



The Impact of Economic Policy Uncertainty on Profitability: Evidence from the Energy Companies in Vietnam

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<https://doi.org/10.18280/ijdsdp.210229>

ABSTRACT

Received: 29 September 2025

Revised: 30 January 2026

Accepted: 7 February 2026

Available online: 28 February 2026

Keywords:

economic policy uncertainty, profitability, firm performance, energy companies, system generalized method of moments, Vietnam

In the context of market fluctuations driven by economic and political factors affecting enterprises' business activities. The energy industry is considered to be greatly affected by economic policy uncertainty (EPU). This study evaluates the impact of EPU on the profitability of energy enterprises. The study collected data from energy enterprises listed on the Vietnamese Stock Exchange from 2016 to 2023. Panel data analysis using fixed-effect, random-effect, and system generalized method of moments (SGMM) models was used to address endogeneity. The research results indicate that EPU negatively impacts profitability. The control variables, such as firm size and revenue growth, have a positive impact on profitability. Leverage and beta negatively impact profitability. Based on the results of this study, the author presents theoretical implications and practical recommendations to improve the profitability of energy companies in Vietnam.

1. INTRODUCTION

Economic policy uncertainty (EPU) shapes firm performance by creating a volatile environment that affects business strategies and decision-making processes. Firms operating under uncertain economic policies, such as fluctuating tax rates, trade regulations, and fiscal changes, find it difficult to predict future market conditions, leading to risk-averse behavior [1, 2]. This uncertainty often results in delayed investments, lower innovation, and reduced employment growth as firms become more cautious in their financial commitments [3, 4]. Additionally, the unpredictability of economic policy can dampen consumer confidence and demand, further exacerbating challenges for firms trying to forecast revenue and adjust to market shifts [5]. Furthermore, policy uncertainty can disrupt supply chains and raise the cost of capital, potentially diminishing long-term profitability [6]. In turn, firms may face difficulties maintaining competitive advantages, ultimately harming their overall performance [7].

The energy industry plays a vital role in the global economy by providing the essential resources for industrial production, transportation, and daily life. As the primary power source for manufacturing, electricity, and transportation, the energy sector directly impacts economic growth and development [8]. Additionally, energy is crucial for the functioning of modern infrastructure, including communication systems, healthcare, and education, which further underpins the overall well-being

of societies [9]. With the increasing demand for energy in both developed and emerging economies, industry faces the challenge of balancing sustainability with growth, as it is a major contributor to greenhouse gas emissions [10, 11]. The transition to renewable energy sources is becoming essential to mitigate environmental damage while meeting the growing global energy demand, thereby reinforcing the strategic importance of the energy sector [12].

Several studies have examined the relationship between EPU and firm performance, revealing a complex interplay between uncertainty and corporate decision-making. Baker et al. [1] introduced the concept of EPU. They showed that increased policy uncertainty reduces firm investment and slows economic growth, as firms tend to become more risk-averse in uncertain environments. Similarly, Bloom [6] found that economic uncertainty negatively impacts firms' capital spending and innovation, suggesting that firms cut back on long-term projects when faced with unpredictable policy changes. Other research has highlighted the varying impacts of EPU on different sectors, with Pastor and Veronesi [12] arguing that firms in industries more dependent on government policies (e.g., energy and healthcare) experience greater performance deterioration during periods of high EPU. Moreover, Jurado et al. [13] demonstrated that heightened EPU disrupts firm-level activities and leads to broader economic inefficiencies, hindering overall market performance. Lastly, a study by Kamizova and Li [14]

emphasizes that the degree of a firm's exposure to EPU significantly affects its profitability, particularly in emerging economies, where policy uncertainty is often more volatile. These studies collectively suggest that EPU has a profound and varied impact on firm performance, influencing investment, innovation, and overall market dynamics.

Despite extensive research on the relationship between EPU and firm performance, notable gaps in the literature need further exploration. First, while previous studies such as those by Pastor and Veronesi [12] and Karnizova and Li [14] address sector-specific impacts, there is limited research on the unique effects of EPU on firms in the energy sector, particularly in emerging economies like Vietnam. Second, most studies focus on developed countries, leaving a gap in understanding how EPU affects firms in transitional economies with volatile policy environments, such as Vietnam's energy companies.

2. LITERATURE REVIEW

2.1 Economic policy uncertainty

EPU has emerged as a critical factor influencing economic activity, investment decisions, and market volatility. Baker et al. [1] developed an index to measure EPU based on newspaper coverage frequency, tax code provisions set to expire, and disagreement among economic forecasters. Their research indicates that heightened EPU reduces corporate investment and employment as firms delay decisions due to uncertain regulatory and policy environments. Similarly, Bloom [6] demonstrated that policy uncertainty exacerbates business cycles by discouraging hiring and capital expenditures, leading to sluggish economic recovery after financial crises. Empirical studies confirm that increased uncertainty disrupts financial markets and dampens economic growth, particularly during political transitions or unexpected policy changes [15].

Moreover, EPU has significantly affected international trade and monetary policy effectiveness. Handley and Limao [16] argued that uncertainty regarding trade policies can reduce firms' incentives to enter foreign markets, thereby suppressing trade flows and global economic integration. In the monetary domain, Fernández-Villaverde et al. [17] highlighted how uncertainty constrains central banks' ability to stabilize inflation and economic output, as unpredictable fiscal policies may counteract monetary interventions. Recent studies extend the impact of EPU to asset pricing and firm-level risks, with empirical evidence suggesting that firms with greater exposure to policy uncertainty face higher costs of capital and reduced earnings predictability [4, 13]. As economic policies evolve in response to geopolitical events and technological disruptions, understanding the implications of EPU remains crucial for policymakers, investors, and businesses.

2.2 Economic policy uncertainty and profitability

Agency theory provides an interpretative lens through which the impact of EPU on firm performance can be understood. EPU affects corporate profitability by influencing managerial decision-making and risk-taking behavior. Under high EPU, managers may adopt conservative financial strategies, such as delaying investments or reducing expenditures, to protect their interests and job security, which

can lead to lower profitability [1, 11, 15, 18]. This risk-averse approach may create conflicts between shareholders seeking long-term growth and managers prioritizing short-term stability [1]. Additionally, EPU exacerbates agency costs by increasing information asymmetry, making it harder for investors to assess a firm's financial health [4]. Managers may also manage earnings or inefficient resource allocation to mitigate perceived risks, reducing firm value and profitability [13]. Therefore, high EPU reinforces agency problems, leading to suboptimal financial decisions that hinder long-term corporate performance and shareholder returns.

EPU has significant implications for corporate profitability, influencing firm-level decision-making and financial performance. Prior studies suggest that heightened EPU increases firms' operating costs and reduces their willingness to invest, leading to lower profitability [15, 19]. Firms facing uncertainty tend to delay capital expenditures, hiring, and expansion plans, negatively affecting their revenue generation and cost structures [7]. Moreover, EPU disrupts demand conditions as consumers and businesses adopt a wait-and-see approach, reducing consumption and investment activities. This uncertainty-driven reduction in market confidence further limits firms' ability to maintain stable earnings growth, exacerbating profitability concerns [1].

The negative impact of EPU on profitability is particularly pronounced in industries that are heavily regulated or reliant on government policies, such as finance, healthcare, and energy [13]. These industries experience greater earnings volatility when unpredictable policy changes affect pricing strategies, cost structures, and overall financial planning. Empirical research supports that firms with higher exposure to policy risk tend to face increased financing costs as uncertainty raises equity risk premiums and borrowing costs [20]. In contrast, some firms, particularly those in defensive sectors such as utilities and consumer staples, may be less sensitive to EPU fluctuations due to their relatively stable demand [21]. However, even these firms may experience reduced profitability if prolonged uncertainty leads to lower consumer spending and investment activity.

Despite the predominantly negative effects of EPU on profitability, some firms can benefit from uncertainty by leveraging flexible business strategies or operating in countercyclical industries. For instance, firms with strong market power and adaptive pricing strategies may mitigate the adverse effects of policy uncertainty by passing costs onto consumers [21]. Additionally, companies in the financial sector specializing in risk management services or policy-related consulting can experience profitability growth during periods of heightened uncertainty. Nonetheless, the overall trend in the literature suggests that EPU is a key determinant of firm profitability, influencing both short-term earnings performance and long-term financial stability. Understanding the relationship between EPU and profitability remains essential for investors, managers, and policymakers as governments navigate economic and geopolitical challenges.

EPU has a profound impact on the profitability of energy companies due to the industry's heavy reliance on government policies, regulations, and geopolitical stability. Energy firms often operate in highly regulated environments where policy changes regarding taxation, subsidies, environmental regulations, and trade restrictions can significantly alter cost structures and revenue streams [13]. For instance, uncertainty surrounding carbon emission policies or renewable energy incentives can delay investment decisions, leading to lower

capital expenditure efficiency and reduced long-term profitability [20]. Additionally, fluctuations in government energy policies affect oil and gas price stability, making it more challenging for firms to forecast earnings and manage operational risks. Increased EPU also raises the cost of capital for energy firms, as investors demand higher risk premiums, leading to constrained access to financing and reduced expansion opportunities [15]. Furthermore, geopolitical tensions and uncertain trade policies exacerbate market volatility, impacting supply chains and global demand for energy resources. As a result, energy companies facing high levels of EPU often experience increased earnings volatility, reduced investment confidence, and long-term declines in profitability, underscoring the critical role of stable economic policies in ensuring financial sustainability in the sector. Therefore, the hypothesis is shown:

Hypothesis: EPU has a negative impact on profitability.

3. METHOD

3.1 Research model

The research model is shown:

$$Profitability = \beta_i + \beta_1 * EPU_{it} + \sum_{k=1}^n \beta_k * Control\ variables_{it} + \vartheta_{it}$$

The variables are defined in Table 1.

Table 1. The variable definitions

Variables	Content	Expected
	<i>Profitability</i>	
ROE	=return on equity	
ROA	=return on assets	
EPU	Economic Policy Uncertainty Index	-
SIZE	=Ln(total assets)	+
LIQ	=Current assets/Current liabilities	+
GROWTH	=(Revenue _t -Revenue _{t-1})/Revenue _{t-1}	+
BETA	Risk (computed by Refinitiv using weekly stock returns over five years against the VN-Index market benchmark)	-
LEV	=liabilities on total assets	-

3.2 Data collection

The data is collected in two ways. Firstly, data on EPU are collected from 2016 to 2023 at <https://www.policyuncertainty.com/>. Since there is no specific index for Vietnam, this index has been used for many countries in various studies. Furthermore, because Vietnam is heavily influenced by global economic and political fluctuations, this index can also be expected to affect Vietnamese businesses in general and energy-sector businesses in particular. Secondly, data on energy companies' indicators are collected on the Refinitiv database of Thomson Reuters from 2016 to 2023.

3.3 Data analysis

This study employs panel data analysis techniques, including the Fixed Effects Model (FEM) and Random Effects Model (REM). The Hausman test is used to choose FEM or

REM. The system generalized method of moments (SGMM) is applied to address endogeneity issues. The p-value criteria of AR(1) being less than 5% and AR(2) being greater than 5% indicate whether the model exhibits autocorrelation. A p-value of the Hansen test greater than 5% suggests the validity of instrumental variables.

4. RESULTS

4.1 Descriptive

Although the baseline sample covers 68 energy firms over the period 2016-2023, the empirical analysis employs an unbalanced panel due to intermittent data availability across firms and years. The summary statistics provide an overview of the dataset's variables. ROA has a mean of 0.041 with a standard deviation of 0.040, indicating moderate variability, ranging from -0.033 to 0.128, with a median of 0.035. ROE exhibits a higher mean of 0.096 and greater variability (SD = 0.072), with values from -0.026 to 0.247 and a median of 0.092. Firm size is relatively stable, averaging 17.648 with a small standard deviation of 1.541, ranging between 15.301 and 21.014. Growth shows significant dispersion (SD = 0.278) around its mean of 0.051, with extreme values from -0.371 to 0.750 and a lower median of 0.026, suggesting a skewed distribution. Liquidity has a mean of 1.551 but varies considerably (SD = 1.118), with a wide range from 0.510 to 4.837 and a median of 1.171. Leverage has a mean of 0.560, a standard deviation of 0.199, and values ranging from 0.179 to 0.884, with a median of 0.576, indicating moderate leverage levels. Finally, Beta, a measure of market risk, has a mean of 0.637, with moderate variability (SD = 0.468), ranging from -0.182 to 1.497, and a median of 0.638, suggesting most firms have a risk level close to the market average (the details in Table 2).

Table 2. Summary statistics

Variables	Mean	SD	Min	Max	Median
ROA	0.041	0.040	-0.033	0.128	0.035
ROE	0.096	0.072	-0.026	0.247	0.092
SIZE	17.648	1.541	15.301	21.014	17.628
GROWTH	0.051	0.278	-0.371	0.750	0.026
LIQ	1.551	1.118	0.510	4.837	1.171
LEV	0.560	0.199	0.179	0.884	0.576
BETA	0.637	0.468	-0.182	1.497	0.638

4.2 Regression

The regression analysis results using the FEM, REM, and SGMM models show almost no difference in the regression outcomes. The model is minimally affected by endogeneity. In the SGMM, AR(1) has a p-value less than 0.05, and AR(2) has a p-value greater than 0.05; the p-value of the Hansen test is greater than 0.05, so the SGMM is suitable. Therefore, the regression results are highly robust (see Tables 3 and 4).

EPU adversely affects corporate profitability by heightening operational risks, deterring investment decisions, and raising financing costs. Firms experiencing high EPU tend to postpone capital expenditures and workforce expansion due to regulatory unpredictability, resulting in lower revenue and narrower profit margins [15]. Furthermore, policy uncertainty disrupts market confidence, leading to fluctuations in demand and reductions in consumer spending, which further strain

corporate earnings [1]. Industries heavily regulated by the government, such as energy and finance, are particularly susceptible to these challenges, as frequent regulatory changes and geopolitical instability exacerbate earnings volatility and financial constraints [13]. Additionally, firms facing significant policy uncertainty experience elevated risk premiums and borrowing costs, restricting their ability to invest in innovation and expansion [20].

From a theoretical perspective, heightened EPU exacerbates agency conflicts between managers and shareholders. Under uncertain policy conditions, managers may prioritize short-term risk aversion over long-term value creation, opting for conservative financial strategies that limit investment and innovation. This misalignment of interests leads to suboptimal decision-making, where firms forgo profitable opportunities due to managerial concerns over personal job security and risk exposure. Moreover, EPU amplifies agency costs by increasing information asymmetry, making it more difficult for investors to assess a firm's financial health and strategic direction. Consequently, prolonged uncertainty weakens financial performance by destabilizing business operations, discouraging strategic investments, and raising capital costs, highlighting the need for effective corporate governance and risk management strategies to mitigate EPU's adverse effects.

The impact of EPU on ROE is similar to its impact on ROA, resulting in consistent returns on assets and equity (see Table 4).

The size of a business has a positive impact on profits, indicating that a larger scale is associated with higher profits. Therefore, businesses with scale advantages tend to achieve higher profits [15]. This may be because large businesses have easier access to capital than smaller businesses. In addition, large cash flow also brings business advantages with better investment capabilities in both the short and long term [1]. This will help increase the sustainability of investment projects.

Research indicates that revenue growth positively impacts

profitability. This shows that boosting revenue through sales activities is effective. Marketing or sales costs are effective. Higher revenue also allows companies to invest in innovation, technology, and market expansion, leading to sustainable competitive advantage and long-term profitability [1]. Furthermore, companies with growing revenue tend to attract better financing options at lower costs, as lenders and investors view them as financially stable and less risky [20]. In addition, steady revenue growth signals strong demand for the company's products or services, improving investor confidence and stock performance [13].

The negative impact of leverage on profitability suggests that financial leverage is not yet effective for businesses. The cost of capital or tax shield is not being used effectively by businesses. Companies with excessive debt burdens face higher interest costs, which reduce net profits and limit reinvestment opportunities [15]. Furthermore, highly leveraged companies struggle to meet debt obligations during economic downturns or policy instability, leading to financial difficulties and the risk of insolvency [1]. High leverage also restricts management decision-making, as companies must prioritize debt repayment over growth initiatives, reducing the ability to invest in innovation and expansion [20].

A high beta (risk) negatively impacts profitability by High beta coefficients (risk) negatively impact returns, indicating that the worse a business performs compared to the industry, the more its returns are dragged down. Companies with high beta coefficients are more sensitive to market volatility, leading to unpredictable revenue streams and greater financial uncertainty [15]. This increased risk makes investors wary of long-term investments, as cash flow uncertainty makes it difficult for companies to plan for expansion and growth [1]. During economic downturns or periods of policy uncertainty, these companies experience greater returns declines than companies with low beta coefficients, as market volatility exacerbates financial stress [13].

Table 3. The result of the regression with ROA

ROA	(1) OLS	(2) FEM	(3) REM	(4) SGMM	VIF
ROA _{t-1}				0.455*** (0.019)	
EPU	-0.01*** (0.0023)	-0.01*** (0.0016)	-0.01*** (0.0016)	-0.002*** (0.0007)	1.03
SIZE	0.515*** (0.109)	0.572 (0.452)	0.312 (0.207)	0.127* (0.0725)	1.41
GROWTH	1.677*** (0.531)	1.542*** (0.379)	1.539*** (0.378)	1.714*** (0.164)	1.09
LIQ	-0.233 (0.164)	0.781*** (0.232)	0.516** (0.208)	-0.0797 (0.122)	1.66
LEV	-11.7*** (0.973)	-7.79*** (1.736)	-8.55*** (1.355)	-6.173*** (0.435)	1.75
BETA	-1.14*** (0.345)	0.494 (0.357)	0.158 (0.336)	-0.288* (0.147)	1.27
Constant	4.323** (1.835)	-1.993 (7.588)	3.744 (3.496)	4.015*** (1.102)	
Observations	571	571	571	524	
R-squared	0.299	0.157			
Number of id		68	68	68	
Hausman test		0.000			
Heteroskedasticity test		0.000			
Autocorrelation test		0.000			
AR(1)				0.000	
AR(2)				0.686	
Hansen test				0.553	

ROA	(1) OLS	(2) FEM	(3) REM	(4) SGMM	VIF
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Number of instruments

34

Note: The number of observations varies across specifications due to missing values in selected firm-level variables; Standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1

Table 4. The result of the regression with ROE

ROE	(1) OLS	(2) FEM	(3) REM	(4) SGMM	VIF
ROE _{t-1}				0.519*** (0.023)	
EPU	-0.02*** (0.004)	-0.02*** (0.003)	-0.02*** (0.003)	-0.01*** (0.001)	1.03
SIZE	1.246*** (0.222)	1.990** (0.942)	0.891** (0.430)	0.261** (0.122)	1.41
GROWTH	3.305*** (1.100)	3.230*** (0.773)	3.158*** (0.773)	2.874*** (0.479)	1.09
LIQ	-0.271 (0.331)	1.243*** (0.461)	0.856** (0.417)	0.0637 (0.214)	1.66
LEV	-4.882** (2.024)	-4.030 (3.568)	-2.783 (2.789)	-1.965** (0.845)	1.75
BETA	-3.77*** (0.703)	0.662 (0.721)	-0.206 (0.681)	-0.84*** (0.272)	1.27
Constant	-2.257 (3.722)	-22.14 (15.76)	-2.207 (7.224)	3.266 (2.042)	
Observations	558	558	558	511	
R-squared	0.101	0.098			
Number of id		68	68	68	
Hausman test		0.000			
Heteroskedasticity test		0.000			
Autocorrelation test		0.000			
AR(1)				0.000	
AR(2)				0.645	
Hansen test				0.370	
Number of instruments				34	

Note: The number of observations varies across specifications due to missing values in selected firm-level variables; Standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1

5. CONCLUSION

The study has systematized the theoretical basis related to EPU and profitability. Our findings are consistent with the argument that heightened uncertainty may intensify agency frictions. The regression results indicate a significant negative relationship between EPU and profitability, confirming that higher uncertainty reduces firms' financial performance. Additionally, leverage and market risk (beta) negatively impact profitability by increasing financial instability and borrowing costs. In contrast, firm size and revenue growth positively influence profitability, as larger firms benefit from economies of scale and stable financing, while revenue growth enhances financial resilience. The findings highlight the importance of managing financial risk and strategic growth to maintain profitability in uncertain policy environments. These results align with prior literature, emphasizing the impact of macroeconomic factors on firm performance.

6. IMPLICATIONS

6.1 Theoretical implication

This study has made an important theoretical contribution by highlighting the impact of EPU on the performance of energy enterprises in Vietnam. Agency theory provides an interpretative lens through which to examine the impact of

EPU on firm performance in the context of economic policy fluctuations. The findings align with agency theory, suggesting that firms facing high uncertainty may adopt conservative financial strategies to mitigate risks. Additionally, the study supports the trade-off theory, emphasizing that excessive leverage reduces profitability due to increased financial distress costs. The positive impact of firm size and revenue growth aligns with resource-based theory, underscoring the advantages of economies of scale. These insights contribute to understanding how macroeconomic factors influence firm performance and strategic financial management.

6.2 Practical implications

The practical implications of this study emphasize the need for businesses to adopt effective risk management strategies to mitigate the negative impact of EPU on profitability. Firms should maintain a balanced capital structure to avoid excessive leverage and financial distress while leveraging economies of scale and revenue growth for stability. Investors and policymakers must also consider EPU's influence on corporate performance when making financial and regulatory decisions. Businesses in highly regulated industries should develop adaptive strategies to navigate uncertainty, ensuring resilience and sustainable profitability. Proactive financial planning and strategic investment are crucial for long-term success. In addition, several risk mitigation policies have been developed

in detail. Scenario planning and stress testing based on alternative EPU trajectories can help managers evaluate the resilience of profitability (ROA, ROE) under adverse policy environments. Adopting strategic flexibility such as phased investment, modular project design, and diversification across energy segments can reduce irreversible investment risks associated with heightened uncertainty.

7. LIMITATIONS AND FUTURE RESEARCH

One limitation of this study is its reliance on historical data, which may not fully capture the evolving dynamics of EPU and its long-term impact on profitability. Future research could incorporate real-time data and predictive models to enhance accuracy. Another limitation is the study's focus on firm-level financial indicators, which may overlook industry-specific variations in EPU effects. Future studies could examine sectoral differences and how firms across industries respond to policy uncertainty. Additionally, investigating the role of government interventions and global economic conditions could provide deeper insights into mitigating EPU's impact on corporate profitability.

Furthermore, the study did not consider other EPU effects on profitability across sectoral breakdowns (oil & gas, utilities, renewables). Therefore, future research should also consider these differences to provide detailed implications for each sectoral breakdown.

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