Economic Policy Uncertainty and Financial Performance in Emerging Markets

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Abstract

The objective of this study is to investigate the relationship between economic policy uncertainty (EPU) and financial performance using 5,509 firm-year observations from nine emerging markets which are Brazil, Chile, Colombia, Greece, India, Korea, Mexico, Pakistan, and Russia. The period of analysis spans the years between 2011-2022. Fixed-effects regressions show that there is a negative relationship between EPU and firm financial performance. Results are robust to different EPU measures. Implications are provided.

Keywords: economic policy uncertainty, financial performance, emerging markets

1. Introduction

In today's world, the importance of uncertainty and risk in economic and political decisions is higher than ever before. Uncertainty has a significant impact on the spending and investments of firms, governments and households (Al-Thaqeb & Algharabali, 2019). Controlling for uncertainty and economic risk is considered essential for informed decision making (Das et al., 2024). Thus, several measures have been developed to measure uncertainty. One of the most commonly used uncertainty measures is the economic policy uncertainty (EPU) index developed by Baker et al. (2016). The EPU index is calculated monthly for several countries based on newspaper coverage of some key words related to uncertainty regarding macroeconomic policy. The index ranges from tens to hundreds with higher values indicating stronger macroeconomic policy uncertainty.

The objective of this study is to investigate the relationship between EPU and firm financial

performance in emerging markets. The remainder of the paper is organized as follows. Section 2 provides a review of the literature. The following section describes the data and the methodology. Then, empirical results are presented. The paper concludes with a summary of main findings and their implications.

2. Literature Review

The literature on uncertainty and its impact on firms has expanded considerably since the introduction of the EPU index. Gulen and Ion (2016) showed that when uncertinty is high, firms' investments decrease. Since firm performance is related to profit or loss from these investments, we would theoretically expect a negative relationship between EPU and financial performance. This could especially be true since higher EPU negatively affects corporate managers' sentiments regarding the risk profile of the investments (Iqbal et al., 2020).

Some previous studies also empirically investigated the relationship between EPU and financial performance. In one such study, Iqbal et al. (2020) analyzed US listed non-financial firms and found a negative association between EPU and four different measures of financial performance including return on assets, return on equity, net profit margin, Tobin's Q. Focusing on US tourism companies, García-Gómez et al. (2022) also demonstrated that EPU has a negative impact on return on assets, return on equity and Tobin's Q. More recently, using data from 22 developed countries, Ozili and Arun (2023) demonstrated a negative relationship between EPU and profitability in the banking sector.

In a study using data from an emerging market, China, Guo et al. (2020) found that EPU has an inhibitory effect on the investment and profitability of enterprises. More recently, Feng et al. (2023) also focused on Chinese companies and confirmed the finding of a negative relationship between EPU and firm performance.

As can be seen from the aforementioned studies, the majority of the papers in the literature focus on developed countries or take the form of single country studies. Accordingly, the present study aims to contribute to the literature on EPU-financial performance nexus using data from a large sample of nine emerging markets. Since emerging countries have different dynamics than developed countries, results could potentially be different.

3. Method

3.1 Sample and Data

Data was collected from 460 firms operating in nine emerging markets which are Brazil, Chile, Colombia, Greece, India, Korea, Mexico, Pakistan, and Russia. The data cover the period 2011-2022. Firm-level data was obtained from Thomson Reuters while data on EPU comes from Baker et al. (2016). Firms operating in finance and utility sectors were not included because of their unique standards. All variables were winsorized at 5% and 95% levels to minimize the impact of outliers on results (Campbell et al., 2008). Table 1 below describes the sample.

Table 1. Description of the Sample

Country	No. of observations	Country	No. of observations
Brazil	936	Korea	1,380
Chile	432	Mexico	456
Colombia	156	Pakistan	24
Greece	240	Russia	420
India	1,464	TOTAL	5,509

3.2 Variables

To measure financial performance, return on assets (ROA) calculated as the ratio of net income to total assets was used as dependent variable in our analysis. EPU indexes were obtained from Baker et al. (2016) and two different EPU variables were defined. Monthly EPU is defined as the arithmetic average of the twelve monthly EPU indexes for each year since we need a yearly variable in our analysis (Demir & Ersan, 2017). In calculating weighted EPU, we assign a weight of one for the first six months, and two for the last six months so that the EPU values closer to year-end recieve a higher weight (Demir & Ersan, 2017).

Following previous literature, we also included several firm-level control variables in our analyses. Firm size (SIZE) was calculated as the natural logarithm of total assets. Debt ratio (DEBT) was defined as the firm's total liabilities divided by its total assets in a given year. The cash ratio (CASH) was calculated by dividing cash and cash equivalents to total assets while capital expenditures ratio (CAPEXSA) was calculated by dividing capital expenditures to net sales.

Table 2 below provides a summary of variable definitions.

Table 2. Variable Definitions

Variable	Definition
ROA	Return on assets calculated as the ratio of net income to total assets
Monthly EPU	Arithmetic average of all monthly EPU values in a given year
Weighted EPU	Weighted average of all monthly EPU values in a given year
SIZE	Natural logarithm of total assets
DEBT	Ratio of total liabilities to total assets
CASH	Ratio of cash and cash equivalents to total assets
CAPEXSA	Ratio of capital expenditures to net sales

3.3 Estimation

To investigate the relationship between financial performance and EPU, we estimated the following equation using fixed effects model.

$$ROA_{ijt} = \beta_0 + \beta_1 EPU_{jt} + \beta_2 X_{ijt} + \varepsilon_{ijt} \tag{1}$$

where the subscript i denotes firms, j denotes countries, and t denotes years. *ROA* refers to the firm's return on assets while *EPU* represents the proposed measure of EPU. *X* is a vector of firm-level control variables including firm size, debt ratio, cash ratio, and capital expenditures to sales ratio. ε denotes the error term.

4. Results

4.1 Descriptive Statistics

Table 3 below shows descriptive statistics on our variables. As can be seen, the dependent variable, ROA has a mean value of 5.2% while the independent variables monthly EPU and weighted EPU register mean values of 152.236 and 154.151 respectively. Regarding control variables, SIZE has an average of 21.571 while the mean debt ratio and cash ratio are 49.1% and 9.1% respectively. CAPEXSA has a mean value of 0.255.

Table 3. Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
ROA	5508	.052	.047	-.036	.16
Monthly EPU	5504	152.236	77.933	27.001	669.01
Weighted EPU	5504	154.151	78.94	25.191	693.656
SIZE	5508	21.571	1.534	18.363	24.151
DEBT	5508	.491	.171	.181	.805
CASH	5508	.093	.096	.002	.357
CAPEXSA	5488	.255	.504	.003	2.016

4.2 Correlation Matrix

Table 4 shows the correlation matrix among our variables. A preliminary analysis shows that there is a negative correlation between ROA and EPU measures. In addition, none of the correlations among independent and control variables exceed 0.7 meaning that multicollinearity is not a problem.

Table 4. Pairwise Correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) ROA	1.000						
(2) Monthly EPU	-0.066*	1.000					
(3) Weighted EPU	-0.061*	0.995*	1.000				
(4) SIZE	-0.162*	0.041*	0.026	1.000			
(5) DEBT	-0.195*	0.065*	0.060*	0.245*	1.000		
(6) CASH	0.173*	-0.066*	-0.071*	-0.270*	-0.170*	1.000	
(7) CAPEXSA	-0.051*	-0.025	-0.021	-0.213*	-0.045*	-0.109*	1.000
* shows significance at the .05 level							

4.3 Regression Results

Table 5 contains the results of the fixed effects regression analysis using ROA as dependent variable and monthly EPU as independent variable. As can be seen, the coefficient of the monthly EPU variable is negative and statistically significant, meaning that there is a negative relationship between financial performance and EPU. Firms in our sample register

lower ROA values in times of high uncertainty. Regarding control variables, the following results emerged from our analysis. Firm size has a negative relationship to ROA meaning that smaller firms have better financial performance. The coefficient of the DEBT variable is also negative and statistically significant, which means that firms with more debt in their capital structure have lower ROA values. No significant relationship was observed between ROA and cash ratio or capital expenditures.

Table 5. Regression Results using monthly EPU

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Monthly EPU	0.000	0.000	-3.49	0.000	0.000	0.000	***
SIZE	-0.003	0.001	-3.49	0.000	-0.005	-0.001	***
DEBT	-0.032	0.005	-5.91	0.000	-0.043	-0.022	***
CASH	0.016	0.010	1.56	0.119	-0.004	0.036	
CAPEXSA	-0.002	0.001	-1.28	0.201	-0.004	0.001	
Constant	0.146	0.021	6.84	0.000	0.104	0.187	***

Mean dependent var	0.052	SD dependent var	0.047
R-squared	0.015	Number of obs	5484
F-test	15.095	Prob > F	0.000
Akaike crit. (AIC)	-21122.293	Bayesian crit. (BIC)	-21082.635

*** p<0.01, ** p<0.05, * p<0.1*

To check for the robustness of our results, we use an alternative EPU measure which is calculated by assigning a weight of one for the first six months, and two for the last six months. As can be seen on Table 6 below, regression results using weighted EPU remain qualitatively similar to those obtained using monthly EPU. A negative relationship between EPU and financial performance is confirmed while results regarding control variables also remain similar.

Table 6. Regression Results using weighted EPU

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Weighted EPU	0.000	0.000	-3.01	0.003	0.000	0.000	***
SIZE	-0.004	0.001	-3.62	0.000	-0.005	-0.002	***
DEBT	-0.033	0.005	-5.92	0.000	-0.043	-0.022	***
CASH	0.016	0.010	1.53	0.125	-0.004	0.036	
CAPEXSA	-0.002	0.001	-1.26	0.208	-0.004	0.001	
Constant	0.148	0.021	6.94	0.000	0.106	0.189	***

Mean dependent var	0.052	SD dependent var	0.047
R-squared	0.014	Number of obs	5484
F-test	14.474	Prob > F	0.000
Akaike crit. (AIC)	-21118.948	Bayesian crit. (BIC)	-21079.290

*** p<0.01, ** p<0.05, * p<0.1

5. Discussion

The objective of the present study was to investigate the relationship between financial performance and EPU in emerging markets. Using data from nine emerging markets which are Brazil, Chile, Colombia, Greece, India, Korea, Mexico, Pakistan, and Russia for the period between 2011 and 2022, fixed effects regressions were estimated.

Results showed that there is a negative relationship between EPU and ROA variables, meaning that firms' financial performance declines in times of high macroeconomic policy uncertainty. This finding is consistent with previous studies in the literature.

Our result suggests that investors and managers should carefully monitor the EPU index so that they can take optimal precautionary measures to hedge against uncertainty in order to prevent financial losses due to uncertainty. In addition, policy makers should be careful about their decisions which could potentially increase uncertainty keeping in mind that uncertainty can damage firms' financial performance (Iqbal et al. 2020).

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