Rankings, Performance Feedback, and Organizational Responses: Evidence from Public Hospitals in China

Reported by: Chengwei Wang

Authors: Liang Ma, Chengwei Wang, Jiaxin Yu, Ling Zhu

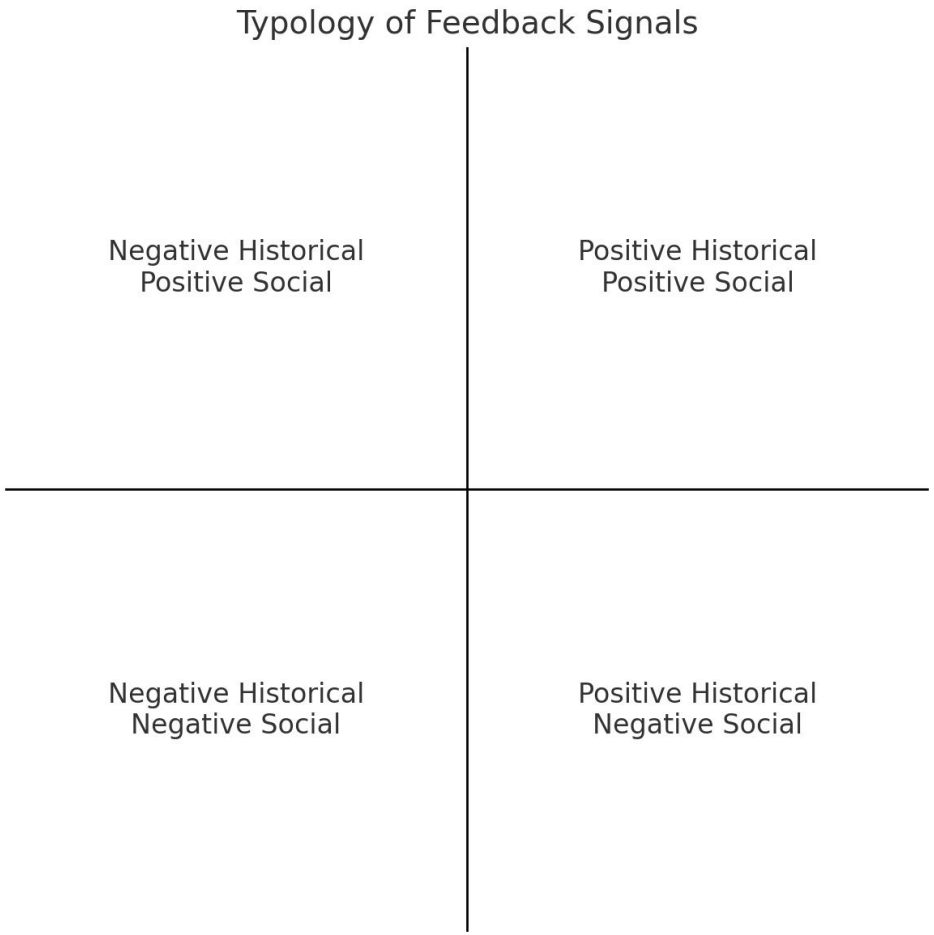
Introduction

- Public organizations are increasingly subject to performance evaluations, ranking systems, and public accountability pressures.
- Performance feedback—information about an organization's relative standing or achievement of goals—can trigger significant organizational responses.
- Drawing on Performance Feedback Theory, prior research suggests that organizations interpret feedback through the lens of aspiration levels:
  - Positive feedback (performance above aspirations) tends to reinforce existing strategies.
  - Negative feedback (performance below aspirations) may lead to risk-taking, strategic change, or defensive behaviors.

Research Gap

- **Lack of comparative research on *combinations* of feedback signals**
  While existing studies examine how organizations respond to *individual* feedback cues—such as positive vs. negative or historical vs. peer-based feedback—**very few studies compare how organizations respond across multiple distinct types of feedback signals**.
- **We still don't know** how organizations differentially react to: **Positive historical feedback** (improving over time), **Negative historical feedback** (declining performance), **Positive social feedback** (outperforming peers), **Negative social feedback** (underperforming peers)
- **Limited understanding of how organizational characteristics condition feedback responses.** For example, it remains unclear whether:
  - **Higher-ranked vs. lower-ranked** organizations respond differently
  - **Different types of organizations** (e.g., affiliated vs. non-affiliated hospitals) show systematic variation in their behavioral responses to feedback

Typology of Feedback Signals



Research Question

1. **How do different types of performance feedback signals affect public hospital performance?**
2. **Do organizations respond differently depending on their institutional characteristics?**
   - How do affiliated and non-affiliated hospitals differ in their responses to feedback signals?
   - Do hospitals at different ranking tiers (Top 25, 25–50%, etc.) exhibit heterogeneous behavioral patterns?
3. **What are the interactive or compounding effects of multiple feedback signals?**
   - How do combinations of historical and social feedback jointly shape organizational responses?

Context

- **China Hospital Rankings: Overview**
  - Compiled annually by **Fudan University Hospital Management Institute** since **2010**
  - Covers **top 100 general hospitals** and **top 10 hospitals by specialty** (over 30 specialties)
  - Widely viewed as the most authoritative ranking in China's healthcare sector
- **Ranking Structure**
  - **Two main dimensions**:
    1. **Reputation Score** (based on peer expert surveys)
       - ✓Chief physicians from top hospitals rate the best hospitals in each specialty
    2. **Research Score** (based on publications, national funding, etc.)
       - ✓Data from CNKI, NSFC, and key medical journals

Research Design

Variable	Obs	Mean	Std. Dev.	Min	Max
Dependent Variables					
Performance of hospital	1232	13.63	14.69	0	96.44
Reputation performance of hospital	1232	7.1	11.63	0	80
Academic performance of hospital	1232	6.53	4.34	0	20
Independent Variables					
Positive historical feedback	1232	3.52	7.22	0	56
Negative historical feedback	1232	3.35	5.76	0	42
Positive social feedback	1232	13.63	17.81	0	72.88
Negative social feedback	1232	13.78	16.94	0	66.95
Control Variables					
Whether on the list	1232	0.78	0.42	0	1
Affiliation (1=National, 0=Local)	1232	0.33	0.47	0	1
Type (1=General, 0=Specialized)	1232	0.68	0.47	0	1
Number of departments	1232	48.49	21.49	13	185
Number of staffs	1232	3816.17	2099.7	446	13910
Number of beds	1232	2559.25	1661.09	100	8500
President gender (1=Male, 0=Female)	1222	0.97	0.18	0	1
President tenure	1217	6.23	4.75	1	23
President's department ranked (1=Yes)	1099	0.47	0.5	0	1
President is academician (1=Yes)	1217	0.13	0.33	0	1
President promoted internally (1=Yes)	1217	0.88	0.32	0	1

Descriptive analysis

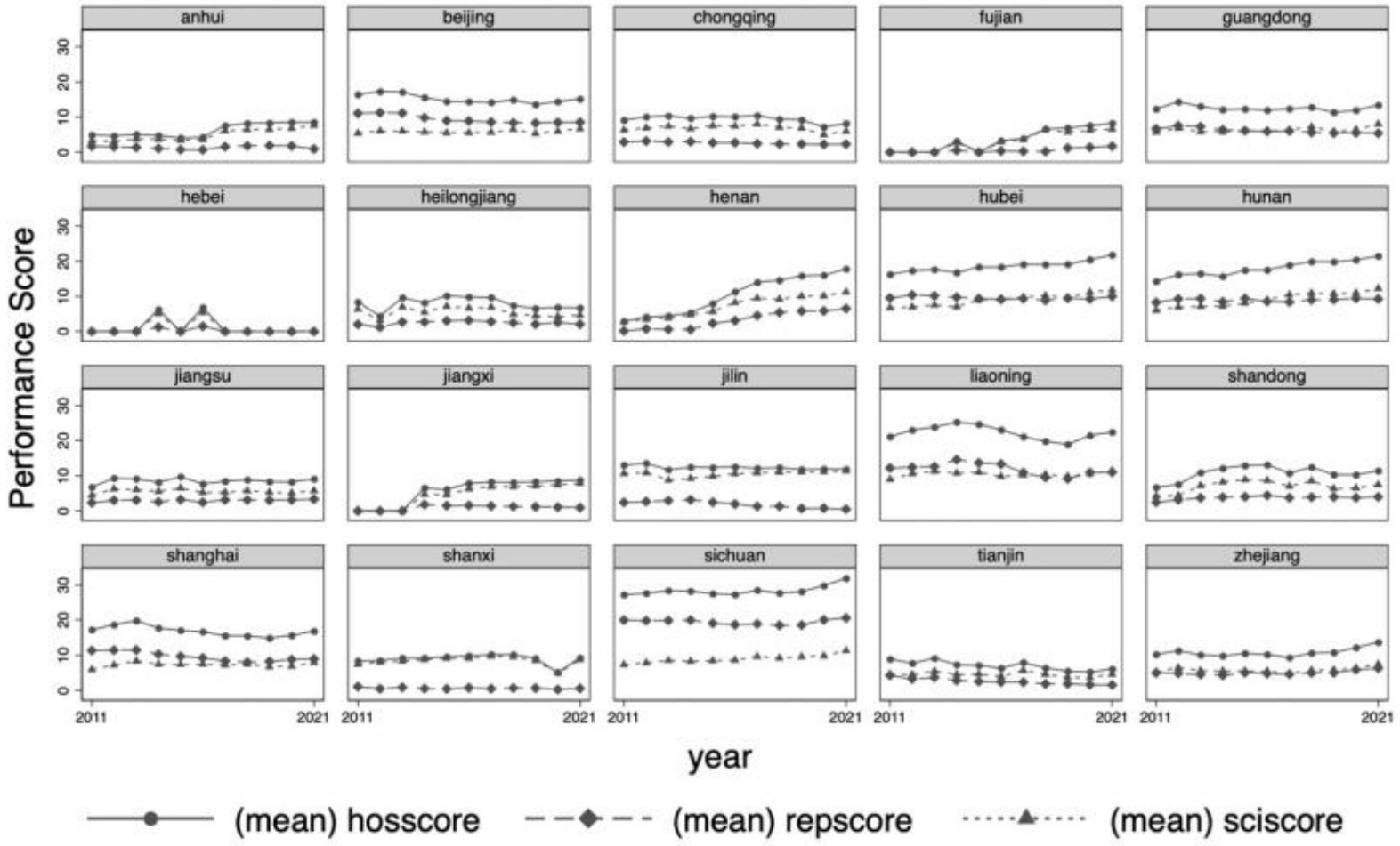
Descriptive analysis

Descriptive analysis

Descriptive analysis

Descriptive analysis

Descriptive analysis



Results

1. Main regression

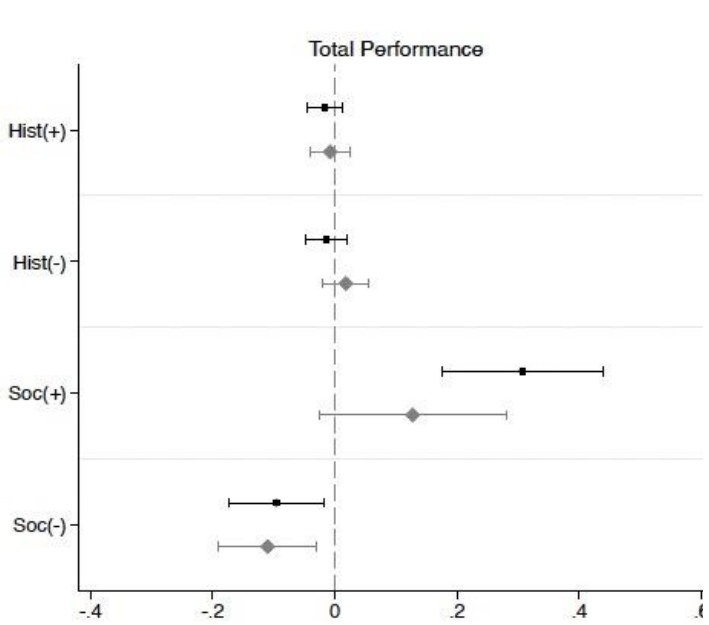
(1) Heckman selection model with panel fixed effect

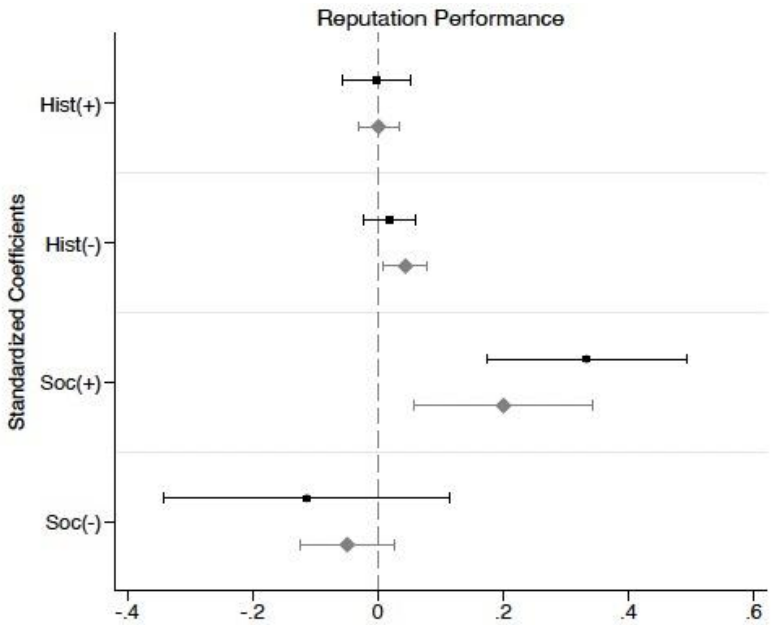
Table 1 Heckman selection model with panel fixed effects

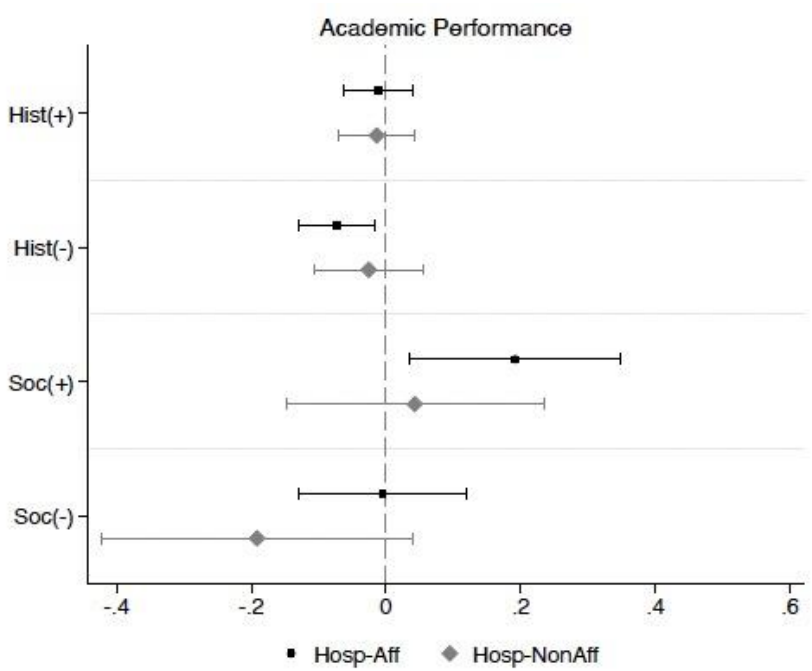
	M1 Performance	M2 Reputation performance	M3 Academic performance
Step 2			
Positive historical feedback	-0.009 (0.012)	0.001 (0.015)	-0.010 (0.018)
Negative historical feedback	0.004 (0.014)	0.040*** (0.015)	-0.048** (0.023)
Positive social feedback	0.209*** (0.054)	0.307*** (0.063)	0.084 (0.064)
Negative social feedback	-0.090*** (0.034)	-0.097* (0.055)	-0.102 (0.075)
Step 1			
Whether on the list	1.01*** (0.075)	1.01*** (0.075)	1.01*** (0.075)
lambda	-0.070 (0.151)	-0.074 (0.627)	-0.044 (0.560)
Year Fixed	YES	YES	YES
Unit Fixed	YES	YES	YES
Observations	884	882	884

*Note: The estimates are based on robust standard errors. Time and control variables are omitted for brevity. All regression coefficients are standardized, allowing for direct comparison of effect sizes across models. *p<0.1, **p<0.05, ***p<0.01 (two-tailed). The dependent variable is log-transformed.* ***Control variables are included in both the selection and outcome equations.***

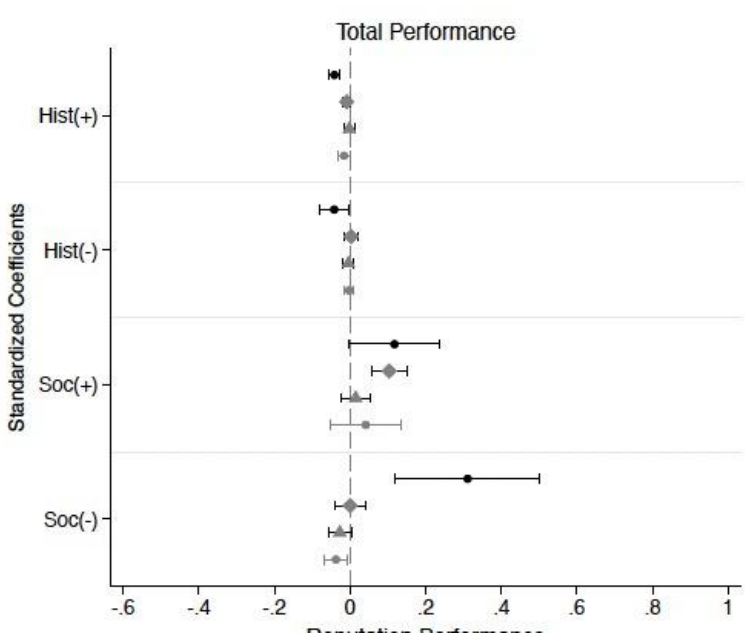
Results

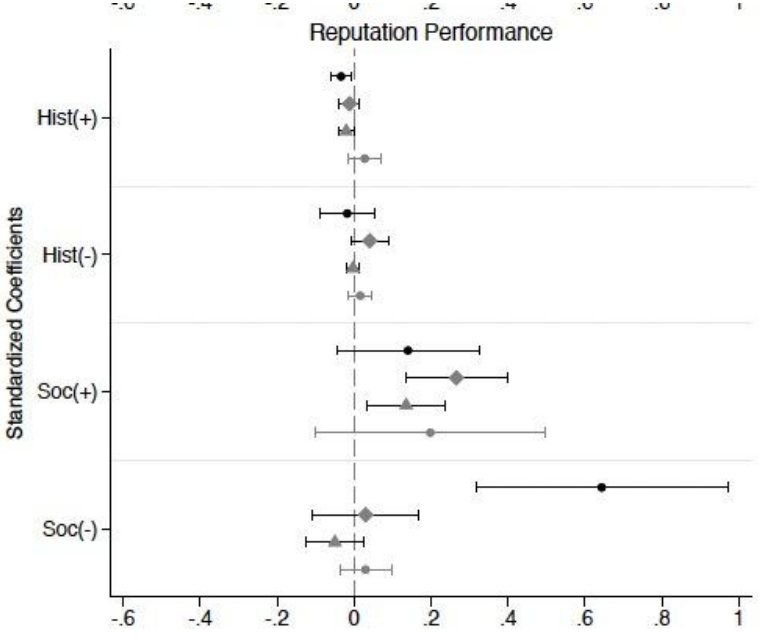

Total Performance
Hist(+)
Hist(-)
Soc(+)
Soc(-)
-.4
-.2
0
.2
.4

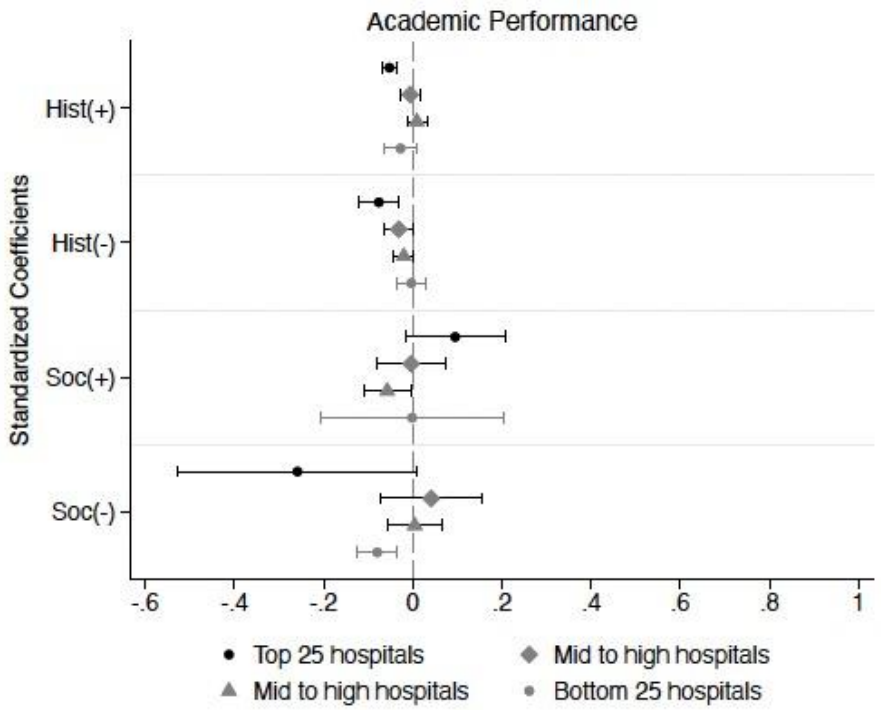

Reputation Performance
Standardized Coefficients
Hist(+)
Hist(-)
Soc(+)
Soc(-)
-.4
-.2
0
.2
.4
.6


Academic Performance
Hist(+)
Hist(-)
Soc(+)
Soc(-)
-.4
-.2
0
.2
.4
.6
Hosp-Aff
Hosp-NonAff

Results


Total Performance
Hist(+)
Hist(-)
Soc(+)
Soc(-)
Standardized Coefficients
-.6
-.4
-.2
0
.2
.4
.6
.8
1


Reputation Performance
Hist(+)
Hist(-)
Soc(+)
Soc(-)
Standardized Coefficients
-.6
-.4
-.2
0
.2
.4
.6
.8
1


Academic Performance
Hist(+)
Hist(-)
Soc(+)
Soc(-)
Standardized Coefficients
-.6
-.4
-.2
0
.2
.4
.6
.8
1
Top 25 hospitals
Mid to high hospitals
Mid to high hospitals
Bottom 25 hospitals