pressure has been low. The MEP received 72 requests for information in 2009 (Ministry of Environmental Protection 2010a), whereas Guangzhou received 17 requests in the same year (Guangzhou Environmental Protection Bureau 2010). Most of these requests, moreover, came from NGOs rather than citizens (Interview A 08/2010).

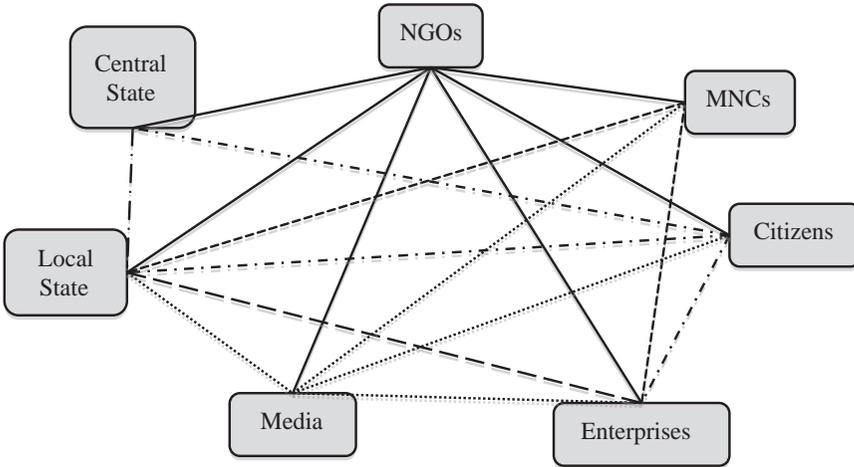
### **State–Civil Society Pathway**

Civil society could also pressure governments to improve their environmental disclosure. The past 30 years has seen the government steadily curtail its direct role in society and allow NGOs more space to operate. However, the state also strictly regulates the conditions under which social organizations can work. Environmental NGOs have been able to exploit the space created by state vacillation between toleration and control to exert influence (Ho 2001). The effect of NGOs in using the OEI measures, therefore, is unclear. The rest of this article examines two NGO initiatives that have had an impact not just on levels of government disclosure but also in improving environmental outcomes. Given the contradictions in state–civil society relations, these changes have not occurred with NGOs working in isolation. Rather, unexpected actors turn out to play important roles, including reputation-conscious MNCs who have an interest in monitoring the Chinese enterprises in their supply chain. Other instances of change have involved NGOs or state agencies working with multiple actors both within the bureaucracy and with society. Rather than four exclusive pathways, the impact of NGOs initiatives is transmitted through a web of relations between these actors, with changes in incentives occurring through multiple pathways, as shown in Figure 1. The next section maps out the pathways through which NGO initiatives lead to change in environmental governance.

### **4. Impact of NGO Disclosure Initiatives**

This section examines the impact of NGO disclosure initiatives on environmental governance and how relations between state, enterprise, and society have changed in the process. The release of new information by NGOs alone is unlikely to lead to change unless other actors have the incentive and ability to use the information to alter their behavior. This article employs the Fung, Graham, and Weil (2007) “targeted transparency” framework to assess the impact of NGO disclosure initiatives.<sup>6</sup> Although Fung, Graham, and Weil use the framework to analyze behavior at the individual level, this article employs the targeted transparency analysis at the interest group level, with NGOs acting as potential disclosers of new information, and state, citizens, and enterprises acting as poten-

FIGURE 1  
Multiple Pathways for Transparency



MNCs, multinational companies; NGOs, nongovernmental organizations.

tial users of the NGO-generated information. The framework argues that in order for a transparency policy to be effective, incentives for users and disclosers of information must be aligned across five conditions.

First, the information must have *value* to potential users, as defined by their objectives. For the MEP, valuable information might be that which reveals the environmental practices of local governments, whereas polluting enterprises might only value information that impacts their profit margin. Second, the disclosed information must be *compatible* with the established decision-making routines of users. For example, government agencies have fixed budget planning cycles, whereas enterprises have regular production cycles. Information that is valuable to users but that is incompatible with these decision-making routines is less likely to be used. Third, the information needs to be *comprehensible* to users. For example, environmental data might be valuable to both the MEP and citizens, but the latter is less likely to understand the technical nature of pollution data and regulations. Fourth, the *costs* of accessing and acting on the information must be less than *benefits*, in order for behavior to change. Citizens might value pollution information but might face high costs to using that information to confront powerful industries. Finally, there needs to be a *feedback* loop transmitting information about user responses back to disclosers. If NGOs do not receive feedback about whether (and how) their information is being used, there would be less incentive to continue their initiatives.

Two NGO initiatives are evaluated in turn—first pollution databases disclosing enterprise pollution and second the PITI, an index disclosing

government transparency. The targeted transparency conditions (value, compatibility, comprehensibility, etc.) vary for each potential user, as shown in the following discussion.

### Online Pollution Databases

IPE started an online water pollution database in 2006 and an air pollution database in 2007, covering over 300 cities in 31 provinces. The databases disclose information on polluting enterprises, discharge data, and other environmental information. The OEI measures allowed IPE to greatly expand its database, from 5,500 entries of violators in 2006 to over 105,700 as of July 2012 (IPE Web site). The information comes from data released by government agencies, but IPE serves the crucial function of collecting the data from disparate sources, organizing it in a coherent fashion, and publishing the information in the form of easily navigable maps on the Internet. Table 2 below shows how this new information could affect the incentives and behavior of potential users. The checks shown in each box represent an assessment of how likely the targeted transparency conditions are to be met, based on the objectives and incentives of each actor. Three checks represent strong likelihood that the conditions are fully met, two checks represent a moderate likelihood with room for improvement, and one check represents a weak likelihood with substantial scope for improvement. A cross indicates that the conditions are unlikely to be met.

MNCs. Given MNCs' concerns with branding and reputation, IPE's databases could be highly *valuable* for monitoring the environmental performance of suppliers. The databases are also *compatible* with MNC decision-making cycles as the information can be accessed anytime via the Internet. The information is *comprehensible* given that the MNCs are

TABLE 2  
Targeted Transparency Conditions for Pollution Databases

User	Value	Compatibility	Comprehensibility	Cost–Benefit	Feedback
MNCs	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓
Central government (MEP)	✓✓✓	✓✓✓	✓✓✓	✓	✓
Local government	Depends	✓✓✓	✓✓✓	Depends	✗
Local enterprises	Depends	✓	✓✓✓	Depends	Depends
Citizens	✓✓✓	✓	✓	✗	✗

✓✓✓ = strong; ✓✓ = moderate; ✓ = weak; ✗ = not present.

MNCs, multinational companies; MEP, Ministry of Environmental Protection.

likely to have staff with technical expertise. Finally, the potential costs to *not* acting on this information are high, given MNC reputational concerns. If links between the NGO and MNCs are established, feedback could be strong, given incentives for the NGO to increase pressure on Chinese enterprises by leveraging on the MNCs, and given MNC interest in relying on the NGO to monitor enterprises.

Evidence shows that direct pressure from MNCs such as Nike, General Electric (GE), and Esquel has been the main channel through which IPE's databases have led to enterprises reducing their pollution. Nike, with 150 factories in China, regularly uses the IPE databases to check on suppliers, given that it does not have the resources for direct monitoring. It has also trained 50 key suppliers to use IPE's databases as a monitoring tool. GE China's environment, health, and safety managers are similarly using the databases to monitor their local suppliers. IPE reported an increasing number of firms approaching it as a result of having been referred there by their MNC clients. The effectiveness of this strategy also lies in the strong feedback loop between IPE and MNCs. For example, IPE started sending alerts to Nike whenever one of its suppliers was going to be listed online, whereas MNCs started responding to the alerts by referring their suppliers to IPE for follow-up remedial actions. (Shao 2009; World Resources Institute and IPE 2010).

An audit process set up by IPE and 20 other environmental NGOs further strengthens incentives for MNCs to use the pollution map. The Green Choice Audit establishes environmental standards for enterprises, which are verified by an accredited third-party auditor before violations are removed from the database (Institute of Public and Environmental Affairs 2008). Where the audit has been used, changes in enterprise environmental practices have been positive. However, the overall impact remains marginal. Despite the listing of over 105,700 violations on its Web site, IPE has received only 470 responses on these violations, with only 112 firms having gone through the third-party audit, as of July 2012 (IPE Web site).

Central Government (MEP). The pollution databases would conceivably be of high *value* to the MEP, as the information is now available nationally and allows the MEP to compare enterprise pollution across time and space. The *compatibility* of the information with MEP decision-making cycles is greatly enhanced as the online data can be accessed anytime. MEP staff would also find the information highly *comprehensible*, given that they are technically trained. However, although the *costs* of accessing pollution data have been lowered, the ministry may still face barriers to enforcement, given its decentralized administrative structure and limited resources. With high enforcement costs impeding action, there could be little *feedback* from the MEP back to the NGO.

There is little evidence that the MEP has actively used the databases, likely due to enforcement challenges. Although the MEP is able to send

inspection teams, resource limitations mean that these occasional inspections have value in signaling Beijing's policy priorities to local governments but little impact in changing existing incentive structures (Economy 2005). However, there is some evidence that the MEP is delegating enforcement responsibilities to NGOs. One polluting enterprise received a letter from the MEP in early 2011 suggesting that the enterprise deal with its violation by working with IPE (Interview F, 1/12/11). Although this is just one event, it suggests that the MEP could overcome its enforcement challenges through delegation and by strengthening its feedback loop with NGOs.

Local Government. The *value* of the pollution databases to local governments is likely to depend on type. Proenvironment governments would value this information for the same reason as the MEP, whereas progrowth governments would place little value on the databases. The *compatibility* and *comprehensibility* of the information is high for the same reasons as for the central government. The costs and benefits of changing behavior would again depend on type. The databases could raise the benefits of greater disclosure for proenvironment types, if the information leads other actors, such as MNCs, to impose greater pressure on polluting enterprises. Progrowth governments would not disclose information on enterprise violations in the first place but may over time be pressured to release more information, if other governments are becoming increasingly transparent. There would not appear to be strong reasons for *feedback* between the government and NGOs, given that the pollution data come from local governments in the first place.

There is little evidence that the databases have altered incentives for local governments to strengthen their environmental disclosure. For example, municipalities have not become more proactive in releasing information about polluting enterprises (which IPE then publishes on the databases). The 2009 PITI scores show that 70 out of 113 cities scored less than 5.6 out of 28 points (20% of the full score) in the disclosure of enterprise pollution violations. Government performance in this category continued to be weak in ensuing years, with 68 cities and 65 cities scoring 5.6 points or less in 2010 and 2011, respectively. The lack of change in behavior provides support for the hypothesis that most municipalities are of the progrowth type, for which the costs of disclosing more information continue to outweigh benefits. These disincentives are likely to stem from the subordinate intrabureaucratic position of EPBs and the strong bargaining power that enterprises can exert on municipal leaders (Interview D, 1/12/11).

Enterprises. The databases have created a nationwide "blacklist" of polluters. However, the *value* and *cost-benefit* calculus for enterprises to act on this information depends on enterprise-state bargaining power and their position in the international supply chain. Enterprises that supply MNCs

with strong reputational concerns would value this information and face higher costs to continued pollution. Enterprises with stronger bargaining power vis-à-vis the government (e.g., SOEs or large enterprises) are likely to place lower value on the information and face lower costs to continued pollution (Wang et al. 2003). Although the information would be *comprehensible* to most enterprises, *compatibility* may be low, in that the information may be published after budget decisions have been made, such that changes cannot be made until the next production cycle. The *feedback* between the NGO and enterprises is likely to depend in turn on reactions from other actors. Thus far, the response rate for enterprises listed on the database is less than 1%.

The databases do not appear to have had an independent impact on enterprise behavior. Rather, enterprises have taken action to reduce their pollution only when additional interventions have raised the costs of inaction, such as pressure by MNCs or governments. For example, the Ningbo municipality EPB not only discloses the names of polluting enterprises but also sends that information to the People's Bank of China as a way of raising the costs of pollution. Xie Xiaocheng, Director of the Ningbo Environmental Promotion and Information Center, was quoted as saying "Many enterprises do not care about fines, but they are truly affected if their loans are threatened" (*China Global Times* 2010). Feedback from enterprises to the NGO similarly depends on interventions by other actors, such as MNCs referring polluting suppliers to the Green Choice Audit.

Citizens. The pollution databases would likely be of high *value* to victims of pollution, as they represent concrete evidence on the environmental violations of enterprises. However, the information may not be highly *compatible*. Enterprises are listed as violators only *after* pollution has already taken place. This disclosure is therefore likely to be too late for citizens that have already been affected by pollution. Individuals without Internet access will have greater difficulty obtaining the information. The technical information may also be less *comprehensible* to the general public. Finally, the *costs* of acting on the information are considerable. Citizens face high formal and informal costs in using disclosed information to confront powerful enterprises and government agencies, given the underdeveloped state of the judiciary. For these reasons, action and feedback from citizens are likely to be fairly weak.

There is little evidence of citizens using the databases to deal with their pollution problems or changing their behavior as a direct consequence of the databases. This supports the hypothesis that the targeted transparency conditions are relatively weak for citizens and suggests that additional, intervening factors are needed to overcome the issues with compatibility, comprehensibility, cost-benefit, and feedback. Indeed, cases of successful environmental management involving citizens tend to involve joint action from multiple actors.

For example, for several years in the mid-2000s, residents in Dachang township in Shanghai had been filing complaints with the local government over pollution from Fuguo tannery company. The EPB had listed Fuguo as a polluter and ordered Fuguo to rectify the problem. Fuguo's responses were insufficient, and the complaints also continued. In early 2009, environmental NGOs filed a suit to request that Fuguo disclose its discharge data as required under the OEI measures. When Fuguo did not respond, the NGOs informed the CEO of Timberland of Fuguo's environmental violations, as Timberland was a major client of the company. Pressure from Timberland led Fuguo to disclose its records. In addition, the CEO of Fuguo sat down with residents, Timberland representatives, and the media to listen to community complaints and arranged for residents to visit the factory. A community representative was appointed to liaise with the company regarding future environmental issues, and a hotline was established for pollution complaints. In addition, Fuguo started publishing its discharge data daily and went through the Green Choice Audit to be removed from the database of polluters.

This case demonstrates the challenge of disclosure-based governance in China. Direct appeals from citizens and NGOs to the state and enterprise both failed to halt the pollution. The problem was resolved only when an additional actor—the MNC—was brought in and when multiple stakeholders were simultaneously engaged.

## PITI

The second NGO initiative that this article analyzes is the PITI, established by IPE and NRDC to assess the environmental transparency of 113 cities across China. Although Section 3 used the PITI data to evaluate the implementation of the OEI measures, this section examines how the creation of the PITI *as a new source of information* could change the incentives and behavior of potential users, as shown in Table 3.

Media. The media is likely to find the PITI *valuable* (i.e., newsworthy) for several reasons. First, the index reflects changing conceptions about the government's social responsibilities. Second, the PITI presents a new role for civil society in monitoring government performance. Finally, growing global attention to China's environmental record brings international interest to such new initiatives. The information is highly *compatible* as journalists are constantly in search of stories and *comprehensible* to those on the environment beat. The *cost-benefit* and *feedback* elements are also likely to be strong. Media outlets stand to benefit from reporting on this new development and will thus be interested in engaging the NGOs, whereas NGOs would benefit from the additional publicity.

Over 100 media outlets reported on the 2009 PITI results and the 2010 results received similarly heavy coverage (Interview C 1/11/11). This publicity reduces the costs of accessing the PITI information and potentially

TABLE 3  
Targeted Transparency Conditions for the PITI

User	Value	Compatibility	Comprehensibility	Cost–Benefit	Feedback
Media	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓
Local government	Depends	✓	✓✓✓	Depends	Depends
Central government (MEP)	✓✓✓	✓	✓✓✓	✓	✗
Citizens	✓	✓	✓	✓	✗
Enterprises	Depends	✓	✓✓✓	Depends	✗

✓✓✓ = strong; ✓✓ = moderate; ✓ = weak; ✗ = not present.

PITI, Pollution Information Transparency Index; MEP, Ministry of Environmental Protection.

affects how other actors value the information. Media coverage creates reputational effects that alter the value of the PITI for both proenvironment and progrowth governments. Municipalities that performed well have sent journalists to cover the release of the PITI scores and included their scores in their annual reports (Interview C 1/11/11). Progrowth types may not initially value the PITI, but their costs of inaction may be raised by press coverage. For example, the *China Economic Times* noted that “the scientific nature and rigor of the evaluation system make it impossible for government officials to ignore these results” (Wang 2010a). In addition, media reports on the PITI may improve comprehensibility for citizens. However, it is difficult to measure how media coverage translates into citizen awareness and action.

Local Government. For local governments, the *value* of the PITI depends on type. Proenvironment governments would value this information as it allows for benchmarking and learning between cities. *Compatibility* of the information with decision-making processes is uncertain. Although the PITI is constructed annually, the timing of its release may not be complementary with government budget cycles. *Comprehensibility* is likely to be high as government staff would possess the technical expertise to understand the scoring system. The extent to which the PITI alters the *costs* of inaction, however, depends on type. For proenvironment governments, the index could lower the costs of action by providing state agencies with greater leverage to mobilize citizen and intrabureaucratic support for stronger environmental regulation. For progrowth types, the costs of bad publicity may not outweigh the benefits of continued growth. *Feedback* likewise depends on type, taking place only for those governments that see value in engaging NGOs.

Change in government transparency can be observed through change in PITI scores from 2009 to 2011. Table 4 shows summary statistics of the

TABLE 4  
Change in PITI Scores, 2009–2010 and 2010–2011 (% of Maximum Score in Each Category)

Category	2009–2010				2010–2011			
	Mean	Standard Deviation	Min	Max	Mean	Standard Deviation	Min	Max
Records of enterprise violations “Enforcement Campaigns” against polluting facilities	1.89	16.98	-41.43	60.00	0.66	18.16	-42.50	66.43
Clean production audit information	0.42	28.38	-80.00	65.00	-0.82	28.31	-85.00	80.00
Enterprise environmental performance ratings	4.20	24.93	-80.00	80.00	8.58	20.22	-30.00	65.00
Disposition of verified petitions and complaints	-0.95	12.97	-60.00	50.00	2.01	13.84	-42.50	57.50
Environmental impact assessment reports and project completion approvals	8.63	24.44	-47.78	87.78	8.09	21.52	-40.00	80.00
Discharge fee data	4.14	15.39	-35.00	55.00	2.83	14.34	-35.00	40.00
Responses to public information requests	2.52	26.96	-95.00	85.00	11.55	28.86	-60.00	85.00
Total score	14.01	32.84	-77.78	100.00	4.95	34.24	-77.78	91.11
	5.33	9.03	-14.80	32.50	4.00	9.20	-14.60	32.90

PITI, Pollution Information Transparency Index.

change in scores each year for the 113 cities, calculated as the percentage of maximum points allocated in each scoring category. Although we cannot attribute these changes to the effect of the PITI on government behavior, the change in scores over time is nonetheless revealing. Table 4 shows the large variation in performance change across cities, which reduces the confidence with which we can discuss average trends. Nonetheless, it is noteworthy that change in government disclosure also depends on the *types* of information being released. In 2010, the categories with the largest percentage increase in average scores both relate to society appeals (disposition of verified petitions and complaints [8.63%] and responses to public information requests [14.01%]). In 2011, the categories with the largest score increases both relate to government performance (fees imposed and collected on pollution discharge [11.55%] and clean production audit [8.58%]). In contrast, in both years, the categories with negative or low average change in scores are closely related to enterprise pollution (enterprise environmental performance ratings [-0.95% and 2.01%], disclosure of enforcement campaigns against polluting facilities [0.42% in 2010 and -0.82% in 2011] and disclosure of records of enterprise violations [1.89% in 2010 and 0.66% in 2011]).

Although change in local government disclosure has been limited and uneven, there is some evidence of *feedback* between local governments and NGOs. Over 50 government officials attended a 2010 workshop in Shandong Province to discuss the PITI results and challenges to improving environmental transparency (Wang 2010a). NRDC further cited an example of a low-scoring city (Lanzhou) that arrived at the workshop with a new environmental information platform to demonstrate its improvements in transparency (Wang 2010b). Local governments also attended a press conference announcing the release of the 2010 PITI scores (Interview C 1/1/11). According to NRDC, both Chongqing and Tianjin municipalities have initiated discussions with NGOs on the topic of environmental transparency. Other cities that NRDC has noted for their NGO engagement include Jiaying, Beijing, Zhongshan, Yantai, Baoding, and Yinchuan (Institute of Public and Environmental Affairs and Natural Resources Defense Council 2011).

Central Government (MEP). The PITI may hold high *value* for the MEP as the index provides an assessment of local government adherence to the OEI measures and potentially exerts external pressure on governments to improve their transparency. *Compatibility* and *comprehensibility* issues match that of local governments described above. The *costs* of accessing the information are low, but the costs of enforcement (e.g., punishing low-performing cities) are high, again given the decentralized nature of the bureaucracy and the MEP's weak enforcement power. As such, *feedback* from the MEP on the PITI is likely to be weak.

Indeed, there is little evidence that the PITI has had much of an impact on MEP behavior. Initial findings point to a stronger response and feedback

between the NGOs and local government than between the MEP and local authorities (Interview C 1/1/11). For example, the MEP was invited to the press conference announcing the 2010 PITI results, but did not attend (Interview C 1/1/11).

Citizens. The PITI may have little impact on state–society relations for several reasons. First, the rankings could be of low *value* to citizens as they tend to be concerned about specific occurrences of pollution rather than across-the-board performance in environmental transparency. Second, the information may be *incompatible* with their decision-making processes. If citizens tend to react only to specific pollution events that directly impact their well-being, the release of the index would not necessarily coincide with those moments. The index, based on the technical and legal framework of the OEI measures, may also be less *comprehensible* to the public. The PITI information would be less *costly* to access for citizens in municipalities with greater media access, but the costs of using the information to confront powerful state and business interests are likely to be high. Benefits would depend on whether using the PITI information addresses the specific environmental problems that citizens are facing. Given the mismatch between the general information in the PITI and the specific nature of citizen pollution concerns, there is little likelihood of the cost–benefit and feedback conditions being met for citizens.

There is little evidence thus far of citizens using the PITI to deal with their environmental concerns. Citizen requests for environmental information have remained low, with IPE and NRDC assessing that “information has not yet become a tool for active public participation in China” (Institute of Public and Environmental Affairs and Natural Resources Defense Council 2010). Indeed, direct unrest might be a more effective channel for citizens to push the state to deal with their pollution problems. Zhenhai District in Zhejiang province, for example, adopted a proactive approach to environmental regulation because of mass protests in 2002 over pollution from the chemical industry. In one interview, Hu Rongzhang from the Zhenhai EPB was quoted as saying, “While we have become a lot busier, these ‘small pressures’ enable us to resolve ‘big problems’, and so the effort is worthwhile” (*China Environmental News* 2010).

Enterprises. As the PITI measures government performance, the value that enterprises might place on the PITI depends on the first-order effect of the rankings on government–enterprise relations. If the index causes municipalities to strengthen their environmental regulation, polluting enterprises would *value* the PITI more. However, although the information may be fairly *comprehensible*, the PITI may be *incompatible* with enterprise production cycles. The *costs* of enterprises changing their behavior again depend on whether the PITI causes governments to strengthen regulation. As the PITI is aimed at measuring government transparency, it

is not surprising that there is little evidence of the PITI having affected enterprise behavior. Table 4 provides some evidence that local governments continue to be reluctant to disclose enterprise-related information, which suggests that the PITI has not had a significant impact on altering state–enterprise bargaining relations.

Overall, then, the PITI appears to have been actively used by the media and local governments but less by the central government, enterprises, and citizens. Thus, the index alone is unlikely to lead to change without additional interventions. As with the pollution databases, improvements in environmental transparency tend to involve multiple actors acting in concert rather than through isolated user-discloser channels. One example is Shenzhen city in Guangdong Province, ranked 13th on the 2009 PITI and 2nd in 2010 and 2011. Several factors account for Shenzhen's high level of environmental transparency. First is government type: The city was a pioneer in experimenting with transparency, establishing the "Measures of Shenzhen Municipality for Online Open Government Information" in 2004 (Horsley 2004). Equally important was the strategies that Shenzhen EPB devised to overcome the principal–agent problems commonly faced by EPBs. The EPB developed formal and informal cooperative relations with the other agencies in order to align intrabureaucratic objectives. Formal mechanisms included the establishment of the Shenzhen Environmental Protection Commission in 1986, led by the mayor and deputy mayor and commissioners from other ministries and districts. Informal tactics included issuing regulations jointly with other departments, as a way of riding on the relative strength of older and more influential agencies (Sinkule and Ortolano 1995, 154). Finally, Shenzhen EPB engaged the public for additional support, creating awareness campaigns and public participation mechanisms such as the Environmental Protection Consulting Commission established in 1989 (Sinkule and Ortolano 1995, 157).

These examples of multiactor governance underscore that environmental disclosure initiatives in China work best when a network of actors are jointly engaged such that weaknesses in one user-discloser pathway can be overcome by interventions by other actors.

## 5. Impact and Accountability

### Impact on Environmental Governance

The evidence thus far shows that the two NGO initiatives have had a limited but tangible impact on environmental governance. The pollution databases have proven valuable for MNCs looking to monitor their suppliers in China. The PITI has provided a new measure of government performance and fostered greater engagement between governments and NGOs. The index has also led at least one city to actively improve its disclosure system. However, these effects remain marginal, in part because the OEI measures

have only recently come into force, but additionally due to two sets of weaknesses, as discussed in Section 4. First, the *value* of the NGO information depends on a number of factors. For government, the factors include government type and state–enterprise relations. For enterprises, the value of NGO information depends on their position in the international supply chain and on how NGO initiatives affect government incentives to regulate polluting industries (which in turn depends on government type and state–enterprise bargaining relations).

Second, the cost–benefit and feedback conditions of the targeted transparency framework are often weak. For the MEP, the information improves monitoring, but enforcement remains costly in a decentralized bureaucracy. For local governments and enterprises, the cost–benefit calculus depends again on government type and state–enterprise relations. For society, costs of responding are high due to the lack of legal protection for citizen rights.

Due to the weaknesses of the cost–benefit calculus and feedback mechanisms for the central government and society, additional interventions are needed to strengthen the impact of the NGO initiatives. For example, one incentive for MNCs to use the pollution databases is the audit protocol that allows enterprise violations to be removed once the audit is completed. Ningbo EPB’s practice of sending the list of polluters to the People’s Bank of China similarly raises the costs of inaction for enterprises. The experience of Fuguo and Timberland shows how NGOs and MNCs can act jointly with citizens to overcome enterprise resistance to change. The future impact of the pollution databases and the PITI, then, depends in part on whether additional interventions can be created to alter the valuation, cost–benefit, and feedback segments of the targeted transparency framework for relevant users.

### **Implications for Accountability**

The governance improvements resulting from the NGO initiatives have not been accompanied by straightforward shifts in accountability. This effect stems in part from the lack of civil society autonomy in China. Instead of holding government accountable, “green social organizations are increasingly courting government approval and influence in policy-making” at the central level (Ho 2001). The emergence of active civil society in the environmental sector may have led to a greater pluralization of the policy process (as argued by Mertha 2008) but not necessarily to greater accountability. Instead, it appears that NGOs are being drawn to supplement gaps in the MEP’s capabilities—particularly in its monitoring and enforcement weaknesses.

IPE’s pollution databases turn out to be exerting accountability pressures on enterprises not via the state (whose interests may be too closely linked to enterprises) or citizens (who either do not have much use for the information or have weak options to exert pressure) but through the

international supply chain. MNCs have a direct means of raising the costs of noncompliance, bypassing the weakness of state–enterprise regulatory relations. The Green Choice Audit has made enterprises accountable to NGOs rather than to the state, with MNCs referring their suppliers to IPE and having their suppliers' corrective action published online. The implications of these changes are ambiguous, especially because these new processes remain marginal. If these processes were to become mainstream, they would have the perverse effect of replacing, rather than complementing, state regulation of enterprise. If the MNCs were in time to shift their manufacturing out of China, it is unclear if the state would be able to fill in the gap in monitoring and enforcement.

The PITI appears similarly to have strengthened municipality accountability to NGOs, rather than central–local state accountability. The PITI provides potentially valuable information to central agencies regarding local government performance, but the value of the PITI to citizens is less clear. Other environmental NGOs in China similarly focus their efforts on gaps between policy and implementation (Interview C 1/11/11; Interview G 1/13/11). Without greater political space, the activities of NGOs will naturally be skewed to favor those who are able to effectively negotiate with and provide value to, rather than confront, central state agencies.

In addition, effective accountability is undermined by weaknesses in the judiciary. The fact that courts fall under the authority of the Party limits the ability of citizens and civil society to hold the state to account (Ma and Ortolano 2000, 90). Local courts report to local government leadership, which makes the legal system subject to the same weaknesses that prevent EPBs from enforcing environmental regulations (Economy 2005, 108). One interviewee pointed out that “China’s got some of the best environmental laws in the world. But they’re just a pile of sand. You can’t build anything out of them because nobody applies them” (Interview B 1/11/11).

## 6. Conclusions

Transparency policies have become increasingly popular regulatory tools across the world. However, the pathways through which they alter stakeholder incentives and generate change are not well understood. This article has examined if transparency can be achieved in an authoritarian setting. The major channels through which transparency regulations are expected to improve disclosure turn out to be weak, because of China’s fragmented bureaucratic environment, and the alignment of state–society relations under authoritarianism. As such, environmental transparency ends up being weakest in the most polluted cities. This article has also found that even in an authoritarian context, NGO initiatives have had an impact on environmental governance, albeit through unusual pathways such as the international supply chain. However, the potential impact of these initiatives is undermined by weaknesses in China’s governance structure. For the MEP, enforcement costs remain high even after new

information is made available. Decentralization and the entrenched focus on growth further means that the impact of NGO initiatives depends on local leadership types and state–enterprise relations. Specific examples of success have depended on multiple actors working through multiple pathways, in order to overcome existing weaknesses in user–discloser relations.

Finally, the relationship between transparency and accountability is not straightforward in the Chinese context. Contrary to popular expectations, increased transparency has not mapped directly onto improved accountability. Accountability has shifted to the MNC–NGO channel in the case of the pollution databases and to the local government–NGO channel in the case of the PITI, bypassing the central government in both cases. These results raise the need to closely examine the exact channels through which disclosure improves governance and to rethink the relationship between transparency and accountability in nondemocratic contexts.

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### Notes

1. The 2011 12th Five Year Plan places a high priority on climate change, energy, and environmental issues. The 11th Five Year Plan for Environmental Protection identifies pollution control as a top priority.
2. For example, Neuman and Calland (2007). See also <http://www.freedominfo.org>, which supports the right to know and for freedom of information as a way of strengthening democratic governance.
3. For literature on China's transparency regulations, see Horsley (2004, 2007a, 2007b, 2010) and Hubbard (2008).
4. Available in Chinese at [http://www.gov.cn/flfg/2007-04/20/content\\_589673.htm](http://www.gov.cn/flfg/2007-04/20/content_589673.htm). Unofficial English translation available at [http://www.epa.gov/ogc/china/open\\_environmental.pdf](http://www.epa.gov/ogc/china/open_environmental.pdf).
5. These functions are taken on by provincial general offices, the Ministry of Supervision, the General Auditing Administration, and the State Statistical Bureau.
6. Targeted transparency policies are different from right-to-know policies in that they are designed to achieve a particular social outcome (e.g., to reduce pollution).

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## Appendix

### Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
PITI score	30.8142	14.6803	10.2000	72.3000
Ln GDP per capita	1.2003	0.6957	-0.1263	3.5305
Unemployment (% population)	0.7601	0.4187	0.2190	2.3286
SO <sub>2</sub> emissions (tons thousands)/Gross industrial output	0.5685	0.5570	0.0213	3.3627
Wastewater discharge (tons millions)/Gross industrial output	0.5044	0.3935	0.0240	1.8384
Government fiscal balance (% GDP)	-4.5594	4.7556	-38.8971	0.7463
Loans to industrial sector (% GDP)	11.0213	7.6505	0.8370	41.5642
Average output per enterprise (% gross industrial output)	0.1605	0.2464	0.0053	1.7544
Average output per domestically funded enterprise (% Gross industrial output)	0.1542	0.2486	0.0033	1.7544
Average output per foreign funded enterprise (% Gross industrial output)	0.2058	0.2443	0.0090	1.1926
International tourism revenue (% GDP)	0.1003	0.1517	0.0001	0.9558
Domestic tourism revenue (% GDP)	8.2855	4.9006	0.6283	40.4283

PITI, Pollution Information Transparency Index; GDP, Gross Domestic Product.