Foreign Ownership and Corporate Risk Taking : Evidence from India

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Abstract

Purpose : The present study examined the effect of foreign institutional (FI) ownership on the corporate risk-taking behavior of Indian firms. Further, it determined the level of FI ownership that moderated the risk-taking behavior in Indian firms. Finally, the paper discussed the implications of this study for corporate investment and corporate risk.

Methodology : The paper studied the impact of FI ownership on 174 non-financial firms' willingness to take on risk between 2001 and 2023 (23 years). Corporate risk-taking behavior was determined in terms of the volatility of earnings from two variables: return on assets and return on equity. Five independent variables, namely FI ownership, firm leverage, firm size, firm age, and return on assets, along with the control variable of sales growth, were used in the study. Panel threshold regression analysis was employed to understand whether FI ownership influenced corporate risk-taking beyond a threshold point.

Findings : The results demonstrated that for firms in India, FI ownership had a significant impact on a firm's risk-taking behavior beyond a threshold point. FI ownership reduced business risk-taking behavior above a certain threshold. However, FI ownership had a negligible influence on a firm's risk-taking activities below the threshold point. From this study, it can be concluded that the proportion of FI holdings positively influenced a firm's management discipline.

Practical Implications : The findings were significant, especially for emerging economies like India and suggested that market regulators must encourage FI ownership in domestic firms, as the impact of increased participation of FI investors was positive in managing the volatility of a firm's earnings. The limitation of the present study is that it focused on the relationship between FI ownership and corporate risk-taking behavior of firms, which allows scope for future researchers to investigate relationships between FI ownership and business risks such as operational risk, credit risk, market risk, and liquidity risk among other risks.

Originality : The current work concentrated on emerging markets like India and used a large sample of 4,002 firm-year observations to build a threshold model to investigate the impact of FI ownership on the propensity of Indian firms to engage in corporate risk-taking behavior.

Keywords : **foreign institutional ownership, corporate risk-taking behavior, earnings volatility, panel threshold regression, Indian firms**

JEL Classification Codes : G30, G31, G32

Paper Submission Date : May 14, 2024 ; Paper sent back for Revision : September 11, 2024 ; Paper Acceptance Date : October 15, 2024 ; Paper Published Online : December 15, 2024

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DOI : https://doi.org/10.17010/ijf/2024/v18i12/174666

India's economic liberalization process was started by the methodical policy changes of 1991. The policy reforms reduced state control over corporate firms and increased access to foreign investments (Chawla & Sharma, 2014). The policy reforms of economic liberalization include the following: first government eased corporate regulations in several industries; second, adjustments to fiscal policy; and third, the trade liberalization (Chakrabarti, 2016). Foreign investment has significantly influenced India's corporate reforms and economic liberalization (Patnaik, 1997). The lucrative future market, a young population that could be turned into skilled labor, low-cost production economy attracted foreign investors to make their investment in India (Ghosh & Parab, 2021). The enhanced foreign investment in India was expected to create job opportunities, corporate competition, cutting-edge technologies, and expertise, which resulted in the overwhelming economic expansion of the Indian economy (Ali & Sristy, 2010).

It is observed that political stability plays a vital role in FDI inflows (Kaur & Vij, 2020). Post economic liberalization in the decade of the 1990s, foreign direct investment (FDI) has substantially increased in India (Sasidharan & Kathuria, 2011). Sambrani (2009) suggested that the growth of multinational corporations (MNCs) can be attributed to FDI. Foreign institutional (FI) investment exhibits a significant and causal impact on macroeconomic variables like an index of industrial production (IIP), wholesale price index (WPI), and currency exchange rate (Agarwal et al., 2017). It is observed that foreign investors are particularly interested in the infrastructure, manufacturing, and services industries of India (Kumari et al., 2023). The FDI has a significant impact on the Indian corporate sector. The entry of Indian companies into the global market, global capital formation, and technological advancement are some of the benefits of FDIs in the Indian corporate sector (Chakrabarti, 2016). The exchange of information and innovation between domestic and international industries has proven advantageous for both parties (Đặng et al., 2022). The involvement of foreign stockholders in production provides Indian firms access to advanced technologies, resources, and knowledge, which helps firms raise their competitiveness and productivity (Ghosh & Parab, 2021). The strict adherence of foreign investors toward corporate governance practices enhances the corporate governance compliance of domestic firms (Al-ahdal et al., 2020).

The foreign ownership of a firm is characterized by the percentage of the firm's shares held by organizations and/or investors outside the domestic country of the firm (Alkurdi & Mardini, 2020; Đặng et al., 2022). Indian businesses have the chance to use foreign investment to restructure their local capital structure as a result of the 1991 economic changes (Patnaik, 1997). With the progressive outcomes of policy reforms, the Government of India has increased the permissible level of foreign ownership throughout several sectors and industries. The augmented proportion of foreign investment in domestic enterprises amplifies the involvement of foreign investors in corporate governance. According to Shleifer and Vishny (1986), the transfer of ownership and control to foreign investors alters the incentive framework of a company, resulting in a heightened focus on profitability and operational effectiveness.

In 2001, well-known investment firm Goldman Sachs clubbed five crucial emerging market economies, India along with Brazil, China, Russia, and South Africa, and created the acronym BRICS. Post this, international fund managers developed an interest in India. Since then, FI investors started investing in a big way in India. The Indian stock market has become a popular investment destination for FI investors over the past couple of decades, and the future of FI investment appears bright (Dadhich et al., 2015). Consequently, FI investments have emerged as the key driver of the Indian stock market.

According to a recent study by the Switzerland-based Bank of International Settlement (BIS), the primary factor influencing foreign investment inflows into a nation is its GDP growth rate. From this point, it is clear that FI investors have been drawn to India, given its status of being one of the fastest-growing economies in the world over the past 20 years, and is predicted to maintain a high growth rate in the upcoming decade as well (World Bank Group, 2022).

Furthermore, FI investors relocate their investments beyond international borders for a variety of reasons. Grubel (1968), along with subsequent researchers such as Grauer and Hakansson (1987) and Harvey (1991), argued that the primary driver of foreign investment inflows into different countries is investors' desire to diversify risk and maximize returns on their investments (Solnik, 1974). Additional support for this theory was given in later works by De Santis and Gerard (1997). Garg and Dua (2014) posited that, from the FI investor's perspective, their desire to disperse risk is the primary driver of FI investment inflows into fast-growing emerging countries such as India.

Calvo et al. (1996) claimed that global factors, such as slower development in wealthy countries and a lower interest rate environment, are the cause of capital inflows into emerging economies (Taylor & Sarno, 1997). On the other hand, other scholars like Mody et al. (2001) have linked FI investment inflows to characteristics unique to emerging economies. Factors like the performance of equity indexes (Felices & Orskaug, 2008), the creditworthiness of the host country (de Vita & Kyaw, 2009), and a sufficient foreign exchange reserve (Bohn & Tesar, 1996 ; World Bank, 1997) all contribute to the influx of FI investors into emerging economies.

India has made significant progress since the early 1990s when its stock markets opened to foreign investment. A sizable percentage of FI investment inflows into India seem long-term in character. The likely FI long-term ownership of a firm's stock may be motivated by their desire to influence the business's policy decisions, particularly financing and investment (Shleifer & Vishny, 1986), as well as dividend payout decisions (Kiran & Ramesh, 2021).

The present study investigates the impact of FI ownership on the propensity of Indian firms to engage in corporate risk-taking behavior. Specifically, the study addresses the following questions: What is the relation between FI ownership and corporate risk among Indian firms? What level of FI ownership moderates the risk-taking behavior in Indian firms? What are the implications of this study for corporate investment and corporate risk? Faccio et al. (2011) stated that the volatility of earnings is a measure of corporate risk-taking behavior. In order to investigate the research questions, panel threshold regression is used. The dataset includes 4,002 firm-year observations from 174 non-financial enterprises. This study finds that for firms in India, FI ownership has a significant impact on a firm's risk-taking behavior beyond a threshold point. FI holdings tend to lower business risk above a certain threshold. The results are derived from Hansen's (1999) panel fixed-effect threshold model. These findings have important policy implications, as the Indian regulator Securities Exchange Board of India (SEBI) encourages FI investment inflow. The study concludes that the proportion of FI holdings has a positive influence on a firm's management discipline.

Literature Review

Foreign investors may influence corporate risk-taking in several ways. Foreign investors often launch riskier and more creative ventures, which might elevate risk and cause income volatility to rise (Vinh, 2016). Foreign investors may also assist firms with human resources, innovative technologies, and collaborative work culture (Ghosh & Parab, 2021; Li et al., 2011). The expectation of high returns makes corporate firms enhance their risk-taking capabilities, which in turn increases firms' default risk (Boubakri et al., 2013). Regulators may, however, employ restrictive measures in an effort to exert more control over FI investors and lower risks, yet this hasn't stopped FI inflows into the Indian market (Nidheesh, 2008).

Corporate risk-taking behavior and the effects of FI ownership in emerging markets have attracted the attention of researchers worldwide. The existing literature suggests that the impact of FI ownership on the risk-taking behavior of firms is a complex and diverse phenomenon. Several researchers, like Boubakri et al. (2013), have highlighted that foreign ownership reduces the firm's risk-taking ability, thus impacting the firm's profitability. At the same time, some researchers, for example, Vo (2018), suggested that FI holdings may altogether reduce risk

taking activities of firms. However, several other empirical studies, such as that of Rosalina et al. (2017), indicated that FI ownership significantly influences a firm's risk-taking behavior.

Projects and activities that involve risk are an essential aspect of the corporate decision system, which can impact firm performance significantly. The inclusion of foreign stakeholders in corporate decisions can help reduce a firm's risk-taking activities (Nguyen, 2012; Nguyen, 2022). Boubakri et al. (2013) and Koirala et al. (2020) examined how FI ownership affected a company's risk-taking behavior and discovered that FI investors give domestic businesses access to capital and management know-how, which pushes them to take on greater risk. The corporate governance mechanism and risk management practices of domestic firms are improved with foreign stakeholder's monitoring and control (Vinh, 2016). Langit and Adhariani (2017) noted a negative correlation between FI ownership and the propensity for corporate risk-taking for examined Indonesian firms. Foreign ownership encourages corporate firms to enhance their risk-taking activities up to a specific limit of foreign investment.

The FI ownership affects corporate risk-taking in two ways: first, reducing the risk-taking of owners and managers, which is considered as the direct channel (Wei et al., 2005); second, indirectly impacting the strategic decision of firms, specifically the investment and financial strategies (Boubakri et al., 2013). Foreign ownership significantly affects a company's value since it pushes businesses to take on more risk. A firm's investment efficiency and foreign ownership correlate positively (Chen et al., 2017). The investment decisions of firms can impact the association between FI ownership and corporate risk-taking behavior (Boubakri et al., 2013).

The effect of FI ownership on a firm's risk-taking behavior has not received much attention in India. Studies reveal that FI ownership affects banks' propensity to take risks and found a negligible correlation between FI ownership and a firm's risk-taking behavior (Haque & Shahid, 2016). FI ownership lowers capital costs and improves corporate governance mechanisms, which encourages corporate firms to take more risks (Koirala et al., 2020). The above discussion suggests that FI ownership significantly influences a firm's risk-taking behavior.

The study examines the impact that FI ownership has on the risk-taking activities of Indian firms and the thresholds that exist with respect to the influence of the proportion of FI ownership proportion on a firm's risk-taking behavior. Our econometric estimations were conducted using the panel threshold regression model in accordance with the frameworks of Banerjee et al. (2024), Boubakri et al. (2013), and Đặng et al. (2022).

Dataset and Methodology

The relevant datasets were collected from the Centre for Monitoring Indian Economy (CMIE) database. The following subsections describe the dataset and methodology used in this study.

Data

For 23 years, between 2001 and 2023, annual data from all non-financial firms included in the COSPI index of the CMIE database are considered for this study. The firms with cumulative FI holding of less than 23% over 23 years are eliminated from the sample. When we consider missing data, it is a balanced panel dataset, arriving at 174 firms * 23 years = 4,002 firm-year observations. We have considered exclusively non-financial firms, as financial firms differ in their business models and accounting reporting procedures (Kabir et al., 2020; Zhu et al., 2015).

Table 1 illustrates the variables and their proxies used in the study that investigates the impact of FI ownership on a firm's risk-taking abilities.

Table 1. *Variables*

Variable	Measure	Calculation
A. Dependent Variable		
Corp_Risk 1	Corporate Risk 1	Measure of a firm's risk-taking behavior, calculated as per the framework of Faccio et al. (2011). Explained in detail in the methodology section.
Corp_Risk 2	Corporate Risk 2	Measure of a firm's risk-taking behavior, calculated as per the framework of Faccio et al. (2011). Explained in detail in the methodology section.
B. Independent Variables		
FI_OW	Foreign Institutional Ownership	The proportion of equity shares owned by foreign institutional investors (%).
F_LEV	Firm Leverage	The ratio of total debt to total assets.
FS	Size of Firm	Natural logarithm of total assets.
FA	Age of Firm	The firm's existence is calculated as the number of years.
RET_A	Returns on Assets	The ratio of net income to total assets.
C. Control Variables		
SG	Sales Growth	Sales growth rate per year.

Methodology

Faccio et al. (2011) established a framework that we use to calculate company risk-taking behavior. According to this concept, the profitability ratio to volatility can be used to determine how much corporate risk a company is taking. The framework shows the current management's decisions about the firm's operations. As a result, the measure is fairly comprehensive. This paper uses a firm's returns on equity (RET_E) and returns on assets (RET_A) as the determinants of the firm's profitability. The RET_A and RET_E standard deviations show the volatility of these two profitability indicators, making them indicative of a firm's risk-taking behavior (Vo, 2018).

We have measured the corporate risk-taking behavior of firms (Corp_Risk) in the following two ways:

↳ **Corp_Risk 1:** We have used the corporate risk-taking framework based on Faccio et al. (2011). The aforementioned framework indicates the firm's risk-taking behavior by comparing its profitability to its volatility. The firm's profitability is measured in terms of return on assets (RET_A) for Corp_Risk 1 and return on equity (RET_E) for Corp_Risk 2.

The calculations of Corp_Risk 1 and Corp_Risk 2 are depicted in equations 1 and 2, respectively.

$$Corp\_Risk1_{it} = \frac{RET\_A_{it} - RET\_A_{mt}}{\sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(RET\_A_{it} - RET\_A_{mt})^2}}; \quad (1)$$

Where, $RET\_A_m = \frac{1}{n}\sum_{i=1}^{n} RET\_A_i$

The RET_A volatility measure of risk-taking demonstrates similarities with the measures employed in past studies on corporate risk-taking (Banerjee et al., 2024; Đặng et al., 2022; Faccio et al., 2011).

↳ **Corp_Risk 2 :** According to Đặng et al. (2022), variations in RET_E could signify financial risk.

$$Corp\_Risk2_{it} = \frac{RET\_E_{it} - RET\_E_{mt}}{\sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(RET\_E_{it} - RET\_E_{mt})^2}}; \quad (2)$$

Where, $RET\_E_m = \frac{1}{n}\sum_{i=1}^{n} RET\_E_i$

We use the following equation to examine the effect of FI ownership on business risk-taking, following the earlier empirical studies of Boubakri et al. (2013), Đặng et al. (2022), and Vinh (2016).

$$Corp\_Risk_{(i,t)} = \beta_0 + \beta_1 FI\_OW_{(i,t)} + \gamma Cn\_Var_{(i,t)} + \epsilon_{(i,t)} \quad (3)$$

Here, $Corp\_Risk_{(i,t)}$ represents corporate risk-taking and is measured using Corp_Risk1 and Corp_Risk2, $FI\_OW_{(i,t)}$ signifies the proportion of FI holding in the firm *'i'* at the end of the year '*t*.' $\epsilon_{(i,t)}$ is a normally distributed error term. $Cn\_Var_{(i,t)}$ is a matrix of control variables. Consistent with previous research, we have used FS, F_LEV, SG, FA, and Ret_A as control variables (Boubakri et al., 2013; Đặng et al., 2022; Vinh, 2016).

Equation (3) represents the linear association of corporate risk-taking with FI's ownership. To examine the nonlinear association of corporate risk-taking with FI's ownership, we have estimated Equation (3) with the panel threshold model (Hansen, 1999). Following the panel threshold model, Equation (3) can be modeled as follows:

$$Corp\_Risk_{(i,t)} = \beta_0 + \beta_{11}\ FI\_OW_{(i,t)}.I(FI\_OW_{(i,t)} \geq \theta) + \beta_{12} FI\_OW_{(i,t)}.I(FI\_OW_{(i,t)} \leq \theta) + Cn\_Var_{(i,t)} + \epsilon_{(i,t)} \quad (4)$$

Here, *I*(.) represents the indicator function. The FI's ownership level can be higher or lower, defined by the threshold value of θ.

We sub-divided the sample data between higher or lower FI's ownership through differences in their regression slopes and used the Wald test to verify the threshold effect (Hansen, 1999). In addition, critical values are generated utilizing the bootstrap procedure.

Results and Discussion

There are descriptive statistics in Table 2. The means of Corp_Risk 1 and Corp_Risk 2 are 0.020 and 0.043, respectively. The median level of foreign ownership (FI_OW) is 10.31%. The reported skewness of 1.53 and kurtosis of 1.3216 suggests a variation in FI_OW.

Table 2. ***Descriptive Statistics***

	Corp_Risk1	*Corp_Risk2*	*FI_OW*	*F_LEV*	*FS*	*FA*	*RET_A*	*SG*
Mean	0.020	0.043	10.309	0.5591	10.1345	45.8506	8.1174	0.3742
Standard Error	0.0172	0.0172	0.1664	0.0232	0.0282	0.4223	0.1479	0.2345
Median	–0.1139	–0.0221	7.78	0.22	10.0539	42	6.91	0.1081
Mode	–0.5848	0.7629		0	8.3464	27	7.18	0
Standard Deviation	0.9915	0.9915	9.5683	1.3331	1.6196	24.2799	8.5052	13.4836
Kurtosis	2.6851	10.0392	1.3216	157.9709	0.1632	1.145	18.4734	3300.17
Skewness	0.4384	–0.7554	1.1531	10.5118	0.4394	0.9323	–0.4017	57.4222
Range	11.9744	15.976	68.27	26.29	10.439	155	181.46	776.073

Minimum	–5.606	–8.6719	0	0	5.6479	2	–120.33	–0.9996
Maximum	6.3684	7.3041	68.27	26.29	16.0869	157	61.13	775.074
Sum	0	0	34,081	1848.5	33504.74	151,582	26836.1	1237.06
Count	3,306	3,306	3,306	3,306	3,306	3,306	3,306	3,306

Table 3. ***Correlation Matrix***

	Corp_Risk 1	***Corp_Risk2***	***FI_OW***	***F_LEV***	***FS***	***FA***	***RET_A***	***SG***
Risk 1	1							
Risk 2	0.8479	1						
FI_OW	0.1743	0.1331	1					
F_LEV	–0.3200	–0.3431	–0.1412	1				
FS	–0.0258	0.0280	0.4476	–0.0339	1			
FA	–0.0880	–0.0545	0.0071	0.0038	0.2455	1		
RET_A	0.7267	0.7920	0.2147	–0.3039	–0.0186	–0.0693	1	
SG	0.0163	0.0300	–0.0063	0.0050	–0.0121	–0.0113	0.0212	1

Table 4. ***Fixed Effect Model***

	Corp_Risk 1	***Corp_Risk 2***
Threshold Estimates		
FI_OW	0.431	0.248
	(0.153)	
F_LEV	–0.09**	–0.72*
	(0.028)	(0.046)
FS	0.865	0.977
	(0.321)	(0.479)
FA	–0.442	–0.072**
	(0.129)	(0.037)
RET_A	–0.244**	–0.312**
	(0.018)	(0.027)
SG	–0.537	–0.255
	(0.155)	(0.287)
Constant	0.062*	0.817*
	(0.071)	(0.083)
N	3306	3306

Note. The *p*-value of the coefficients is presented within brackets. Significance at the 5% and 10% levels are indicated by ** and *, respectively.

Table 3 reports the correlation matrix of this study. The Corp_Risk 1 and Corp_Risk 2 have shown a significant and positive correlation of 0.8479.

Based on Table 3, it can be safely concluded that the dataset does not have any multicollinearity-related issues. Table 4 shows the results of the panel fixed-effect model (i.e., Equation 3). Table 5 depicts the results of the panel threshold regression model (i.e., Equation 4).

Table 5. ***Threshold Model: Model 1 FI_OW***

	Corp_Risk 1	*Corp_Risk 2*
Threshold Estimates		
FI_OW	0.337	0.592
SSR	445.3878	1145.711
Impact of FI_OW		
β_{11}	0.1445	0.0245
	(0.278)	(0.315)
β_{12}	0.3916***	1.0726***
	(0.000)	(0.000)
Impact of Covariates		
F_LEV	–0.0367***	–0.0843***
	(0.002)	(0.008)
FS	0.0071	0.0400*
	(0.485)	(0.077)
FA	–0.0010***	–0.0011**
	(0.002)	(0.041)
RET_A	–0.1072***	0.0893***
	(0.001)	(0.005)
SG	–0.0002	–0.0011
	(0.688)	(0.283)
AIC	–6613.04	–3489.41
BIC	–6570.31	–3446.69
HQIC	–6597.75	–3474.12
N	3,306	3,306

Note. The *p*-value of the coefficients is presented within brackets. Significance at the 1% level is indicated by ***.

Table 5 shows that the ideal threshold level for FI_OW is 33.7% for Risk 1 and 59.2% for Risk 2. The findings are significant in the Indian context. When FI ownership is beyond these thresholds, corporate risk-taking is decreased; that is, firms' risk-taking behavior is negatively connected with FI holdings. Vinh (2016) found a similar effect (i.e., inverse relationship) of foreign ownership in an emerging market context.

Conclusion

This paper explores the relationship between FI_OW and Corp_Risk 1 and Corp_Risk 2 in the context of India, the fastest-growing emerging economy as of 2023. There are 4,002 firm-year observations in this study. Based on this large sample size, we can conclude that there is no significant impact below the threshold level of FI_OW. However, beyond the threshold level of FI_OW, there is a statistically significant impact, indicating that higher FI ownership leads to lower corporate risk-taking.

The findings support the study by Chen et al. (2017), which suggested that foreign investors keep an eye on the companies in which they invest. The same was found in the Indian context in the studies of Banerjee et al. (2024) and Mohanamani and Sivagnanasithi (2012). The findings of this study are consistent with Vinh (2016) in the

context of emerging markets. According to Merton's (1987) model, the most likely explanation for this phenomenon is that the presence of foreign investors broadens a firm's investor base, which might lead to a risk-sharing impact. Further, this is on the expected lines as India is considered one of the world's top-rated financial markets based on the robustness of the regulatory framework. As a result, FIs with their higher stake cannot influence firm management to assume excessive risk.

Managerial Implications

This study has important policy consequences because FI ownership, above a certain threshold, reduces the volatility of a firm's ROE and ROA (i.e., corporate risk-taking behavior). In the context of India, as this inverse relationship exists beyond a threshold point, the statutory authority should create a more enabling environment for the FI investors' inflow of funds. This way, risk minimization of firms will be encouraged. The Indian stock market is viewed as dangerous by most investors. Because of this, the equity market only receives a negligible percentage of the entire savings. Therefore, expanding the FI holding of enterprises can lead to an expansion of the domestic investor base.

Limitations of the Study and Scope of Future Research

The present study has two limitations. The first limitation of the study is that it is an India-focused study. Hence, future researchers can extend the study to other emerging markets, such as Brazil and China, among others, to compare and contrast the results. The second drawback of the current study is that it concentrated on the connection between FI ownership and corporate risk-taking practices of businesses. Future studies can now investigate the relationships between FI ownership and various business risks, such as credit, market, liquidity, and operational risks.

Authors' Contribution

Dr. Souvik Banerjee conceived the idea. Dr. Amarnath Mitra developed the methodology to undertake the empirical study. Mr. Ravindra Nath Shukla extracted research papers with high repute, filtered these based on keywords, and generated concepts relevant to the study. Dr. Ritesh Kumar Dubey verified the analytical methods and collected and prepared relevant data for the study. The numerical computations were done by Dr. Amarnath Mitra using R and Stata software. Dr. Souvik Banerjee wrote the manuscript in consultation with all the authors.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Funding Acknowledgment

The authors received no financial support for the research, authorship, and/or for the publication of this article.

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