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Does democracy affect management practices in private firms?

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Quality management and firm performance

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Setting up high quality management practices are important for every firm. These practices ensure that firms are functioning properly and are generating value for their owners. By introducing high quality management practices, firms aim to achieve their goals and generate superior long-term performance as suggested below:

- Huselid (1995) documents higher productivity for firms that adopt better managerial practices.
- Black and Lynch (2001) also show that managerial practices, such as regular work-focused meetings and the use of profit sharing schemes, are positively correlated with productivity.
- Bloom et al. (2014) and Bloom et al. (2016) demonstrate that firms that implement high quality management practices exhibit superior performance compared to their counterparts that do not implement quality management practices. They show that firms with high quality management practices tend to have higher levels of labor productivity, lower probabilities of default, and faster rates of sales growth. They argue that the establishment of performance targets, as well as the continual monitoring of processes and employees, serve as primary drivers behind the superior performance observed.
- Bloom and Reenen (2007), consider succession mechanisms in family-owned firms as an important determinant of management practices. They document that family-owned firms that pass management control down to the eldest sons are more likely to adopt poor management practices.
- Lemos and Scur (2016) also show that family firms that appoint one of the sons as the next CEO tend to have poor management practices.
- Feng (2013) show that firms with a higher proportion of college-educated employees (managers and non-managers) exhibit higher management quality.

Impact of democracy on managerial practices

In this paper, we extend the above literature by documenting the impact of democracy on managerial practices adopted by private firms. Our arguments are based on assumption that democracy creates an environment in which adopting high quality management practices is inevitable. We highlight three channels through which democracy exerts its impact on management practices:

- First, democratic environment exposes firms to higher competition. Firms have incentives to adopt better management practices to compete against their competitors. Better management practices ensure that employees are rewarded for achieving corporate objectives, corporate resources are not expropriated, and underperforming employees are penalized. Bloom and Reenen (2007) and Bakhadirov and Farooq (2023) show significantly better management practices for firms that are exposed to higher competition.
- Second, the democratic characteristics, such as civil liberties and investor's rights, can also contribute significantly to improving the management practices. Bushee et al. (2009) maintain that a larger amount of information is disclosed in countries with fewer restrictions on civil liberties. Transparent firms have better management practices (Parris et al., 2016; Halter and de Arruda, 2009; Halter, et al., 2009). Information transparency reduces the discretionary powers of managers and ensures that managers adhere to the goals set by the owners due to increased accountability for achieving corporate objectives. Transparency also ensures less haphazardness in decision making (Granados and Gupta, 2013).
- Third, strong legal institutions in democratic countries also contribute to better management practices. Firms tend to have a more centralized and concentrated decision-making if legal institutions are weak (Athanasouli and Goujard, 2015). In such environments, managers conceal their interactions with corrupt government officials and encourage a culture of secrecy, therefore, weaken the internal management structures. Corrupt countries, typically, have firms where managers have more executive powers, whereas strong rule of law is associated with a decentralized firm decision-making process Bloom et al. (2009).

Hypothesis development

What is democracy and what is its impact on business environment?

Democracy is a political system in which people have the ultimate authority to decide legislation (direct democracy) or to choose executives who do it on their behalf (representative democracy). Democracy is based on characteristics, such as separation of power, popular sovereignty, public participation, civil liberties, human rights, and the rule of law. In this study, we argue that these characteristics are important because they have significant implications for the environment in which firms operate for the following reason:

1. Democracy improves the business landscape of a country by constraining powerful groups from monopolizing economic opportunities and restraining them from undue interventions (Begović et al., 2017; Rajan and Zingales, 2003; Pagano and Volpin, 2001).
2. An environment is created in which everyone has an equal opportunity and a level playing field. This environment is responsible for reducing the entry barriers that non-democratic systems would erect to protect politically powerful incumbents.
3. An outcome of reduction in entry barriers is the levelling of playing field and creation of highly competitive markets. Democratic institutions make markets more open and encourages greater competition (Acemoglu, 2003). In these markets, firms will excel only if they perform better than the others.
4. Democratic institutions contribute in creation of competitive landscape by guaranteeing rule of law and providing effective legal institutions that protect property and individual rights (Jensen, 2006; Clague et al., 1996; Olson, 1993). These characteristics are important because they ensure accountability and provide level playing field for all economic agents.
5. Democracy also facilitates in the development of transparent business environment. Democratic countries have mechanisms in places that ensure the disclosure of high-quality information. This is because democracy places fewer restrictions on civil liberties. Hence, democracy is responsible for the circulation of larger amount of information among different economic agents and fewer occurrences of unreported or undisclosed information (Knutsen, 2015; Bushee et al., 2009; DeFond et al., 2007; Dyck and Zingales, 2002).

Hypothesis development

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How does democracy affect management practices?

Democracy can be instrumental in improving the management practices adopted by firms because (as outlined earlier) it creates an environment in which firms are more likely to adopt good management practices for the following reasons:

- The competitive business landscape present in democratic countries ensures that every firm has an incentive to manage itself in an efficient manner. In the absence of adequate level of management quality, it is difficult for firms to survive in a competitive environment.
- In a competitive environment, firms are more likely to be driven out of the market if they invest in projects that damage value (Aghion et al., 1999). As a result, firms recognize the detrimental effects of competition on their performance and, therefore, have an incentive to adopt superior management practices to protect themselves from competitive pressures.
- The implementation of high-quality management practices establish a mechanism through which resources can be allocated more efficiently, thereby enabling firms to enhance their performance relative to peers that do not adopt such practices.
- By improving management practices, firms respond to the threats posed by competitors in an effective way. Competition induce firms in improving their management practices by lowering information asymmetries. By reducing information asymmetries, it provides necessary information to owners to benchmark the performance of their employees (Guadalupe and Pérez- González, 2010).
- By benchmarking, owners incentivize managers to achieve predetermined targets and penalize those who fail to do so. Bloom and Reenen (2007), found a strong correlation between product market competition and management practices. They argue that poor management practices are more likely to occur in weakly competitive environments.
- Bakhadirov and Farooq (2023) show that firms with greater exposure to competition have significantly better management practices than similar firms with weaker exposure to competition. High quality management practices enable managers and employees to exert greater effort in competitive environments (Karuna, 2007; Allen and Gale, 2000). In competitive environments, managers must find more efficient and efficient ways to operate their firms.

Hypothesis development

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How does democracy affect management practices?

- Competition reduces managerial slack by exposing badly performing firms to higher risk of bankruptcy (Schmidt, 1997). By reducing managerial slack, competition ensures that managers put enough effort in their jobs.
- The civil liberties associated with democracy can also complement the arguments highlighted above. Various aspects of civil liberties act as the watchdogs in the society. Within this role, civil liberties encourage the culture of information transparency. Guo et al. (2022) document more information disclosure for firms located in countries high levels of civil liberties.
- Information transparency promotes goal congruence between managers and owners and reduces the discretionary powers of managers. Without discretionary powers, managers are more likely to encourage setting up structures that ensure behavior which is consistent with the expectations of owners. Transparency contributes to improving responsible management practices by increasing trust among various stakeholders (Parris et al., 2016).
- Better management practices introduce the culture of accountability and reward within firms. Relatively strong legal institutions in democratic countries can promote managerial accountability too. Strong and efficient institutions are responsible for inducing managers to refrain from unproductive activities, such as bribing public officials in exchange for various services. These unproductive activities can channel corporate resources away from efficiency. In the presence of weak institutions, firms may also choose specific governance mechanisms to deal with corrupt business environments and to hide any illegal interactions the government officials. Weak institutional environment, therefore, can create inefficiencies in firms and influence their internal management structures.
- Athanasouli and Goujard (2015) also report poor management practices for firms located in regions with weak institutions. Weak institutional environment makes it more likely that a top manager engages in unwanted activities- top managers tend to have more centralized and concentrated decision-making processes. The concentration of power can help top managers conceal unwarranted information. In contrast, strong institutional environment is associated with a decentralized decision-making process (Bloom et al., 2009). This is a good management practice because it develops a sense of ownership and responsibility among workforce. It generates a high degree of empowerment, involvement, and shared responsibility.

Hypothesis development

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Previous arguments indicate that democratic environment of a country incentive firms to improve their management practices. We argue that democracy encourages flow of information, strengthens institutional infrastructure, and promotes competition. All of these factors induce firms to adopt high quality management practices.

Hypothesis: Firms headquartered in countries with higher levels of democracy exhibit superior management practices relative to firms headquartered in countries with lower levels of democracy.

Methodology - sample

The data used in this paper is obtained from the World Bank's Enterprise Surveys and comprises of private firms from 52 countries. The data was collected between 2018 and 2020. The choice of time period is based on the availability of data (The surveys conducted in earlier years did not include questions about management practices). The study includes all firms with available information on the analyzed variables.

Methodology – measures: Management practices

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The dependent variable (MGMT) represents the quality of management practices adopted by firms. This variable is similar to the one used in Athanasouli and Goujard (2015) and Bakhadirov and Farooq (2023). This variable is based on

- the response of management to problems encountered during the production processes (MGMT1),
- number of performance indicators monitored by the management (MGMT2),
- time frame for achieving targets (MGMT3),
- incentives to receive performance bonuses (MGMT4),
- quality of procedures used for promotions (MGMT5), and timeframe used for dismissal of under-performing non-managers (MGMT6).

All of these responses are measured in a way that higher values correspond with better managerial practices. Table 1 shows the questions used to create the management index (MGMT). This index is the average value of different management traits highlighted in Table 1.

Table 1: Definition of management traits

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Variables	Question	Answers	Enterprise Survey Code
MGMT1	Over the last completed fiscal year, what happened when a problem in the production process arose?	0 = No action taken 1 = We fixed it but did not take further action 2 = We fixed it and took action to make sure that it did not happen again 3 = We fixed it and took action to make sure that it did not happen again, and had a continuous improvement process to anticipate problems like these in advance	r1
MGMT2	Over the last complete fiscal year, how many production performance indicators were monitored at this establishment?	0 = 0 indicators 1 = 1-2 production performance indicators 2 = 3-9 production performance indicators 3 = 10 or more production performance indicators	r2; r3
MGMT3	Over the last complete fiscal year, what best describes the time frame of production targets at this establishment?	0 = No production provision targets 1 = Main focus was on short-term (less than one year) production targets 2 = Main focus was on long-term (more than one year) production targets 3 = Main focus was on short-term and long-term production targets	r4; r5
MGMT4	Over the last complete fiscal year, did manager receive performance bonuses?	0 = No 1 = Yes	r8
MGMT5	Over the last complete fiscal year, what was the primary way non-managers were promoted at this establishment?	0 = Non-managers are not promoted 1 = Promotions were based mainly on factors other than performance and ability (for example, on family connections) 2 = Promotions were based partly on performance and ability, and partly on other factors (for example, on family connections) 3 = Promotions were based solely on performance and ability	r10
MGMT6	Over the last complete fiscal year, when was an under-performing non-manager reassigned or dismissed?	0 = Rarely or Never 1 = After 6 months of identifying non-manager under-performance 2 = Within 6 months of identifying non-manager under-performance	r11

Methodology – measures: Democracy

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The main independent variable (DEMOCRACY) measures the level of democracy in the country in a given year. This variable is based on the democracy index computed by the Economist Intelligence Unit (EIU). This index is based on 60 indicators that are grouped in five different categories. These categories measure

- electoral pluralism
- functioning of government
- political participation
- political culture
- civil liberties

This variable takes the value between 0 to 10, with 0 indicating no democracy and 10 indicating the maximum level of democracy.

Methodology – measures: Control variable

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The analysis also includes several firm-specific characteristics and country-specific characteristics as control variables.

The firm-specific characteristics are:

- log to total employees (SIZE)
- log of total years since the establishment of a firm (AGE)
- obstacles in accessing educated workforce (WORKFORCE)
- ownership of the largest shareholder (OWNERSHIP),
- sells some its products abroad or not (MNC)
- gender of a top manager (FEMALE)
- experience of a top manager (EXPERIENCE)
- whether a firm is a subsidiary or a standalone firm (SUBSIDIARY)

Country-specific characteristics:

- log of gross domestic product (GDP)
- one-year growth in GDP (GROWTH)
- trade of goods and services as a percentage of GDP (TRADE)
- subscriptions per 100 people to high-speed internet (INTERNET)
- rural population as a percentage of total population (RURAL)
- proportion of employed population (EMPLOYMENT)
- agriculture value added as a percentage of GDP (AGRI)
- year dummies (YDUM) to account for year-specific effects on management practices.

Table 2. Definition of variables

Variables	Definition	Source
MGMT	Average of management traits (MGMT1, MGMT2, MGMT3, MGMT4, MGMT5, MGMT6)	Enterprise Survey (Author's self-calculation based on Table 1)
DEMOCRACY	An index measuring the level of democracy in a country. This index takes the value between 0 to 100, with 0 indicating that there is no democracy and 100 indicating the maximum level of democracy	Economist Intelligence Unit
SIZE	Log of total employees	Enterprise Survey (Code = l1)
AGE	Log of total years since the establishment of a firm	Enterprise Survey (Code = a14y and b5)
WORKFORCE	To what degree is inadequately educated workforce an obstacle to the current operations of this establishment? The choices for the response are: (a) No Obstacle, (b) Minor Obstacle, (c) Moderate Obstacle, (d) Major Obstacle and (e) Very Severe Obstacle. The response "No Obstacle" takes a value of 0 and that of "Very Severe Obstacle" takes a value of 4	Enterprise Survey (Code = l30b)
OWNERSHIP	Ownership of the largest shareholder	Enterprise Survey (Code = b3)
MNC	Dummy variable that takes the value of firms 1 that sell some of their products abroad and 0 otherwise	Enterprise Survey (Code = d3c)
FEMALE	Dummy variable that takes a value of 1 for firms whose top manager is a female and 0 otherwise	Enterprise Survey (Code = b7a)
EXPERIENCE	Top managers experience in years	Enterprise Survey (Code = b7)
SUBSIDIARY	Dummy variable that takes the value of 1 for SMEs that are part of a business group and 0 for standalone SMEs	Enterprise Survey (Code = a7)
YDUM	Set of year dummies	Enterprise Survey (Code = a14y)
GDP	Log of gross domestic product per capita (in US dollars)	World Bank
GROWTH	One-year growth of gross domestic product	World Bank
TRADE	Trade of goods and services as a percentage of gross domestic product	World Bank
INTERNET	Fixed subscriptions to high-speed access of the Internet per 100 people	World Bank
RURAL	Rural population as a percentage of total population	World Bank
EMPLOYMENT	Proportion of a country's working-age population that is employed. Ages 15 and older are generally considered the working-age population	World Bank
AGRI	Agriculture value added as a percentage of gross domestic product	World Bank
DEM1	Electoral process and pluralism index	Economist Intelligence Unit
DEM2	Functioning of government index	Economist Intelligence Unit
DEM3	Political participation index	Economist Intelligence Unit
DEM4	Political culture index	Economist Intelligence Unit
DEM5	Civil liberties index	Economist Intelligence Unit
$DEMOCRACY_{ALT1}$	Index representing institutional democracy. The scale ranges from 0-10, where 0 is least democratic and 10 most democratic	Polity V Project
$DEMOCRACY_{ALT2}$	Boix-Miller-Rosato dichotomous measure of democracy	Boix et al. (2013)
$DEMOCRACY_{ALT3}$	Country is defined as democratic, if elections were conducted, these were free and fair, and if there was a peaceful turnover of legislative and executive offices following those elections	Bjornskov and Rode (2020)
$DEMOCRACY_{ALT4}$	Average value of deliberative democracy index, egalitarian democracy index, liberal democracy index, participatory democracy index, and electoral democracy index	V-Dem (Varieties of Democracy) Institute

Methodology – Analysis

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This paper hypothesizes that democracy has a significant impact on the management practices adopted by firms. To test this hypothesis, we estimate various versions of the pooled OLS regression.

$$\begin{aligned} MGMT = {} & \alpha + \beta_1(DEMOCRACY) + \beta_2(SIZE) + \beta_3(AGE) + \beta_4(WORKFORCE) + \beta_5 \\ & (OWNERSHIHP) + \beta_6(MNC) + \beta_7(FEMALE) + \beta_8(EXPERIENCE) + \beta_9(\\ & SUBSIDAIRY) + \beta_{10}(GDP) + \beta_{11}(GROWTH) + \beta_{12}(TRADE) + \beta_{13}(INTERNET) \\ & + \beta_{14}(RURAL) + \beta_{15}(EMPLOYMENT) + \beta_{16}(AGRI) + \sum_{Y=1}^{N-1} \gamma_Y(YDUM) + \varepsilon \end{aligned}$$

Table 3. Average values of management index and democracy

Country	Management Index	Democracy Index	Observations
Albania	1.2646	5.9833	122
Armenia	1.2968	5.2267	103
Austria	1.2989	8.2467	87
Azerbaijan	1.5012	2.6933	61
Belarus	1.4168	2.7333	134
Belgium	1.0766	7.6433	194
Bosnia and Herzegovina	1.3862	4.8933	128
Bulgaria	1.4333	6.9233	213
Croatia	1.3356	6.5467	186
Cyprus	1.3473	7.5800	51
Czech Republic	1.4499	7.6833	208
Denmark	1.4191	9.1967	482
Egypt	1.0869	3.1167	898
Estonia	1.4092	7.9033	96
Finland	1.2857	9.1967	318
Gambia	1.0901	4.3767	84
Georgia	1.2106	5.4100	116
Greece	1.3116	7.3700	232
Hungary	1.1300	6.6067	334
Ireland	1.0693	9.1467	427
Italy	1.0655	7.6567	216
Jordan	1.1915	3.8267	135
Kazakhstan	1.1331	3.0067	423
Kenya	1.1787	5.1133	742
Kyrgyz Republic	1.3015	4.7367	127
Latvia	1.5079	7.3700	126
Lebanon	1.0420	4.3833	126
Lithuania	1.1924	7.5000	150
Luxembourg	1.3734	8.7666	44

Country	Management Index	Democracy Index	Observations
Malta	1.5238	7.9466	90
Moldova	1.2204	5.7933	105
Mongolia	1.5234	6.4933	131
Montenegro	1.3974	5.7199	55
Morocco	0.9849	5.0433	199
Mozambique	0.9012	3.6700	422
Netherlands	1.2509	8.9533	365
North Macedonia	1.3815	5.9300	164
Poland	1.1272	6.7133	283
Portugal	1.0069	7.9233	271
Romania	1.0298	6.4233	216
Russia	1.3634	3.1200	487
Rwanda	0.9598	3.2033	238
Serbia	1.4246	6.3466	109
Slovak Republic	1.1653	7.0800	153
Slovenia	1.3349	7.5133	180
South Africa	0.8201	7.1767	872
Suriname	1.2594	6.9266	103
Sweden	1.4447	9.3467	222
Turkey	0.9417	4.3133	404
Ukraine	1.3279	5.7950	433
Uzbekistan	1.0401	2.0467	285
Zambia	1.2501	5.1867	465

Table 4. Descriptive statistics

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Variables	25th Percentile	Mean	Median	75th Percentile	Standard Deviation	Observations
MGMT	0.8571	1.1797	1.1429	1.5714	0.4627	12815
DEMOCRACY	4.0900	5.9268	5.9700	7.5000	2.0875	12815
SIZE	2.9957	3.8077	3.6889	4.6634	1.2541	12815
AGE	2.4849	2.9250	2.9957	3.3673	0.7053	12815
WORKFORCE	0	1.3463	1	2	1.2528	12815
OWNERSHIP	50	78.7212	100	100	26.1147	12815
MNC	0	0.3265	0	1	0.4689	12815
FEMALE	0	0.1503	0	0	0.3574	12815
EXPERIENCE	10	20.2065	20	28	11.2321	12815
SUBSIDIARY	0	0.1757	0	0	0.3805	12815
GDP	8.1741	9.0197	9.1189	10.0555	1.3110	12815
GROWTH	0.9165	1.7499	3.1742	4.2485	3.9560	12815
TRADE	0.5793	0.9491	0.8569	1.2517	0.5052	12815
INTERNET	0.0480	0.1958	0.1706	0.3071	0.1432	12815
RURAL	0.2541	0.3766	0.3424	0.4957	0.1857	12815
EMPLOYMENT	0.4554	0.5429	0.5541	0.5929	0.1126	12815
AGRI	0.0240	0.0797	0.0350	0.1151	0.0907	12815

Table 5. Descriptive statistics

Variables	25th Percentile of DEMOCRACY	75th Percentile of DEMOCRACY	Difference
SIZE	3.9914	3.5662	0.4252*** (13.95)
AGE	2.6721	3.1723	-0.5002*** (-28.16)
WORKFORCE	1.1884	1.3740	-0.1855*** (-6.23)
OWNERSHIP	78.9331	76.8623	2.0707*** (3.15)
MNC	0.1858	0.5266	-0.3407*** (-30.43)
FEMALE	0.1154	0.1149	0.0005 (0.06)
EXPERIENCE	17.0827	24.4251	-7.3424*** (-27.13)
SUBSIDIARY	0.1144	0.2558	-0.1413*** (-14.76)
GDP	8.0927	10.6699	-2.5772*** (-130.00)
GROWTH	3.9876	-0.2953	4.2829*** (60.04)
TRADE	0.6667	1.3536	-0.6869*** (-55.34)
INTERNET	0.1145	0.3679	-0.2534*** (-140.00)
RURAL	0.4841	0.2199	0.2642*** (67.37)
EMPLOYMENT	0.5696	0.5654	0.0041 (1.53)
AGRI	0.1267	0.0164	0.1103*** (75.60)

Table 6. Correlation matrix

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No.	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	DEMOCRACY	1.00															
2	SIZE	-0.14	1.00														
3	AGE	0.26	0.18	1.00													
4	WORKFORCE	0.03	0.15	0.01	1.00												
5	OWNERSHIP	0.01	-0.11	-0.08	-0.07	1.00											
6	MNC	0.24	0.24	0.18	0.11	-0.08	1.00										
7	FEMALE	0.03	-0.08	-0.05	-0.02	0.05	-0.06	1.00									
8	EXPERIENCE	0.21	0.08	0.40	0.07	-0.12	0.12	-0.11	1.00								
9	SUBSIDIARY	0.15	0.14	0.07	0.03	-0.02	0.10	-0.02	0.04	1.00							
10	GDP	0.74	0.03	0.24	0.11	-0.05	0.26	-0.02	0.27	0.10	1.00						
11	GROWTH	-0.46	0.13	-0.19	0.09	-0.10	-0.07	-0.05	-0.07	-0.10	-0.38	1.00					
12	TRADE	0.52	-0.06	0.07	0.07	0.00	0.17	-0.01	0.16	0.04	0.50	0.02	1.00				
13	INTERNET	0.65	0.08	0.19	0.17	-0.06	0.30	-0.06	0.26	0.13	0.88	-0.19	0.55	1.00			
14	RURAL	-0.55	-0.03	-0.20	-0.11	0.01	-0.21	0.01	-0.19	-0.11	-0.75	0.59	-0.37	-0.71	1.00		
15	EMPLOYMENT	-0.06	-0.15	-0.16	-0.03	0.02	0.00	-0.02	-0.12	0.03	-0.18	0.45	0.15	-0.02	0.35	1.00	
16	AGRI	-0.51	-0.07	-0.18	-0.08	-0.03	-0.14	-0.04	-0.19	-0.04	-0.72	0.51	-0.37	-0.60	0.73	0.44	1.00

Findings – Table 7. Relationship between democracy and management practices

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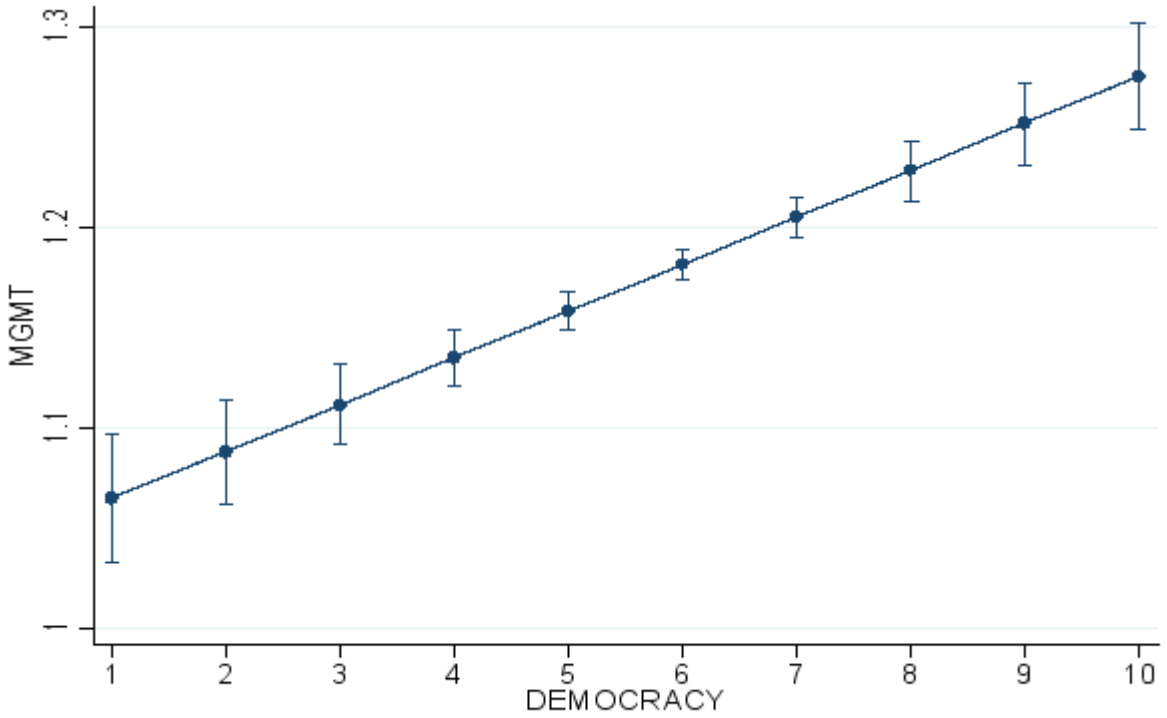
Variables	Model (1)	Model (2)	Model (3)	Model (4)
DEMOCRACY	0.0312***	0.0276***	0.0168***	0.0234***
	(15.1581)	(13.1264)	(5.0077)	(7.2597)
SIZE		0.1050***		0.1090***
		(30.6794)		(31.5334)
AGE		-0.0264***		-0.0181***
		(-4.3746)		(-3.0163)
WORKFORCE		0.0362***		0.0329***
		(12.0565)		(10.8445)
OWNERSHIP		-0.0006***		-0.0005***
		(-3.772)		(-3.3707)
MNC		0.1404***		0.1285***
		(16.3800)		(14.8643)
FEMALE		-0.0092		0.0054
		(-0.8848)		(0.5261)
EXPERIENCE		-0.0014***		-0.0013***
		(-3.7681)		(-3.6699)
SUBSIDIARY		0.1073***		0.0948***
		(10.6875)		(9.5621)
GDP			-0.0641***	-0.0562***
			(-6.8522)	(-6.4561)
GROWTH			0.0180***	0.0169***
			(8.2613)	(8.4998)
TRADE			-0.0714***	-0.0350***
			(-6.1633)	(-3.3157)
INTERNET			0.8634***	0.2912***
			(11.7378)	(4.154)
RURAL			-0.3169***	-0.3403***
			(-6.4922)	(-7.6011)
EMPLOYMENT			0.2695***	0.5869***
			(5.8517)	(13.2154)
AGRI			-0.2710***	-0.5057***
			(-2.8538)	(-5.5743)
Year Dummies	Yes	Yes	Yes	Yes
Observations	12815	12815	12815	12815
F-Value	116.80	268.69	102.01	212.44
R-Square	0.0245	0.1736	0.0655	0.1975

Findings – Figure 12. Predicted margins



Note: The figure shows the predicted values of management index. The x-axis shows DEMOCRACY and y-axis represents MGMT.

Findings – Table 8. Relationship between democracy and different components of management practices

Variables	Dependent Variable = MGMT1	Dependent Variable = MGMT2	Dependent Variable = MGMT3	Dependent Variable = MGMT4	Dependent Variable = MGMT5	Dependent Variable = MGMT6
DEMOCRACY	0.0964***	0.0945***	0.0875***	-0.0682***	0.0353**	-0.0031
	(6.4792)	(6.7561)	(6.3641)	(-4.1871)	(2.2937)	(-0.1982)
SIZE	0.1421***	0.4431***	0.1997***	0.3484***	0.2639***	0.2440***
	(8.697)	(26.6841)	(12.7367)	(19.5229)	(15.2576)	(14.696)
AGE	-0.0071	0.0114	-0.0870***	-0.0256	-0.0507*	-0.1001***
	(-0.2515)	(0.4167)	(-3.2475)	(-0.8285)	(-1.7069)	(-3.5249)
WORKFORCE	0.0242	0.0880***	0.1057***	0.1109***	-0.0134	0.1656***
	(1.6293)	(6.5132)	(7.926)	(7.1666)	(-0.9138)	(11.2941)
OWNERSHIP	-0.0043***	-0.0031***	-0.0042***	-0.0012*	0.0024***	0.0018***
	(-6.1613)	(-4.7699)	(-6.5997)	(-1.6695)	(3.4687)	(2.6356)
MNC	0.4175***	0.5821***	0.5113***	0.2155***	0.1266***	-0.0803*
	(10.2712)	(14.9739)	(13.5671)	(4.9412)	(3.0558)	(-1.945)
FEMALE	0.0807*	-0.0325	0.0753	0.0515	0.0371	-0.1843***
	(1.716)	(-0.7044)	(1.587)	(0.9706)	(0.7253)	(-3.5697)
EXPERIENCE	0.0056***	-0.0025	0.0071***	-0.0078***	-0.0095***	-0.0139***
	(3.311)	(-1.4559)	(4.3296)	(-4.121)	(-5.252)	(-7.7977)
SUBSIDIARY	0.1380***	0.4702***	0.2837***	0.3158***	0.2386***	-0.0011
	(2.9536)	(10.3539)	(6.3013)	(6.1517)	(4.7025)	(-0.0239)
GDP	0.0819**	-0.0058	-0.3825***	-0.0494	-0.1424***	-0.2041***
	(2.0471)	(-0.1585)	(-10.1674)	(-1.1437)	(-3.4345)	(-4.8182)
GROWTH	-0.0248***	0.1022***	0.0517***	0.0984***	-0.0003	0.0631***
	(-2.6316)	(10.645)	(5.7207)	(9.3665)	(-0.0308)	(6.3196)
TRADE	-0.0509	-0.0276	-0.0182	0.0810	-0.2571***	-0.1498***
	(-1.0462)	(-0.6134)	(-0.3875)	(1.6005)	(-5.3786)	(-2.9978)
INTERNET	-0.7306**	-0.8981***	2.9610***	-0.1193	0.5709*	2.5773***
	(-2.1682)	(-2.7817)	(9.7709)	(-0.3466)	(1.7540)	(7.8275)
RURAL	-0.2265	-2.2260***	-0.1974	-1.9728***	0.0765	-1.4383***
	(-1.0240)	(-10.8185)	(-1.0121)	(-8.7608)	(0.3935)	(-6.8636)
EMPLOYMENT	3.3102***	2.9331***	1.8969***	1.5278***	-0.4452**	1.0761***
	(15.2217)	(14.6611)	(9.9195)	(6.6429)	(-2.0475)	(5.0844)
AGRI	0.8653**	-2.9776***	-1.1733***	-0.6404	-1.6834***	-0.4570
	(1.9927)	(-7.5970)	(-2.9988)	(-1.3784)	(-3.8608)	(-0.9955)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12815	12815	12815	12815	12815	12815
Wald Chi-Square	940.93	2511.16	1869.54	1135.32	507.89	961.37
R-Square	0.0341	0.0848	0.0443	0.0709	0.0212	0.0403

Findings – Table 9. Relationship between different characteristics of democracy and management practices

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Variables	DEMOCRACY = DEM1	DEMOCRACY = DEM2	DEMOCRACY = DEM3	DEMOCRACY = DEM4	DEMOCRACY = DEM5
DEMOCRACY	0.0122***	-0.0012	0.0348***	0.0026	0.0304***
	(6.6986)	(-0.4246)	(10.1699)	(0.7338)	(12.1451)
SIZE	0.1081***	0.1047***	0.1072***	0.1054***	0.1111***
	(31.3599)	(30.2656)	(31.4051)	(30.397)	(32.3855)
AGE	-0.0166***	-0.0115*	-0.0196***	-0.0123**	-0.0203***
	(-2.7844)	(-1.9244)	(-3.2775)	(-2.063)	(-3.4125)
WORKFORCE	0.0322***	0.0330***	0.0327***	0.0331***	0.0333***
	(10.5933)	(10.8372)	(10.8137)	(10.878)	(10.9672)
OWNERSHIP	-0.0005***	-0.0005***	-0.0005***	-0.0005***	-0.0005***
	(-3.4098)	(-3.2107)	(-3.5734)	(-3.1423)	(-3.6434)
MNC	0.1299***	0.1350***	0.1322***	0.1338***	0.1276***
	(15.0436)	(15.6093)	(15.4408)	(15.4011)	(14.8469)
FEMALE	0.0056	0.0097	0.0037	0.0098	0.0005
	(0.5441)	(0.9414)	(0.3629)	(0.9521)	(0.0480)
EXPERIENCE	-0.0013***	-0.0014***	-0.0011***	-0.0014***	-0.0012***
	(-3.6403)	(-3.8824)	(-3.1313)	(-3.9256)	(-3.3257)
SUBSIDIARY	0.0965***	0.1023***	0.0992***	0.1010***	0.0914***
	(9.7398)	(10.3253)	(10.0647)	(10.1434)	(9.2263)
GDP	-0.0457***	-0.0315***	-0.0792***	-0.0337***	-0.0652***
	(-5.4536)	(-3.5054)	(-8.624)	(-4.1006)	(-7.6666)
GROWTH	0.0164***	0.0112***	0.0209***	0.0114***	0.0208***
	(8.3239)	(5.8615)	(10.0542)	(6.3075)	(10.4148)
TRADE	-0.0387***	-0.0090	-0.0263***	-0.0111	-0.0512***
	(-3.5601)	(-0.8952)	(-2.625)	(-1.1191)	(-4.8567)
INTERNET	0.2423***	0.3283***	0.4945***	0.3213***	0.2590***
	(3.4199)	(4.6913)	(6.9017)	(4.5616)	(3.6984)
RURAL	-0.3529***	-0.2658***	-0.3293***	-0.2659***	-0.4296***
	(-7.7787)	(-5.9532)	(-7.4457)	(-5.9743)	(-9.4568)
EMPLOYMENT	0.6556***	0.5982***	0.5631***	0.5855***	0.5550***
	(14.4331)	(13.4392)	(12.6752)	(12.2723)	(12.5319)
AGRI	-0.4734***	-0.4834***	-0.5989***	-0.4919***	-0.3078***
	(-5.2187)	(-5.1274)	(-6.5058)	(-5.3896)	(-3.3813)
Year Dummies	Yes	Yes	Yes	Yes	Yes
Observations	12815	12815	12815	12815	12815
F-Value	211.92	209.29	215.30	209.06	219.33
R-Square	0.1969	0.1942	0.2006	0.1942	0.2033

Findings – Table 10. Relationship between different proxies of democracy and management practices

Variables	Model (1)	Model (2)	Model (3)	Model (4)
DEMOCRACY	0.0101***	0.1475***	0.1405***	0.1705***
	(5.3637)	(14.7591)	(12.472)	(5.7597)
SIZE	0.1076***	0.1121***	0.1104***	0.1079***
	(31.1607)	(32.7257)	(32.3574)	(31.3095)
AGE	-0.0161***	-0.0206***	-0.0170***	-0.0152**
	(-2.6827)	(-3.4912)	(-2.8851)	(-2.5516)
WORKFORCE	0.0327***	0.0325***	0.0300***	0.0332***
	(10.7371)	(10.7185)	(9.843)	(10.9112)
OWNERSHIP	-0.0005***	-0.0005***	-0.0004***	-0.0005***
	(-3.3999)	(-3.6969)	(-2.8577)	(-3.4342)
MNC	0.1311***	0.1282***	0.1263***	0.1306***
	(15.1767)	(14.9564)	(14.6984)	(15.1155)
FEMALE	0.0058	-0.0024	0.0083	0.0062
	(0.5616)	(-0.2330)	(0.8071)	(0.5971)
EXPERIENCE	-0.0014***	-0.0012***	-0.0015***	-0.0013***
	(-3.7055)	(-3.1779)	(-4.0702)	(-3.6604)
SUBSIDIARY	0.0976***	0.0944***	0.0913***	0.0976***
	(9.8423)	(9.5805)	(9.2993)	(9.8753)
GDP	-0.0479***	-0.0576***	-0.0242***	-0.0516***
	(-5.546)	(-7.0305)	(-2.9559)	(-5.8462)
GROWTH	0.0163***	0.0211***	0.0134***	0.0173***
	(7.9701)	(10.787)	(7.4324)	(8.2497)
TRADE	-0.0310***	-0.0395***	-0.0441***	-0.0289***
	(-2.908)	(-3.9495)	(-4.3101)	(-2.7703)
INTERNET	0.2930***	0.2021***	0.0122	0.2343***
	(4.1796)	(2.8873)	(.1615)	(3.2954)
RURAL	-0.3515***	-0.4802***	-0.3824***	-0.3588***
	(-7.5979)	(-10.4464)	(-8.4649)	(-7.7522)
EMPLOYMENT	0.6117***	0.6708***	0.5853***	0.6033***
	(13.7231)	(15.2713)	(13.2299)	(13.5485)
AGRI	-0.5276***	-0.5220***	-0.2564***	-0.5201***
	(-5.7724)	(-5.8416)	(-2.8129)	(-5.6933)
Year Dummies	Yes	Yes	Yes	Yes
Observations	12815	12815	12815	12815
F-Value	210.78	224.79	225.40	211.87
R-Square	0.1960	0.2079	0.2044	0.1963

Findings – Table 11. Effect of firm-specific characteristics on the relationship between democracy and management practices

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Variables	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)	Model (8)
DEMOCRACY	-0.0254***	0.0319***	0.0219***	-0.0029	0.0205***	0.0249***	0.0420***	0.0213***
	(-3.6438)	(4.1488)	(5.7628)	(-0.4648)	(6.0055)	(7.5453)	(9.4179)	(6.4581)
DEMOCRACY*SIZE	0.0118***							
	(8.0208)							
DEMOCRACY*AGE		-0.0030						
		(-1.2169)						
DEMOCRACY*WORKFORCE			0.0012					
			(0.8011)					
DEMOCRACY*OWNERSHIP				0.0003***				
				(5.0065)				
DEMOCRACY*MNC					0.0114***			
					(2.8308)			
DEMOCRACY*FEMALE						-0.0117**		
						(-2.0826)		
DEMOCRACY*EXPERIENCE							-0.0010***	
							(-5.8300)	
DEMOCRACY*SUBSIDIARY								0.0152***
								(3.2175)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12815	12815	12815	12815	12815	12815	12815	12815
F-Value	212.76	201.13	201.66	203.16	203.57	201.90	205.23	204.02
R-Square	0.2012	0.1976	0.1975	0.1990	0.1980	0.1978	0.1996	0.1981

Findings – Table 12. Effect of country-specific characteristics on the relationship between democracy and management practices

Variables	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)	Model (8)
DEMOCRACY	-0.0254***	0.0319***	0.0219***	-0.0029	0.0205***	0.0249***	0.0420***	0.0213***
	(-3.6438)	(4.1488)	(5.7628)	(-0.4648)	(6.0055)	(7.5453)	(9.4179)	(6.4581)
DEMOCRACY*SIZE	0.0118***							
	(8.0208)							
DEMOCRACY*AGE		-0.0030						
		(-1.2169)						
DEMOCRACY*WORKFORCE			0.0012					
			(0.8011)					
DEMOCRACY*OWNERSHIP				0.0003***				
				(5.0065)				
DEMOCRACY*MNC					0.0114***			
					(2.8308)			
DEMOCRACY*FEMALE						-0.0117**		
						(-2.0826)		
DEMOCRACY*EXPERIENCE							-0.0010***	
							(-5.8300)	
DEMOCRACY*SUBSIDIARY								0.0152***
								(3.2175)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12815	12815	12815	12815	12815	12815	12815	12815
F-Value	212.76	201.13	201.66	203.16	203.57	201.90	205.23	204.02
R-Square	0.2012	0.1976	0.1975	0.1990	0.1980	0.1978	0.1996	0.1981

Results – Summary and limitations

Overall, the main as well as the additional tests support the main hypothesis of this study.

The alternate estimation procedures confirmed that the negative impact of waste generation on firm performance is significantly more pronounced in countries with high social capital, regardless of the estimation method used. This consistency across various methodologies underscores the reliability of our conclusions.

When using alternate proxies for waste generation, the results revealed that while broader measures showed no significant relationship, the specific sub-components of hazardous and non-hazardous waste ratios to sales and assets consistently demonstrated a significant negative interaction with social capital. This suggests that firms' waste management strategies should target specific types of waste closely linked to their operational metrics.

Furthermore, examining different characteristics of social capital—such as civic participation, institutional trust, and social networks—revealed that each dimension individually amplifies waste generation's negative effects on firm performance.

Together, these findings emphasize the pervasive role of social capital across various contexts, reinforcing its critical importance in shaping firms' environmental accountability and performance outcomes.

While the study offers strong evidence of the moderating role of social capital in the relationship between waste generation and firm performance, some limitations should be noted.

1. The data is drawn from non-financial firms in 50 countries, which may not fully capture the diversity of global business contexts, and the findings might differ in other regions or industries.
2. The proxies for waste generation and social capital, though carefully selected, may not wholly reflect the complexities of these constructs.
3. Lastly, the observational nature of the data limits causal inferences, even with robust estimation techniques.
4. Additionally, social capital alone may not be sufficient to address large-scale environmental challenges, which often require formal institutions and external resources. Therefore, while crucial, the effectiveness of social capital in environmental protection depends on the broader socio-political and economic context.

Results – Conclusion, limitations, and direction for further research

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Adoption of better management practices is important for sustainable performance of firms. Firms with better management practices are able to hold non performing managers and workers responsible for underperformance. This paper suggests that the level of democratic development in a country can significantly impact the management practices adopted by firms.

The study uses the data of private firms from 52 countries and finds that firms headquartered in strong democracies tend to have better management practices than those headquartered in weak democracies. The results remain consistent even after controlling for various firm-level and country-level characteristics. The findings are also robust across several sensitivity tests. The paper suggests that democracycan exert beneficial impact on economies by encouraging the adoption of better management practices.

We acknowledge that there may be a time lag on the impact of democracy on management practices (although we also believe that chance of sudden changes in democracy in short-term is rather modest).

Another limitation of the study arises from lack of management data from autocratic environments such as People's Republic of China. We believe that Chinese market may have better management practices (despite being autocratic environment). We recommend further studies to replicate the analysis using datasets where these countries are also represented.

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Thank you!