Impact of economic policy uncertainty on financial flexibility before and during the COVID-19 pandemic

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Abstract

Purpose – This study examines the influence of economic policy uncertainty on financial flexibility before and during the coronavirus disease 2019 (COVID-19) pandemic. Few prior studies have examined this association specifically for debt and cash flexibility.

Design/methodology/approach – Using quarterly data from 2016 to 2022, 1014 observations were collected from the S&P Capital IQ database for listed tourism companies in India. The pre-pandemic period is defined as 2016 Q1 to 2020 Q1, whereas the pandemic period is from 2020 Q2 to 2022 Q3. The data are analysed using ordinary least squares, probit, logit and difference-in-difference (DID) estimation.

Findings – The evidence of this study suggests a negative association of economic policy uncertainty with debt flexibility during the COVID-19 pandemic. The findings also suggest that COVID-19 induced economic policy uncertainty results in high cash flexibility. This meets the expectations for the crisis period, as firms are likely to hold more cash and less debt capacity to manage their operations. The results are robust for various estimation techniques.

Research limitations/implications – This study is limited to one emerging country and is specific to one non-financial sector. Future research could extend to more emerging countries and include other non-financial sector companies.

Practical implications – The findings of this research are useful for tourism sector managers as they can effectively manage their cash and debt flexibility during crisis periods. They will need to prioritise cash flexibility over debt flexibility to manage operations effectively. Policymakers need to provide clear and stable economic policies to help firms manage their debt levels during a crisis.

Originality/value – To the best of the author's knowledge, no existing studies have investigated the influence of economic policy uncertainty on the financial flexibility of tourism companies before and during the COVID-19 pandemic. Furthermore, this study establishes a novel set of critical determinants, such as economic policy uncertainty.

Keywords Financial flexibility, Economic policy uncertainty, COVID-19, Precautionary motive theory

Paper type Research paper

1. Introduction

The coronavirus disease 2019 (COVID-19) pandemic has ushered in unprecedented challenges for the world, forcing the government to enforce widespread restrictions. This resulted in several firms closing down temporarily or permanently. International, regional and local travel

JEL Classification — B22, E61, L83, M41, Z32

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restrictions significantly affected the tourism and hospitality industry (Yang *et al.*, 2020). Previously, air travel was attributed to amplifying the spread of influenza (Browne *et al.*, 2016), thus the segment was one of the first to be curbed for personal safety and survival in the pandemic (Nicola *et al.*, 2020). UNWTO (2021) suggests that the biggest crisis in the history of the tourism industry will continue in 2021. As per statistics published by UNWTO (2021), between January and May 2021, international tourist arrivals were 85% below the 2019 levels, in which Asia and the Pacific region were down by 95%. In India, the tourism and hospitality industry was facing the highest unemployment rate (Kaushal and Srivastava, 2021) with about 4.2 million jobs lost during the second wave of the pandemic (Saraswathy, 2021). The Ministry of Tourism India (2021) introduced several measures to boost the travel industry, including an extension of the e-visa facility to 171 countries, a reduction of e-tourist visa fees, a new policy on religious and medical tourism, and 'Dekho Apna Bharat' initiative that encourages domestic travel. Furthermore, the Government provided free loans to the Micro, Small and Medium Enterprises (MSMEs) to revive the economy that included the tourism sector (India Brand Equity Foundation, 2021). While initiatives are being implemented, Kaushal and Srivastava (2021) argue for more empirical investigations of the pandemic's impact on the industry; thus, this study is an effort towards the same.

Managers address future shocks in cash or investment positively by intentionally maintaining a low level of leverage and a high level of cash reserves which are above the optimal level (Denis and McKeon, 2012). This form of financial flexibility remains an essential element in corporate financing decisions. Additionally, firms face the challenge of imperfect capital markets accompanied by the increasing cost of external financing, thus making financial flexibility even more crucial. Thus, financial flexibility can be pursued by managing their capital structure, formulating cash management or payment policies, and considering the intertemporal links between financing and investment decisions (Almeida *et al.*, 2011). Economic policy uncertainty (EPU) is considered as an external risk that plays an important role in financing and investment decisions (Liu *et al.*, 2021). Regulatory authorities frequently alter the policy environment, which in turn limits the firm's ability to create stable and consistent prejudgment of their financial conditions and external environment. Investment and financial decisions converge and capital allocation efficiency deteriorates due to the instability of the macroeconomic environment (Baum *et al.*, 2012). Baum *et al.* (2012) argue that during high EPU, it is difficult to observe management efforts, thus increasing information asymmetry and encouraging holding more cash. High EPU is also associated with adverse impacts on firm profitability through pricing, repricing, investment, divestment and cash flow decisions (Ozili, 2021).

Türkcan and Erkuş-Öztürk (2019) confirm that tourism firms will exhibit survival rates during the crisis, with hotels and travel agencies being more sensitive to macroeconomic and political shocks. It has also been observed that firms with high financial flexibility suffer low impact (Bancel and Mittoo, 2011), while high pre-levels of debt hurt firm value during the financial crisis (Meier *et al.*, 2013). While literature has documented the performance of the tourism sector during a prior crisis, the impact of COVID-19-induced EPU has not yet been explored. Thus, using a sample of 1014 firm quarterly observations from 2016 to 2022, this study investigates the impact of EPU on the financial flexibility of tourism firms in India before and during the pandemic. The results of the study suggest that COVID-19-induced EPU results in lower debt flexibility for tourism firms. This study also confirms that under the conditions of high EPU during the pandemic, firms have higher cash flexibility. Cash is used as savings by tourism companies to mitigate the adverse impact of adverse shocks and higher EPU.

This study makes several contributions to the literature. Industry actors and decision-makers face the unprecedented challenge of surviving a crisis, and this research offers insight into the determinants of financial flexibility that would support coping with the same. Liu *et al.* (2020) recommended that future studies should study the impact of uncertainty in

tourism sectors under various situations. Thus, this study contributes to the EPU literature and extends the debate of its influence on a firm's financial flexibility. This study included quarterly data to investigate the objectives that are a vital contribution to the pandemic period highlighted in literature (Poretti and Heo, 2022). A prior study by Altaf (2022) suggested that EPU hurts the investment decisions of Indian hospitality firms without considering the impact of the pandemic. As financial flexibility is a key element for firms to make investment decisions, this study further contributes to the EPU literature by exploring its impact on financial flexibility for India's tourism firms. The study on financial flexibility by Chang and Wu (2022) cited limited data for the pandemic and did not consider the dummy variable of financial flexibility. This study overcomes the gap in literature by including the impact of the pandemic for a longer period (Kaczmarek *et al.*, 2021) and considering two measures of financial flexibility. The study also examines the impact of external and firm-specific characteristics on financial flexibility before and during the pandemic, addressing the suggestion of extending more studies to investigate the pandemic effect (Kaushal and Srivastava, 2021).

The remainder of this study is organised as follows. Section 2 presents a literature review and the hypothesis development of the study. Section 3 elaborates on the methodology that includes sampling, the research model and variable definition. Section 4 discusses the results of the empirical model. Finally, Section 5 concludes with a discussion of implications and limitations.

2. Literature review

2.1 Financial flexibility: cash versus debt

Prior studies on capital structure have noted that companies, in general, have less leverage than those predicted by dominant theories (Yousefi and Yung, 2022). This phenomenon has been attributed to a company's preference to maintain financial flexibility in terms of unused debt capacity (de Jong *et al.*, 2012; Marchica and Mura, 2010). Firms like to be financially flexible as it allows them to avoid financial distress during periods of negative shocks and can fund investments when an opportunity arises.

Corporate financial flexibility has two major components: cash and debt flexibility. A firm is known to have cash flexibility when it has excess cash holdings (Arslan-Ayaydin *et al.*, 2013). Similarly, a firm will have debt flexibility if it has a residual debt capacity (Yang *et al.*, 2023). Recent research by Hao *et al.* (2022) defined financial flexibility as the ability of a firm to hold excess cash and residual liabilities to address market competition strategies with more flexibility. As per the financial flexibility hypothesis, firms deliberately maintain a zero-debt policy to manage the debt capacity that can be used for future investment opportunities (de Jong *et al.*, 2012; Marchica and Mura, 2010). Similarly, firms holding more cash are associated with maintaining corporate flexibility to take advantage of profitable investment opportunities.

Two different corporate policies are adopted for financial flexibility: capital structure and cash. Under capital structure policy, researchers use cash flow sensitivity to external sources of finance to measure financial flexibility. A firm resorts to raising more external finance when its internal sources are exhausted (Almeida *et al.*, 2011). Thus, maintaining low leverage leads to higher financial flexibility and raises finance whenever needed (Harris, 2015). Cash policy involves maintaining high cash balances to avoid under-underinvestment (Marchica and Mura, 2010). From a researcher's perspective, leverage and cash are simultaneously used to define financial flexibility. Prior studies argue that firms maintain low leverage combined with high cash holdings to counter investments and income shortages (Arslan-Ayaydin *et al.*, 2013).

2.2 Hypothesis development

From a theoretical perspective, a rise in uncertainty increases information asymmetry, which further aggravates the opacity of borrowers (Mishkin, 1999). This confuses lenders in

distinguishing between bad and good credit risks affecting the decision to lend, resulting in a decline in investment and, consequently, a contraction in economic activity. The financial system can be destabilised by either a shortfall in cash flow due to a decline in income, management or human error (Minsky, 1970). Thus, financial stability is more likely to be affected by uncertainty.

EPU affects organisations on a macro-level and has the possibility of exerting a distinct impact on financial flexibility compared to firm-level sources of uncertainty (Duong *et al.*, 2020). This study adopts the EPU index developed by Baker *et al.* (2016), which captures the uncertainty about the upcoming fiscal or monetary policy, tax or regulatory regime and electoral outcomes that influence political leadership. Li and Qiu (2021) highlight a dearth of literature on the importance of EPU in capital structure decisions. EPU is an exogenous shock to firms and is considered a non-diversifiable risk. Prior studies have reported that firms hold more cash during periods of high EPU (Duong *et al.*, 2020; Phan *et al.*, 2019; Demir and Ersan, 2017). Bordo *et al.* (2016) suggest that EPU is strongly related to slower real loan growth. This means that EPU accompanied by periods of recession and recovery curtailed bank loan growth and overall economic growth. Thus, as a precautionary motive, firms tend to reserve more cash when accessibility to the external financial markets is constrained in the period of EPU (Bates *et al.*, 2009). Economic policy is seen as a means to regulate a country's economic performance (Tran, 2021).

EPU places firms in two kinds of challenges. The first challenge emerges from the information asymmetry that occurs between firms and their creditors during periods of high economic uncertainty (Zhang *et al.*, 2015). This leads to creditors increasing the cost of debt to compensate for the information disadvantage (Jensen and Meckling, 1976; Myers and Majluf, 1984). The second challenge arises when firms tend to postpone their investment decisions during periods of EPU, leading to more volatile cash flows (Bloom *et al.*, 2007) and a high likelihood of default risk (Zhang *et al.*, 2015). Literature has reported that elevated levels of EPU are associated with shortened debt maturity (Datta *et al.*, 2019), reduced leverage levels due to higher debt and equity issuance costs (Gungoraydinoglu *et al.*, 2017), a causal effect on bond pricing (Waisman *et al.*, 2015) and decline in debt ratios of firms (Li and Qiu, 2021).

Zhao and Su (2022) report a U-shaped relationship between EPU and corporate financialisation from 2009 to 2020. It was found that when EPU is in an appropriate range, the firm is less likely to increase financial asset investment. Business groups with low internal controls in China have been reported to have centralised borrowing patterns under EPU. Almustafa *et al.* (2023) suggest that EPU negatively affects the leverage of NYSE-listed firms. However, this study did not investigate the impact of the pandemic. A study on listed Indian firms from 2009 to 2018 indicated a positive impact of EPU on leverage (Bajaj *et al.*, 2021). The findings indicate a gap in the literature in terms of financial flexibility that has been measured either through a cash or debt perspective, but not both. The studies have not investigated the effect of COVID-19 induced EPU on financial flexibility, especially in an emerging market like India and specifically for the tourism sector that made a significant contribution before the pandemic.

Thus, based on the above arguments, this study states the following hypotheses:

H1. A low debt flexibility is associated with COVID-19-induced EPU.

H2. A high cash flexibility is associated with COVID-19-induced EPU.

3. Methodology

3.1 Sampling and data collection

To empirically examine the determinants of financial flexibility before and during the COVID-19 period, this study uses tourism firms listed on the National Stock Exchange and

Bombay Stock Exchange in India. There were a total of 85 listed firms in the study period. Financial quarterly data from 2016 to 2022 were extracted from the S&P Capital IQ database for analysis. On 11th March 2020, the World Health Organization declared COVID-19 a pandemic; thereafter, countries worldwide took more stringent measures for controlling its spread. Therefore, this study used 2016 Q1 to 2020 Q1 as the pre-COVID-19 period and 2020 Q2 to 2022 Q3 as the COVID-19 period (WHO, 2020). Companies that had missing data over the period were eliminated from the study; thus, the final sample included 1014 firm-quarterly observations for 39 companies. To limit the effect of outliers in the accounting variables, the dataset was winsorised at the 1st and 99th percentiles.

3.2 Empirical specification

To explore the determinants of the financial flexibility of tourism firms before and during the COVID-19 pandemic, we investigated the following empirical equations using probit, logit and ordinary least squares (OLS) regression models. Financial flexibility (Debt FF1, Cash FF1) measured as binary variables (0,1) is estimated using the probit and logit, consistent with prior studies (Hammer *et al.*, 2023; Shams *et al.*, 2022), whereas when measured as a continuous variable (Debt FF2, Cash FF2), it is estimated using OLS (Demir and Ersan, 2017).

$$\begin{aligned}\text{Financial Flexibility}_{i,t} &= \alpha + \beta_1 \text{EPU}_{i,t} + \beta_2 \text{FirmSize}_i + \beta_3 \text{MTB}_{i,t} + \beta_4 \text{Maturity}_{i,t} \\ &+ \beta_5 \text{Tangibility}_{i,t} + \beta_6 \text{NDTS}_{i,t} + \beta_7 \text{E.Sales}_{i,t} + \beta_8 \text{NWC.TA}_{i,t} \\ &+ \beta_9 \text{RE.TE}_{i,t} + \beta_{10} \text{FirmAge}_{i,t} + \text{PeriodFE} + \mu_{i,t}\end{aligned} \tag{1}$$

where,

Financial flexibility is the dependent variable proxied by debt flexibility (Debt FF1, Debt FF2) and cash flexibility (Cash FF1, Cash FF2). EPU is the explanatory variable, and the control variables include firm size (FirmSize), market-to-book value ratio (MTB), debt repayable after one year to total debt (Maturity), fixed assets to total assets (Tangibility), depreciation to total assets (NDTS), earnings before extraordinary items divided by sales (E.Sales), networking capital divided by total assets (NWC.TA), retained earnings divided by total assets (RE.TE) and the logarithm of one plus firm age (FirmAge). The subscripts *I* refer to firm and *t* refer to quarter, respectively. The variable definitions are also provided in Appendix 1 [1].

As a robustness check, the study uses difference-in-difference (DID) estimation to test the before and during COVID-19 effect of EPU on financial flexibility before and during COVID-19. Further, DID estimation is used when there are two groups whose characteristics are observed over two different periods. This estimation helps overcome unobserved heterogeneity that may be caused by firm-specific characteristics. The DID estimation compares the mean difference between pre-COVID-19-EPU and during-COVID-19-EPU performances, thus improving the performance of testing the hypothesis. As DID aggregates data into two periods, it solves the serial correlation issue related to the time-series dimension of the data (Roy and K, 2019).

$$\begin{aligned}\text{Financial Flexibility}_{i,t} &= \alpha + \beta_1 \text{Treat}_{i,t} + \beta_2 \text{Post}_{i,t} + \beta_3 \text{Treat}_i \times \text{Post}_t + \delta \text{X}_{i,t} \\ &+ \text{PeriodFE} + \mu_{i,t}\end{aligned} \tag{2}$$

The treatment variable splits firms into two groups: high EPU (treatment group) and low EPU (control group). A value of 1 is assigned to firms with EPU greater than the median (high

EPU) and 0 otherwise (low EPU), consistent with prior studies (Shams *et al.*, 2022; Demir and Ersan, 2017). The post refers to a dummy variable for the point of an epidemic, whereby 1 refers to the period affected by COVID-19 and 0 otherwise. To determine whether there is a causal relationship between EPU and financial flexibility, the significance of the interaction between the COVID-19 period and the treatment variable would have to be observed. X refers to all the control variables identified in Appendix 1 [1].

3.3 Variables measurement

(1) Dependent variable

Financial flexibility

The dependent variable of this study is financial flexibility, which is measured both in terms of spare debt capacity and cash holdings. This study adopts Marchica and Mura's (2010) debt flexibility measurement. We use the following specification to derive the predicted leverage.

$$\begin{aligned}\text{Lev}_{i,t} = {} & \alpha + \beta_1 \text{Lev}_{i,t-1} + \beta_2 \text{IndustryLev}_{i,t-1} + \beta_3 \text{MTB}_{i,t-1} + \beta_4 \text{FirmSize}_{i,t-1} \\ & + \beta_5 \text{Tangibility}_{i,t-1} + \beta_6 \text{Profitability}_{i,t-1} + \text{FirmFE}_i + \text{PeriodFE} + \mu_{i,t}\end{aligned}$$

The definition of variables is included in Appendix 1 [1]. The equation includes lagged dependent and independent variables to control for potential endogeneity. The negative deviation between predicted and actual leverage is termed an unused debt capacity. Thus, a firm is classified as having debt flexibility if it has three consecutive years of unused debt capacity (Gregory, 2020; Marchica and Mura, 2010). Debt flexibility is a dummy variable with a value of 1 if it has three consecutive years of unused debt capacity and zeroes otherwise. Thus, Debt FF1 is a dichotomous variable. Prior studies (Almustafa *et al.*, 2023; Dalwai and Sewpersadh, 2023; Dalwai *et al.*, 2023) have also used leverage as a measure of financial flexibility; thus, this study uses the same as a second measure (Debt FF2).

For a firm to be termed a cash-flexible firm, its cash needs to be more than the industry median (Khan *et al.*, 2020). Thus, cash flexibility (Cash FF1) is denoted as 1 if it is greater than the median and 0 otherwise. Additionally, cash flexibility (Cash FF2) is measured as the natural logarithm of one plus cash and cash equivalents (Deshmukh *et al.*, 2021).

(2) Independent variables

The key explanatory variable of this study is the EPU index, which is a widely used measure in prior studies (Liu *et al.*, 2021; Ozili, 2021; Tran, 2021). Baker *et al.* (2016) constructed a monthly EPU index for India using three key term sets counted from articles published by seven Indian newspapers. Higher EPU values suggest higher EPU in the country for that period. As this study is based on quarterly periods, the average quarterly EPU index was used for each period.

4. Results and discussion

4.1 Descriptive statistics

Appendix 2 [1] presents the descriptive statistics of this study. The average Debt FF1, measured as a spare debt capacity, was 0.18, indicating that the tourism firms had low debt flexibility for the entire study period. The firms had low leverage (Debt FF2), on average, at 0.24. Cash flexibility (Cash FF1) was balanced during the study period. The cash holdings (Cash FF2) averaged 5.29, indicating that the firms held high cash balances. The average EPU for India was 73.6, ranging between a maximum of 134.57 and a minimum of 39.88. The average

earnings to sales ratio (E.Sales) and retained earnings to total equity were negative, which reflects the overall probable toll of the pandemic in the study period.

4.2 Correlation analysis

Appendix 3 [1] presents Pearson's correlation between the dependent, explanatory and control variables. Debt FF1 was positively correlated with NDTS, firm size and firm age. This suggests that spare debt capacity is higher in larger and older firms in comparison to smaller and younger firms. While Debt FF1 was correlated with EPU, Debt FF2, Cash FF1 and Cash FF2 were not correlated with EPU. The financial flexibility variables were all positively correlated with firm size. This indicates that large tourism firms were able to have better financial flexibility. Pearson's correlation analysis also supports identifying multicollinearity problems between the explanatory variables that are considered serious if the coefficient is above 0.8 (Hair *et al.*, 2006). The correlation coefficient between all the explanatory variables is less than 0.5, thus suggesting no multicollinearity. This is also confirmed by the variance inflation factor (VIF) analysis (not shown due to brevity), which reflects a threshold value of less than 10 (Dalwai *et al.*, 2021, 2022; Velte, 2019; Scafarto *et al.*, 2023).

4.3 Regression results

Table 1 presents the probit and logit regression results of the impact of EPU on Debt FF1 and Cash FF1 before and during the COVID-19 period. As described in the methodology section, these models are useful for dichotomous-dependent variables. The hypothesis is simultaneously tested using logit and probit models to understand the sensitivity of the results. Both models differ in terms of the assumption of the distribution of the error terms. The results of the two estimation methodologies are consistent. The results in columns 1 and 5 suggest that EPU is positively and significantly associated with Debt FF1 in the pre-COVID period. This finding is consistent with the study of Bajaj *et al.* (2021), which also reported a positive relationship for Indian listed firms. However, during COVID-19, EPU was not significantly associated with Debt FF1, thus lending no support to H1. The results in columns 3 and 7 indicate that EPU is negatively and significantly associated with Cash FF1 in the pre-COVID period, whereas during the COVID-19 period, EPU is positively and significantly associated with Cash FF1 (columns 4 and 8). This result supports H2. The findings suggest that firms will hold more cash during times of high EPU to overcome investment delays and to keep it as a safety net, thus being consistent with prior studies (Trinh *et al.*, 2022; Feng *et al.*, 2022). The COVID-19-induced EPU demonstrates varied impacts on debt and cash flexibility.

Debt FF2 and Cash FF2 are continuous variables; thus, OLS estimation was used. To identify the appropriate estimator for dealing with heterogeneity in the panel data, the Breusch–Langer Multiplier test was applied to choose between random effects and pooled OLS. The results did not reject the null hypothesis, thus leading to the adoption of the OLS estimator. Appendix 4 [1] presents the pooled OLS results for the determinants of debt and cash flexibility before and during the COVID-19 pandemic. The Table shows the results of Equation (1) across the periods. All the results (Columns 1, 2, 3, and 4) demonstrate a high R2, suggesting that the variations in financial flexibility are well explained with the independent and control variables.

Columns 1 and 2 reflect the results of Equation (1) of the impact of EPU on debt flexibility (Debt FF2) before and during the COVID-19 pandemic, respectively. EPU was statistically significant for Debt FF2 before and during the pandemic. Furthermore, during the COVID-19 pandemic, EPU indicates a negative and significant relationship with debt flexibility. This is consistent with H1. A high EPU dampens the external financing capacity of firms and thus is more constrained during the pandemic. This is consistent with the findings of US public firms

	Probit Modelling				Logit Modelling			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	Pre-Covid FF1	During Covid FF1	Pre-Covid Cash FF1	During Covid Cash FF1	Pre-Covid FF1	During Covid FF1	Pre-Covid Cash FF1	During Covid Cash FF1
EPU	0.00898*	0.00405	−0.00741*	0.0181***	0.0173*	0.00692	−0.0121*	0.0314***
	(0.04)	(0.17)	(0.04)	(0.00)	(0.03)	(0.17)	(0.05)	(0.00)
Firm Size	0.349***	0.139	0.788***	0.838***	0.629***	0.229	1.342***	1.416***
	(0.00)	(0.12)	(0.00)	(0.00)	(0.00)	(0.13)	(0.00)	(0.00)
MTB	−0.0470	−0.0358	−0.00312	−0.0244	−0.0819	−0.0598	−0.00656	−0.0402
	(0.07)	(0.10)	(0.65)	(0.26)	(0.08)	(0.13)	(0.56)	(0.27)
Maturity	−0.341*	−0.570**	0.146	0.236	−0.631*	−0.945**	0.269	0.416
	(0.02)	(0.01)	(0.26)	(0.33)	(0.02)	(0.01)	(0.22)	(0.31)
Tangibility	0.280	−0.177	0.0877	−0.529	0.523	−0.307	0.0757	−0.919
	(0.21)	(0.49)	(0.62)	(0.06)	(0.21)	(0.49)	(0.80)	(0.06)
NDTS	14.10	23.12	23.19**	29.68*	26.67	37.22	39.88**	49.38*
	(0.19)	(0.06)	(0.01)	(0.02)	(0.18)	(0.07)	(0.01)	(0.02)
E.Sales	0.216	0.0396	−0.0385	0.0242	0.436	0.0676	−0.0910	0.0295
	(0.44)	(0.36)	(0.86)	(0.60)	(0.40)	(0.35)	(0.80)	(0.71)
NWC.TA	0.754	−0.342	0.890*	0.171	1.179	−0.643	1.476*	0.356
	(0.15)	(0.55)	(0.05)	(0.77)	(0.22)	(0.51)	(0.05)	(0.72)
RE.TE	0.0545*	0.0488	−0.00328	0.0466	0.0961*	0.0807	−0.00460	0.0768
	(0.04)	(0.15)	(0.84)	(0.16)	(0.04)	(0.15)	(0.86)	(0.18)
Firm Age	0.00125	−0.00136	0.00368	0.00166	0.00210	−0.00220	0.00876*	0.00271
	(0.53)	(0.57)	(0.08)	(0.56)	(0.55)	(0.59)	(0.03)	(0.58)
Constant	−4.442***	−1.564*	−5.541***	−8.173***	−7.980***	−2.577*	−9.537***	−13.88***
	(0.00)	(0.03)	(0.00)	(0.00)	(0.00)	(0.03)	(0.00)	(0.00)
N	663	351	663	351	663	351	663	351
Pseudo R^2	0.0611	0.0501	0.1806	0.2728	0.0599	0.0497	0.1821	0.2726
Wald χ^2	32.85	20.23	163.5	126.5	32.23	20.06	164.9	126.4
p	0.000289	0.0271	0.0000	0.0000	0.000367	0.0287	0.0000	0.0000

Note(s): *p*-values in parentheses * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Refer Appendix 1 for variable definition
Source(s): Authors' own work

Table 1.
Probit and logit regression results of EPU impact on debt (Debt FF1) and cash (Cash FF1) flexibility before and during COVID-19

that reported policy uncertainty to be associated with more stringent debt terms (Tran, 2021). Before and during the COVID-19 pandemic, the firm characteristics MTB, maturity and tangibility, were found to be significant determinants of leverage. Firm Size was not significant before the pandemic, but it was positive and statistically significant during it. This indicates that larger tourism firms tend to embrace financial flexibility during the pandemic more easily than in non-pandemic periods. These findings are inconsistent with the results of BRIC countries who reported a negative relationship between financial flexibility and firm size (Gregory, 2020).

Columns 3 and 4 show the results of Equation (1) of the impact of EPU on cash flexibility (Cash FF2) before and during the COVID-19 pandemic, respectively. In both periods, cash flexibility is insignificantly associated with EPU. Thus, there is no support for H2. These findings are inconsistent with prior studies that have reported a positive and significant association between EPU and cash holdings (Li, 2019). Larger firms had more cash flexibility than smaller firms before the COVID-19 pandemic. Only high tangibility was positively and significantly associated with cash holdings during the pandemic.

4.4 Robustness check

To check the sensitivity of the results estimated in Table 1, this study conducts a DID estimation. Bias in the DID approach is eliminated by performing a series of robustness tests.

DID estimation must fulfil the fundamental principle of the parallel trend hypothesis. According to the parallel trend hypothesis, treatment and control groups should have the same effects or tendencies. This assumption was tested in STATA using the dqd procedure (Mora and Reggio, 2014) by measuring the dependent variables across the treatment and control groups. The null hypothesis of this result states that parallel paths cannot be rejected, thus supporting the validity of parallel paths. Therefore, the test results suggest that the high- and low-EPU groups have common pre-treatment dynamics. The Debt FF1, Debt FF2, Cash FF1 and Cash FF2 parallel test *p*-values are not significant for any of the models (0.1666, 0.0634, 0.0661 and 0.1773, respectively), thus indicating that the DID estimation is robust.

Appendix 5 [1] presents the DID effect of EPU on the financial flexibility variables. The coefficient Treat*Post was significant at 5% in Columns 2, 3 and 4. The Treat*Post coefficient −0.0572 (Column 2) indicates COVID-19-induced high EPU results in low Debt FF2. This finding is consistent with H1. The Treat*Post coefficient is positive and significant in Columns 3 and 4, indicating COVID-19-induced high EPU results in high Cash FF1 and Cash FF2. This finding is consistent with H2.

5. Conclusion

This study investigated the impact of economic policy uncertainty on the financial flexibility of India's tourism sector before and during the COVID-19 pandemic. To the best of the author's knowledge, such a study is investigated for the first time in comparison to the literature. Using quarterly data from 2016 to 2022, this study reports the association of EPU with cash and debt flexibility. The findings suggest that EPU has an inverse relationship with debt flexibility during the COVID-19 period. This finding indicates that increased EPU is associated with lower debt flexibility. Cash flexibility was found to be high during periods of increased EPU. The DID estimation results confirm the robustness of the initial estimation.

The outcome of this study has important implications for researchers, practitioners and investors. Researchers can explore additional determinants of companies' financial flexibility, such as EPU. This study contributes to the literature by providing evidence that high EPU is associated with low debt and high cash flexibility. Additionally, the results lend support to the precautionary motive theory that propagates high cash flexibility during the COVID-19 pandemic. Practitioners must consider the role of EPU when making decisions on maintaining financial flexibility in terms of debt and cash. While financial flexibility supports sustaining business operations by seizing prospective investment projects, during periods of crisis, this flexibility is reported to act differently. Investors seek to protect their investments and achieve a good rate of return. This is possible for firms that maintain strong financial flexibility. Thus, from the perspective of research evidence, investors can choose to avoid investing in tourism firms when EPU is high.

This study suffers from certain limitations and, thus, is accompanied by future recommendations. The study was conducted for a single emerging country and a specific industry. Future studies can be extended to other emerging countries and the non-financial sector as a whole. The results are reported over a quarterly period horizon, and it would be useful to cover yearly periods in the future.

Notes

1. Please see it on the Online Appendix.

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Appendix

The supplementary material for this article can be found online.

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