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Research Article

Threshold Effects of Economic Policy Uncertainty on Corporate Investment

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ABSTRACT

Existing literature vigorously underlines the negative impact of economic policy uncertainty (EPU) on corporate investment. However, earlier empirical studies mostly examined this relationship using linear econometric models. Current study aims to revisit this relationship employing a non-linear Threshold Auto Regressive (TAR) model of Hansen (1999). The study incorporates data from 25 countries ranging 2008 to 2021 comprising 10020 firm-level observations. The study's findings emphasize the nonlinear relationship between the EPU and corporate investment. The results also find out two EPU thresholds in the regression relationship. Beyond the thresholds firms' investments behaviors significantly change. The robustness checks also confirm that our results remain consistent even upon utilizing two step system GMM model. The findings hold important implications for policymakers and businesses, emphasizing the need of robust economic policies for corporate investment.

KEYWORDS

Economic policy uncertainty (EPU); Threshold Effects; Corporate Investments; Threshold Autoregressive Model

1 | INTRODUCTION

Economic policy uncertainty (EPU) arises due to abrupt changes in economic policies including monetary, regulatory, trade, and fiscal. The changes in policies are mainly driven either by macro-economic factors or certain national, regional or international factors. The macro-economic factors include high inflation, low GDP growth, instability in foreign exchange and financial markets and uncertain money and interest rate policy. Moreover, the world has witnessed certain events triggering the EPU, like terror attacks on world trade center, global financial crises of 2008, Arab Spring, Covid-19, Russian-Ukraine, Israel-Hamas, Israel-Lebanon wars and US-China trade conflict. Literature has broadly determined that EPU has an adverse impact on nation's economy. The adverse impacts, consequently, trickled down to the firms and individuals. Empirical evidence accentuate that EPU intensifies corruption (Goel & Ram, 2013) raises unemployment (Dibiasi et al., 2021) and decreases investment (Bernanke 1983). Moreover, EPU adversely affect the goods production and a nation's wealth (Nicholas, 2009), exchange rates (Binding & Dibiasi, 2017), financial markets (Gilchrist et al., 2014), investments (Dai et al., 2021;

Fernández-Villaverde et al., 2015; Mueller et al., 2017; Phan et al., 2021). Furthermore, EPU inflates the risk premium (Liu & Wang, 2022), decreases firm's profits (Balcilar et al., 2016) sales growth (Bukvič & Tekavčič, 2024) and firms investments (Gulen and Ion, 2016). Numerous firm level studies highlighted that EPU, and corporate investment (CI) relationship is negative (Aldata & Wijaya, 2020; Bakke et al., 2016; X. Chen et al., 2020; Christidou & Fountas, 2018; De la Horra et al., 2022; Dibiasi et al., 2018; Ho et al., 2018; Lee et al., 2021; Makosa et al., 2021; Xie et al., 2021; Yan & Shi, 2021). Moreover, negative relationship between EPU and CI is also shown by various sectoral studies such as mining sector (Foo et al., 2017; Ho et al., 2018), power & energy firms (Detemple & Kitapbayev, 2020; R. Liu et al., 2020), oil sector firms (Ilyas et al., (2021), hospitality firms (Akron et al., 2020).

Though extensive research on EPU and CI relationship has been carried out, limited attention was given to examine the non-linear relationship amongst both the variables. Therefore, inspired by the limited attention given in this context, the present study explores the relationship applying the Threshold Autoregressive model. The current study relies on one of the most widely used non-linear models in empirical research, the Threshold Autoregressive (TAR) Model. The model was initially presented by Tong (1983) and later refined by Hansen (1999) and Chen and Lee (2005). The researchers enriched the model with bootstrap approaches to determine threshold values, numbers, and the ability to determine presence of non-linear relationship. The threshold point in context of current study may help policymakers to timely intervene to lessen the adverse impact of EPU on CI. Moreover, the critical threshold points can enhance the firm's capability to adjust their investment strategies according to the level of EPU. This study also added the body of literature from various other perspectives. Firstly, the firm level data of 835 firms, operating in developed and developing economies, from 25 countries is being utilized that was not extensively used in existing literature. The study incorporates dataset of different economic, firms and industries having heterogenous characteristics therefore, it would enable more nuanced analysis of the phenomena and enhance the generalizability of the outcomes. Second, the data of regime shift variable was obtained from EPU Index of Baker et al. (2016) which was limitedly utilized in existing studies. Finally, we employed Hensen's (1999) threshold model for estimation of the critical thresholds of EPU. This model has also not been extensively used in existing studies in this context. The model controls the unobserved firm specific heterogeneity and enables identification of the critical threshold point in regime dependent variable, beyond which independent variable shifts its regime.

2 | LITERATURE REVIEW

The research exploring EPU and CI relationship has significantly expanded during the last decade. The results of the empirical studies largely align with the theoretical underpinning of the topic. To begin with, Knight (1921) pioneered the theoretical foundations and proposed that uncertainty pushes firms from undertaking risky investments. Myers (1977) posited "real options" which insists the irreversibility of investment due to significant sunk cost, forces managers to wait until uncertain policy environment gets clear. Bernanke (1983) and Kelly (1991) theories assert wait and see approach and deferment of firm's investments. Though, above theories suffice theoretical underpinning for the current study, these theories primarily indicate a linear negative relationship between EPU and CI. Non-linearity hasn't been a core objective of any theory. However, the present research work is inspired from the Hartman (1972) and Abel (1983) theories. Hartman (1972) proposed that uncertainty may promote CI initially but, beyond a critical threshold its effects are detrimental. Abel (1983), though, do not primarily focused on non-linear relationship between uncertainty and CI however, he suggests that heightened uncertainty increases the cost of borrowing deterring firm capacity to undertake costly investments. From the Abel (1983) proposition, a non-linearity in relationship between EPU and CI can be inferred as follows: the EPU and CI relationship is convex, where the adverse effect remains minimum at lower level of EPU and intensifies when EPU crosses a certain threshold.

One more theory underpinning this research work is prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992). They proposed that gain and losses are valued differently by investor. While choosing investment options, loss outweighs benefits because investors prefer certain outcomes over probable ones. The losses have greater emotional impact than benefits. Investors exhibit risky behavior if his utility is determined by profits or losses rather than projected income. They value losses only if losses surpass a certain threshold. Hence, from the prospect theory outlook we can infer that EPU will not cause significant reduction in the investment unless perceived losses from EPU cross a threshold. Empirical studies widely recognized the detrimental impact of EPU on CI. EPU raises production costs leading a drop in CI in turn overall productivity (Jeong 2002). Gulen and Ion, (2015) demonstrate adverse impact of EPU on CI with pronounce impact on industries highly exposed to

Administrative and Management Sciences Journal
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government policy change. Baker et al., (2016) introduced EPU index and indicate reduction in employment, CI and productivity across various sectors. Leahy and Whited (1996) and Bond and Cummins (2011) emphasize that the firms greatly susceptible to policy interventions face stringent financing conditions in turn hinder their ability to invest. Dejuan-Bitria and Ghirelli (2021) highlight no marginal effects at heightened EPU level however, stronger effects for firms sensitive to uncertainty. Moreover, it is shown that during recession the adverse impact of EPU is robust for firms experiencing greater firm-specific uncertainty (Kang et al., 2014). Furthermore, EPU also has spillover impacts as CI by U.S. enterprises declines when Chinese EPU rises (Lee et al., 2021). Bo and Lensin (2005) underline negative impact of EPU on firms investment beyond a certain threshold of EPU and positive (decreasing) marginal returns of EPU on CI up to that threshold.

Limited research work has also been carried out examining the EPU's impact on CI across developed and developing economies. Jeong (2002) and Rodrik (1991) show significant adverse relationship of EPU on CI in developing economies. However, Pástor and Veronesi (2012) and Caballero Pindyck (1996) argued that enterprises in developed economies are substantially susceptible to policy changes because of their higher-level of markets and institutional integration. Calomiris et al., (2012) highlight that post financial crises of 2008 the adverse impact of EPU are significant for developed economies including US and UK whereas, negligible for developing economies like China and Brazil. Sectoral difference remained the focus of few studies in context of EPU and CI relationship. Emprical finding idicate that high capital intensity firms from manufacturing and energy sectors, requiring heavy outlay of fixed assets expenditures, are significantly exposed to EPU shocks (X. Chen et al., 2020; Gulen & Ion, 2015). In contrast, the firms relying on intellectual property and belonging to knowledge-based sectors are less vulnerable to EPU. Furthermore, R. Liu et al., (2020) underscore the adverse impact of EPU on CI of energy firms and Ilyas et al., (2021) emphasize negative impacts on firms operating in both oil-producing and oil-consuming economies. Akron et al., (2020) indicate adverse effects on firms of hospitality sector, Aldata and Wijaya (2020) on nonfinancial firms and Christidou and Fountas (2018) and Jackson and Orr (2019) on real estate.
Based on the empirical and theoretical foundations discussed above, we formulate following hypothesis:

H1: Economic policy uncertainty hinders firms' investment, with its impact amplifying sharply once it surpasses a critical threshold.

3 | DATA AND METHODOLOGY

3.1 | Variables, Population, Data and Sample

The sample of this study is comprised of 2,647 publicly traded firms from 27 countries. Initially, we obtained EPU data for the period from 2008 to 2021 from Baker et al. (2016) index available at http://www.policyuncertainty.com. Correspondingly the firm level data for the same period was obtained from Thomson Reuters Data Stream for our independent variables and control variables. The data was carefully filtered so that the firms with missing values for five consecutive years are removed. In turn, we finalized a dataset with 835 firms from 25 countries and 10020 firm level observations. The dependent variable of the study is corporate investment (CI) with the variable of the interest economic policy uncertainty (EPU). Moreover, the study's control variables include sales growth (SG), leverage (Lev), cash flow (CF), cash holdings (CH), and growth opportunities (TQ). We include cash flow following (Wang et al., 2014), Tobin's Q (Fazzari et al., 1988), and the leverage ratio (Chava and Robert, 2008; Duchin et al., 2010). More sales generate more funds (Aivazian et al., 2005) for corporate investments, whereas leverage is another important source of financial investment (Gatchev et al., 2011). Cash flow positively (Almeida et al., 2003) whereas cash holdings adversely affect CI. More growth opportunities may lead to substantial investments in R&D, product line extensions, and geographical expansion (Fazzari et al., 1988). The industrial average growth rate was used to capture the macroeconomic effects.

3.2 | Regression Model

The baseline regression model to estimate the linear relationship can be expressed as follows:

$$INV_{i,j,t} = \alpha_0 + \alpha_1 EPU_{i,t} + \alpha_2 X_{i,j,t} + u_i + \in_{i,j,t} \quad \text{.....(i)}$$

In the above equation (i) INV is the corporate investment, EPU is the economic policy uncertainty whereas, X represents control variables, u firm specific effects and $\in$ error term, "i' denotes firm, "t" time and "j" country.

Nevertheless, the basic model lacks the ability of estimating non-linearity between EPU and CI. Therefore,

Administrative and Management Sciences Journal
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we utilized Threshold Autoregressive (TAR) model of (Hansen, 1999) following (Nguyen & To, 2017; Ribakova et al., 2005). The TAR model captures critical threshold points from the panel dataset by addressing the limitations of linear models lacking this capability. Hence, we considered TAR as an appropriate model to examine the behavior of regime dependent variable CI in response to change in EPU level. The TAR model for this study can be expressed as:

$$INV_{i,j,t} = \begin{cases} B_{10} + B_{11}EPU_{i,t} + B_{12}X_{i,t} + \mu_{i,j} + \varepsilon_{i,j,t} \quad if EPU_{i,t} \leq \gamma_1 \\ B_{20} + B_{21}EPU_{i,t} + B_{22}X_{i,t} + \mu_{i,j} + \varepsilon_{i,j,t} \quad if \gamma_1 < EPU_{i,t} \leq \gamma_2 \\ B_{30} + B_{31}EPU_{i,t} + B_{32}X_{i,t} + \mu_{i,j} + \varepsilon_{i,j,t} \quad if EPU_{i,t} > \gamma_2 \end{cases} \text{.....(ii)}$$

Intuitively equation (ii) can be re-written as:

$$INV_{i,j,t} = \beta_0 + \beta_{11} EPU_{i,t}\, d(EPU_{i,t} \leq \gamma_1) + \beta_{21} EPU_{i,t}\, d(\gamma_1 < EPU_{i,t} \leq \gamma_2) + \beta_{31} EPU_{i,t}\, d(EPU_{i,t} > \gamma_2) + \beta_2 X + \mu_{i,j} + \varepsilon_{i,j,t}$$

.....(iii)

Here, γ_1 and $\gamma 2$ are the threshold values that separates the sample into different regimes contingent upon the level of economic policy uncertainty. The indicator function $d(.)$ is used to determine which regime each observation falls into. This approach helps capture the non-linear association in EPU and CI EPU, particularly under different levels of EPU.

4 | RESULT & DISCUSSIONS

4.1 | Descriptive Statistics

Table 1 presents the descriptive statistics. Mean values indicate that firms exhibit diverse investment behaviors indicating varied risk appetites. The standard deviation indicates relatively low variations toward CI with significant variation in EPU. Descriptive statistics are estimated only to show differences in panel data between firms. We proceed with the core analysis, that is panel threshold fixed effects analysis employing Hansen's (1999) Threshold Autoregressive Model.

Table 1
Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
CI	10855	0.0562	0.065	0.000	1.397
EPU	10855	163.681	89.588	27.000	588.373
TQ	10855	0.810	1.344	0.000	23.0127
CF	10855	0.094	0.116	-3.253	1.957
SG	10855	0.080	0.292	-6.215	3.915
LEV	10855	0.463	0.203	0.0000	3.263
Size	10855	11.137	3.014	-0.991	19.879
CH	10855	0.123	0.115	0.000	1
Industrial Growth	10855	36.024	10.809	24.522	104.071

4.2 | Regression Analysis

The bootstrap method is followed for stimulating the distribution of the test statistic, and in case the null hypothesis of no threshold effect is rejected, the model is deemed as non-linear. This testing approach repeatedly executes as follows. First, we look for the presence of a single threshold. If this is significant, we look for more thresholds (such as double or triple thresholds) and repeat the process until the null hypothesis is accepted. The final model is then estimated for the significance of the threshold effect, allowing for conclusions on the influence of EPU on CI across different regimes.

Administrative and Management Sciences Journal
EISSN-2959-2275; PISSN-2959-2267

4.3 | Single Threshold Estimates

We start our analysis using a single-threshold model, with the alternative hypothesis (H1) existence and the null hypothesis (Ho) absence of threshold impact.

Table 2
Single Threshold Estimates

Model'	Threshold'	'Lower	'Upper	F-stat'	'P-Value	. Crit-10	. Crit-5	'Crit-1
Th-1	86.7292	84.868	88.4502	27.58	0.000	13.7287	16.4557	24.1812

Table 02 depicts the results for single threshold analysis obtained through 300 bootstrap replications. The results show that F-Stat value is statistically significant at 0.01% and F-stat value 28.58 is greater than all corresponding Criteria values that are 13.7287, 16.4557, 24.1812. Hence, the critical threshold value is 86.7292 for EPU. Beyond this value independent variable, that is EPU switches its normal behavior toward dependent variable corporate investment. Since the preliminary tests confirm the presence of threshold effect, we move to the next step a more nuanced analysis of the phenomenon starting with estimating triple threshold.

4.4 | Tiple Threshold Estimates

To ascertain the number of thresholds, the second step in the procedure involves sequentially estimating the model with one, two, and three thresholds. Sequential estimation helps identifying thresholds, selection of thresholds numbers, improvement of model fit and testament of structural breaks. This process enables detection of relationship significance between variables by evaluating whether additional threshold helps capturing non-linear relationships with model over-fitting. In this analysis, the bootstrap number remains the same as the number of thresholds, that is three (03). Table 03 below presents the results of estimation.

Table 3
Tiple Threshold Estimates

Panel -A						
Model	**Threshold**	**Lower**	**Upper**			
Th-1	86.7292	84.868	88.4502			
Th-21	86.7292	84.868	88.4502			
Th-22	72.7429	71.1454	73.0939			
Th-3	145.1282	138.0085	145.2037			
Panel -B						
'Threshold	**'F-stat**	**'P-Value**	**'Crit-10**	**'Crit-5**	**'Crit-1**	
Single	28.73	0.000	14.0849	15.5821	20.3082	
Double	14.72	0.000	11.7487	13.2892	18.501	
Tripel	11.52	0.000	18.2433	21.3438	31.723	

Table 03 presents that for a single threshold, F-stat value of 28.73 is greater than its critical value of 14.0849 at 1% level with bootstrap P-value 0.000. F-stat value of double threshold is also significant indicating bootstrap p-value of 0.000 and F2 value 14.72 > Crit10 of 11.7487. However, F-stat = 11.52 < its critical value at 10% that is 18.2433 however, it bootstraps insignificant P-value of 0.000. Hence the analysis shows that the model has two thresholds, which are 86.7292 and 72.7429, respectively. Since it is now determined that only two thresholds are present, we move to the next step for re-estimation of double threshold to precisely identify the threshold values that define regime shifts in the data.

4.5 | Double Threshold Estimates

This step confirms that the model captures the changing relationships between variables across different regimes, improving accuracy and confirming the robustness of the results. Our results in Table 04 re-confirm the two thresholds as 86.7292 and 72.7429.

Administrative and Management Sciences Journal
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Table 4
Double Threshold Estimates

Panel -A					
Model	**Threshold**	**Lower**	**Upper**		
Th-1	86.7292	84.868	88.4502		
Th-21	86.7292	84.868	88.4502		
Th-22	72.7429	71.1454	73.0939		
Panel - B					
Threshold	**F-stat**	**P-Value**	**Crit-10**	**Crit-5**	**Crit-1**
Single	28.99	0.0033	12.3951	14.2395	16.871
Double	14.84	0.0367	12.3643	13.6612	18.772

4.6 | Panel Threshold Fixed effects

The results of fixed effects regression are reported in Table 5.

Table 5
Panel Threshold Fixed Effect Model

Variables	**Dependent Variable is CI**
	Panel Threshold Model
(1)	(2)
TQ	0.00910***
	(0.000)
CF	0.0286***
	(0.005)
Size	-0.0136***
	(0.0009)
SG	0.0126***
	(0.001)
Lev	-0.00504
	(0.004)
CH	0.0236***
	(0.007)
Industrial Growth	0.000
	(0.000)
0._cat#c EPU	-2.44e-05
	(4.31e-05)
1._cat#c EPU	-0.000176***
	(3.43e-05)
2._cat#c EPU	-2.51e-05***
	(7.44e-06)
Constant	0.193***
	(0.0133)
Test Statistics	
Observations	10,020
Number of id	835
F test that all u_i=0	13.26(0.000)
F stat.(P.Value)	52.18(0.000)
R-squared	0.054

*Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

With the null hypothesis that all ui=0, the fixed effect model is suitable, as evidenced by the F statistic of 13.26 at the 1% level of significance. Moreover, at the 1% level, the threshold effect is supported by the bootstrap p-values of the thresholds. The impact of EPU in the three regimes is shown by the regression slope estimations in the TAR model as follows:

Administrative and Management Sciences Journal
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4.7 | Category 0

When EPU ≤ 72.74, coefficient value of -0.0000244, implying a statistically insignificant effect of EPU on CI. Whereas p-value of 0.570 is also far above standard significance levels, suggesting that changes in EPU do not significantly affect investment in this category. The results suggest that at low-EPU level, firms are non-responsive to change in policy uncertainty. The reasons being stability of the overall economic environment or the firms' robust risk mitigation strategies. Consequently, changes in economic policy have a negligible impact on firms' investment in this threshold range. Another interpretation of the results can be presented from the lens of prospect theory. That is, firms in this category may recognize the current EPU level as low and adaptable, hence they are less sensitive to prospective losses. Therefore, the small economic policy changes do not significantly impact CI.

4.8 | Category 01

When 72.74 < EPU <86.7292 its coefficient -0.0001763 with P-value 0.00 and with t-value of --5.15 indicate significantly unfavorable impact of EPU on CI. The finding elucidates that at threshold of 86.7292 the adverse impact of EPU becomes significant on firm investment. The results align the Hartman (1972) and Abel (1983), Myers (1977) theories, propose that uncertainty impact become substantially adverse upon crossing a threshold forcing firms to postpone their investment. Moreover, results also indicate the presence of prospect effects. Align to prospect theory (1992), the result indicates that firms are particularly loss-averse in this region, where EPU is rising but still manageable. As EPU rises, firms are likely to regard the possible losses from investing in uncertain conditions as severe, resulting in a major drop in investment. This is where the perceived danger of loss outweighs the potential benefit, resulting in a significant drop-in investment activity. The findings also well align with previous empirical literature which shows that higher levels of EPU represses CI (Gulen & Ion, 2015; Herrmann & Datta, 2002; Hsu et al., 2013; Nielsen & Nielsen, 2011). The significant adverse impact of EPU beyond threshold suggests that firms highly sensitive to policy changes beyond a critical point, become more cautious leading to deferring in their resources to new initiatives.

4.9 | Category 02

When EPU > 86.7292 the P value of 0.001 with co-efficient of -0.000251 indicates a significant effect on EPU on CI however the impact is lesser than category 01 & 02. This indicates that though the CI response to EPU is still negative and significant, it is less pronounced compared to the threshold point of 86.7292. This probably occurs due to firms' adaptability to higher EPU levels. According to prospect theory, this implies a decreasing sensitivity to future increases in uncertainty. Firms with high levels of EPU may have already altered their plans to adapt for ongoing uncertainty, making them less reactive to new risks. While firms continue to reduce their CI, the marginal impact of future EPU increases is less, as they adapt to increased uncertainty and handle possible losses more effectively.

4.10 | Robustness Test

To check the robustness of findings of TAR model, we utilized two-step system GMM model (Arellano & Bond, 1991). The model allows addressing endogeneity issues of dynamic panel data model as well as potential simultaneity and unobserved heterogeneity. The results in Table 06 show that Hansen's test yielded insignificant results, AR-I test revealed significant serial correlations, whereas the AR-II test did not. The coefficient for lagged corporate investment was found to be statistically significant at the 1% level, validating the use of the dynamic panel estimation.

Table 6
Two Step System GMM Model

Variables	Dependent Variable is CI
	GMM model
(1)	(2)
L.inv	0.426***
	(0.0384)
EPU	0.000319**

	(0.000126)
EPU SQR	-1.03e-06***
	(3.81e-07)
TQ	0.00616*
	(0.00315)
CF	0.0533**
	(0.0241)
Size	0.0160**
	(0.00733)
SG	0.00711*
	(0.00370)
Lev	0.0307*
	(0.0164)
CH	0.000803
	(0.0134)
Industrial Growth	0.000815
	(0.00130)
Constant	-0.191**
	(0.0898)
Test Statistics	
Hensen Test	6.21(0.624)
AR_I	-4.65(0.000)
AR -II	-0.67(0.506)
Observations	10,020
Number of id	835

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The robustness estimates confirm that our results remain consistent even upon utilizing the alternative estimation model. The results indicate threshold effects of EPU on CI wherein EPU initially has favorable and less significant impact. However, EPU squared reveal highly significant and negative impact portraying that higher level of EPU repress CI. The results suggest that firm's behavior toward investment do not change under normal uncertain environment however, discouraged as EPU intensifies.

5 | DISCUSSION

The results of the study align with prominent theories of (Abel, 1983; Hartman, 1972; Kahneman & Tversky, 1979; Tversky & Kahneman, 1992). The findings are also in line with previous empirical research (Baker et al., 2016; Bond & Cummins, 2011; Dejuan-Bitria & Ghirelli, 2021; Leahy & Whited, 1996). The researchers largely contend adverse impact of EPU on CI with pronounce impact at higher levels EPU. The significant adverse impact of EPU beyond threshold suggests that firms highly sensitive to policy changes beyond a critical point, become more cautious leading to deferring in their resources to new initiatives. This probably occurs due to firms' adaptability to higher EPU levels. According to prospect theory, this implies a decreasing sensitivity to future increases in uncertainty.

6 | CONCLUSION

Existing literature greatly confirms an adverse EPU – CI relationship. However, previous studies largely examined this relationship using linear econometric models. The current study aims to revisit this relationship employing a non-linear Threshold Auto Regressive (TAR) model of Hansen (1999) adopting the bootstrap method. The study incorporates data from 25 countries ranging from 2008 to 2021 with 10020 firm-level observations. Results of our fixed-effect panel threshold model confirm that there are two thresholds in the model that are 86.7292 & 72.74 respectively. Firstly, EPU does not significantly affect investment when the value of EPU $\leq$ 72.74 which is the first threshold of the dataset. The results suggest that at low-EPU level, firms are non-responsive to change in policy uncertainty. The reasons being stability of the overall economic environment or the firms' robust risk mitigation strategies. Consequently, changes in economic policy have a negligible impact on firms' investment in this threshold range. Secondly, when the critical threshold is reached that is 86.7292 the findings indicate significantly unfavorable impact of EPU on CI. The significant adverse impact of EPU beyond threshold suggests that firms highly sensitive

to policy changes beyond a critical point, become more cautious leading to deferring in their resources to new initiatives. Thirdly, when EPU > 86.7292 the findings indicate a significant effect on EPU on CI however the impact is lesser than the exact threshold point. This probably occurs due to firms' adaptability to higher EPU levels. According to prospect theory, this implies a decreasing sensitivity to future increases in uncertainty.

7 | RECOMMENDATIONS / IMPLICATIONS

The research findings have significant implications for firms and policymakers. Policymakers should minimize EPU and ensure policy stability for long-term corporate investments through transparency and consistency. According to the results, EPU threshold can be a useful tool for monitoring EPU. Therefore, it is necessary to determine EPU threshold to avoid CI deferment. The presence of nonlinear relationship between EPU and CI demonstrates that firms should include the EPU assessment in their strategic planning. When EPU comes close to critical thresholds, firms should think about dynamic investment policies that are sensitive to different levels of uncertainty to reduce potential risks. In general, the research highlights the importance of stabilizing the economic policies and implementing well-informed business strategies during the times of higher EPU level. Future researchers should explore sectoral differences in EPU-CI relationships. Moreover, they can further incorporate macroeconomic variables as additional thresholds. Furthermore, regional variations and post-pandemic investment behavior of firms during EPU can also be significant contributions in literature.

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