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Research note

Political uncertainty and the us tourism index returns

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Introduction

Recent dramatic events, such as Syrian civil war, Brexit referendum and the US-China trade war, have proved the vulnerability of tourism industry to external shocks. For instance, the British global travel group, Thomas Cook officially declared bankruptcy on September 23, 2019 due to high debt levels and a bad merger. However, apart from financial factors, analysts also blame Brexit for the dramatic collapse of the company, causing British travelers to delay their holiday plans (Garcia, 2019). Increasing uncertainty may lead to lower company earnings and stock prices in tourism industry as the demand decreases and the cost of doing business raises.

A vast majority of empirical papers analyzes the tourism demand forecasting and macroeconomic determinants of tourism (see Gunter, Önder, & Smeral, 2019 for a review). In recent years, along with the heightened global uncertainty, non-macroeconomic factors affecting tourism industry have attracted greater attention from researchers. These factors include terror events (Zopiatis, Savva, Lambertides, & McAleer, 2019), and various sources of uncertainty such as economic uncertainty (Demir & Gözgör, 2018) and geopolitical risks (Demiralay & Kilincarslan, 2019). This note aims to extend the existing literature by analyzing the vulnerability of US tourism & travel stock index to political disagreement among U.S. politicians, proxied by the Partisan Conflict Index. This is also the first paper that considers the role of partisan conflict in explaining US tourism returns.

Theoretically, increased partisan conflict can adversely affect tourism stock prices through different channels. As suggested by Azzimonti (2014), intense partisan conflict may increase uncertainty among households and firms. When uncertainty is high, individuals have greater intensive to delay or cancel their consumption decisions, such as travel plans, which in turn leads to lower tourism company earnings and stock prices. In a recent study, Das, Dutta, Bhadra, and Uddin (2019) argues that tourism sector is particularly sensitive to uncertainty for security, safety, and stability reasons. Gupta, Mwamba, and Wohar (2018) further claims that business cycle fluctuations resulted from higher partisan conflict affect stock markets via movements in real economic activity. In addition, investors may require higher returns as compensation for increased political uncertainty, causing a decline in equity prices. Our results suggest that a high degree of partisan conflict decreases tourism stock returns; however, the sensitivity is highly regime-dependent.

Data and methodology

The data are retrieved from different sources. The Dow Jones U.S. Travel &Tourism index prices are downloaded from Bloomberg. The partisan conflict index developed by Azzimonti (2014) is extracted from Federal Reserve Bank of Philadelphia (https://www.philadelphiafed.org/research-and-data/real-time-center/partisan-conflict-index). It measures the degree of political disagreement

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Table 1
OLS and QR model results.

	OLS	$\tau_{0.05}$	$\tau_{0.1}$	$\tau_{0.25}$	$\tau_{0.5}$	$\tau_{0.75}$	$\tau_{0.90}$	$\tau_{0.95}$
Constant	0.456	−8.586***	−6.937***	−3.323***	0.08	4.377***	8.248***	10.324
	(0.875)	(−11.623)	(−10.233)	(−4.806)	(0.122)	(5.890)	(8.007)	(6.966)
Geopolitical risks	−0.042**	−0.023	−0.035**	−0.056**	−0.043	−0.008	−0.047	−0.048
	(−2.559)	(−1.493)	(−2.135)	(−2.476)	(−1.560)	(−0.008)	(−1.274)	(−1.126)
Partisan conflict	−0.057	−0.042	−0.052	−0.101**	−0.012	−0.055	−0.120*	−0.062
	(−1.625)	(−0.802)	(−0.948)	(−2.051)	(−0.168)	(−1.099)	(−1.673)	(−0.592)
Economic policy uncertainty	0.02	0.043	0.024	0.022	0.027	0.003	0.056	0.016
	(0.981)	(1.218)	(0.797)	(0.807)	(0.890)	(0.104)	(1.537)	(0.26)
Exchange rate	−1.652***	−2.441***	−1.490**	−1.671***	−1.831***	−1.982***	−1.869	−2.482*
	(−3.695)	(−2.757)	(−2.161)	(−3.471)	(−3.450)	(−2.863)	(−1.539)	(−1.762)
Crude oil prices	−0.079*	−0.190*	−0.146	−0.132**	−0.091	−0.04	0.067	0.119
	(−1.681)	(−1.854)	(−1.617)	(−2.386)	(−1.243)	(−0.426)	(0.528)	(0.681)
Dow Jones US index	1.461***	1.670***	1.738***	1.641***	1.429***	1.283***	1.376***	1.207***
	(8.337)	(7.869)	(8.511)	(8.084)	(7.095)	(5.169)	(4.454)	(4.464)

Notes. ***, ** and * represent the statistical significance at the 1%, 5% and 10% levels, respectively. Robust t-ratios are in the parentheses.

among U.S. politicians at the federal level by conducting keyword searches on major US newspapers. Higher values of the index imply greater conflict among political parties, Congress, and the President. We include US Economic Policy Uncertainty, real broad effective exchange rate for United States, crude oil prices and Dow Jones Composite US stock index prices as control variables.[1] We also include the geopolitical risk index obtained from the work of Caldara and Iacoviello (2018) (https://www2.bc.edu/matteo-iacoviello/gpr.htm).[2] The selection of the control variables is based on the existing literature (see, for example, Demir & Gözgör, 2018; Demiralay & Kilincarslan, 2019).[3] The data frequency is monthly from December 2004 to August 2019. All the variables are converted to the first difference of their natural logarithms to achieve stationarity.[4]

This note employs both the classical Ordinary Least Square (OLS) and quantile regression techniques (QR). The traditional mean models only estimate the average response of the explained variable to the explanatory variable and do not capture the response across different quantiles of the conditional distribution. In contrast, the QR technique proposed by Koenker and Bassett (1978) provides a complete picture of the conditional distribution and analyzes the response over the entire spectrum of the distribution. The QR model is a robust alternative to the conventional OLS estimator as it yields more robust estimates in the presence of outliers, non-normality and heteroscedasticity (Koenker & Hallock, 2001).

The QR model can be written as follows:

$$y = x'\beta + \varepsilon \ with \ \ Q_y(\tau \mid x) = x'\beta(\tau) \tag{1}$$

where y denotes the dependent variable (the US travel and tourism index returns), x is a matrix vector independent variables. $Q_y(\tau \mid x)$ is the τth conditional quantile of y which is linearly dependent on the set of explanatory variables.

The coefficients $\beta(\tau)$ for a given quantile τ are estimated by solving the following minimization problem

$$\widehat{\beta}(\tau) = \arg\min \left[\sum_{y \geq x'\beta} \tau \mid y - x'\beta \mid + \sum_{y < x'\beta} (1-\tau) \mid y_i - x'\beta \mid \right] \tag{2}$$

In this study, the coefficients $\beta(\tau)$ measure the sensitivity of the US travel & tourism index returns to the explanatory variables under changing market conditions. The median regression is obtained by setting $\theta = 0.5$ and the associated estimator is the least absolute deviation estimator. Following the literature on the QR modelling, the results are reported for $\tau = 0.05,0.1,0.25,0.5,0.75,0.90.0.95$ and the plots of the QR process are drawn for each independent variable to see the full effect across all the quantiles. The pairs bootstrapping is used to compute robust standard errors to have a valid inference under heteroscedasticity and misspecification.

[1] The inclusion of the Down Jones composite index is due to the Capital Asset Pricing Model (CAPM) which has been extensively used to describe the relationship between expected return and systematic risk for assets.

[2] All the uncertainty indices used in this study (Partisan Conflict, Economic Policy Uncertainty and Geopolitical Risk) are constructed in a similar way. The researchers provide a single index of uncertainty by counting the occurrence of words related to the types of uncertainty in leading newspapers. For example, Caldara and Iacoviello (2018) calculate the geopolitical risk index by counting the number of articles related to geopolitical risk in eleven national and international newspapers for each month.

[3] We also include a dummy variable in our analysis to capture the effect of 2008–09 financial crisis, as suggested by an anonymous referee. The undocumented results show that the qualitative results do not change, showing the robustness of our results. We specially thank the reviewer for this suggestion.

[4] The summary statistics and unit-root tests are not included in the paper to save space, however they are available upon request.

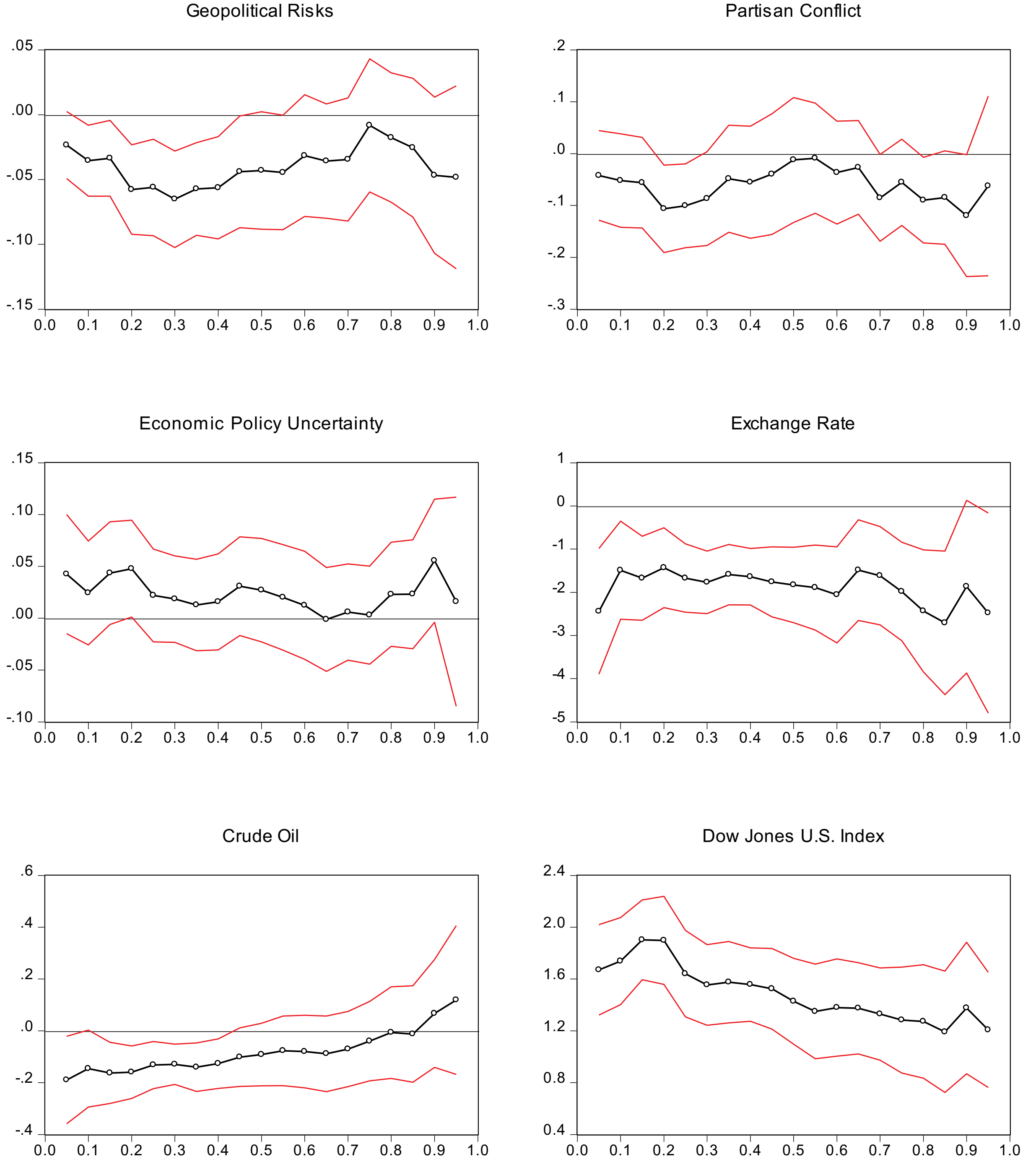

Fig. 1. Quantile process estimates. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

Results

Table 1 presents the regression results and Fig. 1 exhibits the quantile processes for each coefficient.[5] In Fig. 1, the vertical axis displays the magnitude of the quantile parameter and the horizontal axis shows the quantiles. The black line draws the magnitude of the reaction and the red lines exhibit the 90% confidence intervals. The quantile parameter is statistically significant if the zero line is not located between the lower and upper bounds of the confidence intervals.

The OLS model suggests that the partisan conflict does not have any statistically significant effect on tourism returns. However, examining the effect across the whole spectrum of the distribution, we find significant impacts in both lower intermediate and higher quantiles. This indicates that OLS results can be misleading and political disagreement may have a negative impact on the tourism stock returns in various market states. More specifically, Fig. 1 shows that the coefficients are significant at conventional levels in the quantiles of $\tau_{0.2}$, $\tau_{0.25}$, $\tau_{0.70}$ $\tau_{0.80}$ and $\tau_{0.90}$, suggesting that a higher degree of partisan conflict can negatively affect tourism stocks under various market states. During a period characterized by polarization and divided government, travelers may delay their plans due to security reasons, which results in lower earnings and stock prices for tourism companies. Moreover, the impact of partisan conflict is stronger at the upper tail, particularly at $\tau_{0.90}$, suggesting that investors are more sensitive to negative (positive) shocks when the market is in an optimistic (pessimistic) mood. In other words, in good market conditions (bullish market circumstances), investors in US tourism sector seem to give higher weight to lawmakers' disagreement about policy, than in bad market conditions (bearish market circumstances). This finding is in parallel with Das et al. (2019) who find that the negative effect of presidential uncertainties on US hotel industry is more pronounced when the industry returns are high.

As for the control variables, the tourism returns are more vulnerable to geopolitical risks under bear market circumstances, which is in line with Demiralay and Kilincarslan (2019). Among the control variables, exchange rate is the most influential as its effect is of the highest magnitude and highly significant across the whole distribution quantiles. This shows that an appreciation of the US dollar decreases travel expenditures at all times, which is translated into decreased company earnings in tourism industry.

The United States is the biggest tourism market in the world in 2018; the proceeds from the tourism industry contribute almost $1.6 trillion to its GDP, which corresponds to 7.8% of the total GDP. For such a country, understanding the drivers of the tourism industry is of pivotal importance for managers, authorities and investors. The government should take necessary remedial measures to promote tourism during episodes of high political uncertainty, which can also improve the performance of companies through tourism development. Tourism firms should also adopt proper corporate strategies, such as improving brand loyalty and implementing effective marketing strategies, to mitigate the potential detrimental effects of partisan conflict. Furthermore, financial market participants can flee from risky tourism stocks to safe-haven investments, such as bond and gold, to protect themselves against heightened uncertainties.

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[5] Note that the OLS regression is estimated with Heteroskedasticity and Autocorrelation Consistent (HAC) covariance matrix estimators to produce robust standard errors. The diagnostic tests for serial correlations and heteroskedasticity show that the OLS model is well specified. Furthermore, we test the validity of the quantile regressions and the goodness of fit with different statistical tests, such as Quasi Likelihood ratio (QLR), Pseudo R-squared and the slope equality tests. The relevant test results suggest that the QR model fits the data very well. The test results are available upon request.