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Global Economic Policy Uncertainty and Investment Efficiency: Evidence from Emerging Country

Mubashir Ali Khan¹, Josephine Yau Tan Hwang²

¹Lecturer, University of Chenab, Gujrat Campus Pakistan, ²Senior Lecturer, University Malaysia Sarawak, Faculty of Economics and Business, Malaysia

Abstract

The aim of this study is to examine the relationship between global economic policy uncertainty and investment efficiency. A global measure of economic policy uncertainty was used in this paper by collecting the data over the period 2010-2022 to create a sample of 10,130 observation years using the OLS regression method. This paper finds that investment inefficiency increases when global policy uncertainty increases. It also highlights that firms' characteristics have a significant influence on investment efficiency as compared to macroeconomic factors. The findings of this study guides investors, governments and policy makers needs to consider global economic policy when changing and guiding policies related to efficient allocation of capital.

Keywords: Global Economic Policy Uncertainty, Investment Efficiency, Malaysia

Introduction

The global financial crisis (2007) was the trigger for the financial institutions because it highlighted the liquidity crisis and showed that liquidity is an important factor for the smooth functioning of the economy (Schoenfeld, 2017). Furthermore, according to Goodell (2020), economic policy uncertainties are the reason for the slowdown in the global economy. These uncertainties stem from natural disasters, climate change (e.g., floods and rain and high temperatures) and recently the COVID-19 pandemic. Therefore, many researchers are interested in determining the impact of these uncertainties on financial markets (Dang & Nguyen, 2020; Gulen & Ion, 2016; Bordo et al., 2016; Baker et al., 2016; Julio & Yook, 2012; Yang et al., 2019; Phan et al., 2020). As a result, this study expands this research direction and examines the impact of global economic policy uncertainty on the investment efficiency of listed companies in Malaysia.

- The Objective of this research is to determine the impact of global economic policy uncertainty on the investment efficiency of listed companies in Malaysia.

The motivation for this study is based on the gaps that exists in knowledge and the behavior of stock market. This study examines the effect of global economic policy uncertainty on investment efficiency of firms listed in Malaysia. This study chooses Malaysia as an interesting choice for this study due to the following reasons. (1) High volatility exists in Malaysian stock market, it is assumed that high volatile stock markets are more exposed to

external shocks and uncertainty development (Basher & Sadorsky, 2006), (2) According to United nation report (2016) on Malaysia, it is witnessed that Malaysia was experiencing high FDI as compared to other countries in this region, by showing the development of stock market. We collected the data of non-financial companies listed at Bursa Malaysia in the period 2010-2022. The study used the Biddle et al (2009) proxy because this measure of investment inefficiency is widely used in accounting and finance research. This measure differs from the other measure of investment inefficiency because it considers all types of investments as tangible and intangible investments. Global economic policy uncertainty is measured using the measure of (Baker et al., 2016). This is the unique measure and the first measure measuring economic policy uncertainty by the leading newspapers. Our main results show that with an increase in global economic political uncertainty the investment inefficiency of a firms also increases.

The findings of this research contribute to the existing literature are twofold. First, this study is first in the Malaysian context that examines the influence of global economic policy uncertainty on investment inefficiency. As this study based on real option theory highlights that during the time of uncertainties firm invest more as findings are in contrast with the previous studies that suggests a negative relation exists between EPU and firm investment decisions. Second, this study contributes to the literature of investment efficiency and highlights GEPU as an important determinant of investment efficiency.

The rest of the paper is organized into the following subsections. Section 2 shows the literature review and hypothesis development, Section 3 shows the methodology section and results are presented in Section 4 and lastly Section 5 is conclusion.

Literature Review and Hypothesis Development

A previous strand of literature examined the impact of uncertainty (economic and geopolitical) on fixed capital investments, corporate sustainability and economic performance (Bloom, 2009; Bo & Lensin, 2005; Gourio et al., 2013). According to Wang et al (2014) and Aizenman and Marion (1993), economic growth can be increased (decreased) by using the investment channel at the firm level. They have also claimed that companies hold their strategic investments in the face of high uncertainty. According to McDonald and Siegel (1986), it is assumed that corporate investment decisions are irreversible, so option values can be used to await the investment decision.

Research to date on the link between uncertainty and investment is unclear. The arguments for this relationship are twofold, first, Knight (1921) argues in classical theory that entrepreneurs in a situation of uncertainty limit investment opportunities and derive benefits from resource integration. According to Hartman (1972); Abel (1983), economic models based on the assumption of perfect competition suggest that higher uncertainty leads to an increase in expected profit capital, which in turn increases investment. Second, as uncertainty increases, capital investment decreases (Caballero, 1991), this is only possible if we relax the assumption proposed by (Hartman, 1973; Abel, 1983). On the contrary, real options theory argues about the irreversibility of a firm's investment or sunk costs associated with that decision, forcing the firm to weigh the cost differential between current and future investments, ultimately resulting in a higher value of the option of waiting. As a result, firms are reducing their investments in ongoing capital projects, consistent with previous studies (Bernanke, 1983; Pindyck, 1988; Brenner & Schwartz, 1985; Titman, 1985).

This study extends this line of research and argues that risks can be classified into systematic and unsystematic (idiosyncratic risks). Fixed investment decisions are based on

systematic risks, since unsystematic risks cannot be fully diversified. This theory suggests that higher uncertainty affects the firm's future cash flow by exacerbating information asymmetry between managers and shareholders (Boyle & Guthrie, 2003). The previous studies on EPU suggest that the impact of EPU on firm investment is significant compared to firm-level uncertainties (Kang et al., 2014). Another study conducted by Gülen and Ion (2015) explains that there is a negative relationship between business investment and EPU. Based on all these arguments this study proposes the following hypothesis.

H₁: *The investment inefficiency of Malaysian firms increases with an increase in higher global economic policy uncertainty.*

Data and Methodology

The focus of this study is only those firms that are listed on Malaysia stock exchange. The data covers the period 2010-2022. The starting year 2010 is taken because the effects of global financial crisis were present in the years 2007-2009. This study follows Lin et al (2011); Lin et al (2020) for the final data sample. Based on this criterion this study excludes financial data from our sample. This study also excludes those firms that have missing annual reports. After all these calculations the final sample is 10,130 firm years observations. An ordinary least square regression with fixed effect is used for the estimation of this study. The data on economic policy uncertainty is taken from the website (<https://www.policyuncertainty.com/>) and investment efficiency and control variables data are taken from Thomson Reuters DataStream.

Variable Measurement

(1) EPU Measurement

This study measured economic policy uncertainty (EPU) by using the measure of Baker et al., (2016). This database contains the data of EPU for 21 countries and includes global economic policy uncertainty index (GEPU). This study used this GEPU index that is already used in the previous studies (Debata & Mahakud, 2018; Istiak & Serletis, 2018; Li et al., 2019). This uncertainty index is widely used in the literature of economics and finance.

(2) Investment inefficiency

This study defines investment inefficiency as the difference between the actual and expected investment by following Biddle et al., (2009) and Chen et al., (2011). According to this measurement they have measured using investment model. We calculate the residuals from this investment model and are calculated as measure of investment inefficiency.

(3) Control Variables

To determine the effect of GEPU index on investment efficiency of Malaysian firms this study control for several firm and economic factors. These firm characteristics include firm age, firm size, firm cash flow, economic growth, and inflation by following the previous studies (Chen, Lee & Zhang, 2019; Biddle et al., 2009; Chen et al., 2011). The detailed description of the variables is presented in the appendix-A.

Estimation Model

To determine the effect of GEPU on investment inefficiency, this study proposed the following estimation model

$$IE_{i,t} = \beta_0 + \beta_1 GEPU_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 AGE_{i,t} + \beta_4 CF_{i,t} + \beta_5 EG_{i,t} + \beta_6 INF_{i,t} + \varepsilon_{i,t}$$

Where IE is the dependent variable represents investment inefficiency, GEPU is independent variable represents global economic policy uncertainty, SIZE, AGE, CF, EG and INF are the control variables. These micro and macro control variables are in accordance with the previous studies.

Empirical Results

Descriptive Statistics

Table 1 indicates the summary statistics of variables used in this study. This table indicates that the average value of investment efficiency for Malaysian firms is 0.531 and standard deviation is 0.510, minimum and maximum values are -1.46 and -0.81. Investment efficiency average is good for Malaysian firms. The average value of global economic policy uncertainty is 97.6 and standard deviation is 32.7. The average values of firm characteristics and macroeconomic indicators are 6.02, 1.27, 5.67, 4.50, and 2.85 respectively. On the other hand, the minimum and maximum values for control variables are SIZE (5.01 and 6.10), AGE (0.32 and 1.27), CF (4.98 and 6.29), EG (-5.50 and 7.85) and INF (1.62 and 3.85) respectively.

Table 1

Summary Statistics

Variable	Mean	S. D	Minimum	Maximum
IE	-0.531	0.510	-1.46	-0.81
GEPU	97.6	32.7	55.1	135.4
SIZE	6.02	0.582	5.01	6.10
AGE	1.27	0.397	0.32	1.27
CF	5.67	0.644	4.98	6.29
EG	4.50	3.57	-5.50	7.85
INF	2.85	2.1	1.62	3.85

Table 1 shows the results of the descriptive statistics. The mean, standard deviation, minimum and maximum values are presented for independent and dependent variables. IE is the dependent variable, GEPU is an independent variable while SIZE, AGE, CF, EG and INF are the control variables.

Table 2 shows the results of the correlation matrix for this study. Correlation provides the association between the variables. Its minimum value is 0 and maximum value is 1. This association could be positive and negative. Positive association represents if one variable increases another variable also increases vice versa. This table represents that all values are less than 0.60 mitigating the chances of multicollinearity between variables.

Table 2

Correlation Matrix

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1)	IE	1						
(2)	GEPU	-0.17	1					
(3)	SIZE	-0.04	0.58	1				
(4)	AGE	-0.12	0.68	-0.07	1			
(5)	CF	0.02	0.06	0.08	1.23	1		
(6)	EG	-0.16	0.39	0.21	0.34	0.47	1	
(7)	INF	0.58	0.08	0.07	1.2	0.01	0.02	1

Table 2 shows the correlation matrix for independent and dependent variables. The negative shows the negative association exists between variables if one variable increases other decreases on the other hand positive variable shows the positive association if one variable increases other also increases

Main Results

Table 3

Relationship between Economic Policy Uncertainty and Investment Efficiency

Variable	IE
GEPU	-0.182** (-2.220)
SIZE	-0.032 (-1.286)
AGE	-0.0013*** (-3.090)
CF	0.162 (1.552)
EG	-0.012* (-1.85)
IN	0.012 (0.408)
Constant	1.456 -3.564
Industry	YES
Year	YES
Adjusted R2	0.044
Observations	10130

This table shows the results of fixed effect regression in which we estimated the effect of GEPU on IE. Standard errors are robust at clustered level. Note: *, **, *** shows significance level at 10%, 5% and 1% level of significance.

Table 3 shows the results of our main analysis, in which we examined the impact of global economic policy uncertainty on investment efficiency using fixed-effects regression and standard error as robust in cluster regression. This table shows that there is a negative and significant relationship between GEPU and IE. This could be interpreted to mean that

investment inefficiency increases as GEPU increases. Furthermore, it shows that there is no significant association between a firm's SIZE and investment efficiency, however, this association is significant and negative with a firm's AGE. This could be interpreted as older firms investing more than new firms. CF and INF are not significant in this regard. EG is significant and negatively related to investment efficiency. This means that during periods of high economic growth, companies invest more from their normal capacity.

Conclusion

The effect of policy uncertainty on corporate decisions is an important research topic in the field of Economic and Finance. The recent increase in economic policy uncertainty after the COVID-19 is of great importance. Therefore, this study examined this effect of global economic policy uncertainty on Malaysian firms over the period 2010-2022. The data is collected over the period 2010-2022 using Thomson Reuters Database and policy database by following Baker et al (2016). The result of this study indicates that with an increase in global economic policy uncertainty, investment inefficiency of a firm also increases. The effect of firm characteristics on investment efficiency is significant as compared to macroeconomic factors.

This study provides interesting insight to government, policy makers and researchers about the investment decisions of a company during the presence of GEPU. Furthermore, it also guides them they should introduce new policy and make regulations for corporate decisions when GEPU is increasing. It also provides insight about the macroeconomic factors that could affect the investment performance of a companies.

The limitation of this study is that it includes only non-financial firms therefore, for future research it is suggested that financial firms should be included in the sample.

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Appendix -A

Definition of Variables

Variable	Description	Source	
GEPU (Global economic policy uncertainty)	Economic policy uncertainty based on the frequency of newspaper articles that contain specific words related with economic policy uncertainty	Policyuncetrainity.com	
IE (Investment inefficiency)	Investment inefficiency is the difference between actual and expected investment	Thomson DataStream	Reuters
Size (Firm size)	Size is measured as the logarithm of total assets	Thomson DataStream	Reuters
Age (Firm age)	Age is measured when the firm is registered from its date of incorporation	Thomson DataStream	Reuters
CF (Firm cash flow)	The ratio of cash flow to total assets	Thomson DataStream	Reuters
EG (Economic growth)	The growth of country GDP in terms of percentage	Thomson DataStream	Reuters
INF (inflation)	The inflation of a country in terms of percentage	Thomson DataStream	Reuters