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***Research Article***

# Revisiting the Nexus between Turkish Tourism Index Returns and Economic Policy Uncertainty: Partial Wavelet Coherence Analysis

**Özcan Ceylan**[a]

## Abstract

This study reevaluates the well-documented negative relationship between the Turkish tourism index stock returns and economic policy uncertainty (EPU) indices using a wide range of EPU indices that span from 1997 to 2003. The aim of the paper is to find out whether EPU indices a have particular importance for the tourism companies' stock returns or they end up with the same consequences regardless of the sector. To this end, Partial Wavelet Coherence analysis is conducted using the BIST 100 and the real effective exchange rate indices as conditioning variables. Results show that the negative relationship between the EPU indices and Turkish tourism index returns tends to disappear when controlled for the BIST 100 index returns. EPUs are shown to have no particular effect on the excess stock return performance of Turkish tourism companies. The policy uncertainties in Europe (particularly in France and, to a lesser extent in Germany) become effective only after controlling also for the changes in real effective exchange rates.

*Keywords:* economic policy uncertainty, BIST 100 Tourism index returns, partial wavelet coherence analysis

*JEL Codes:* G41, Z33, C49

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# Türk Turizm Endeks Getirileri ve Ekonomik Politika Belirsizliği Arasındaki Bağın Yeniden Değerlendirilmesi: Kısmi Dalgacık Bağdaşımı Analizi

**Özcan Ceylan**[a]

## Öz

Bu çalışma, Türk turizm hisse senedi endeksi getirileri ile ekonomik politika belirsizliği (EPU) endeksleri arasındaki literatürde tespit edilmiş negatif ilişkiyi yeniden değerlendirmektedir. Çalışmada, 1997-2003 dönemini kapasayan çeşitli EPU endeksleri kullanılarak, ekonomik politika belirsizliğinin Turizm işletmelerinin hisse senedi getirileri için, diğer sektörlere olandan farklı, özel bir etkisinin bulunup bulunmadığı araştırılmıştır. Bu amaçla, BIST 100 ve reel efektif döviz kuru endekslerinin kontrol değişkenleri olarak kullanıldığı Kısmi Dalgacık Bağdaşımı analiziyle bu ilişki yenden ele alınmıştır. Analiz sonuçları, BIST 100 endeks getirilerinin kontrol değişkeni olarak kullanıldığı durumda EPU endeksleri ile Türk turizm ekdeks getirileri arasındaki ilişkinin ortadan kalkma eğiliminde olduğunu, dolayısıyla da ekonomik politika belirsizliğinin Türk turizm hisselerinin üzerinde özel bir etkisinin olmadığını göstermektedir. Ancak reel efektif döviz kurlarındaki değişimler de kontrol değişkeni olarak analize eklendikten sonra Avrupa'daki (özellikle Fransa'da ve daha az ölçüde Almanya'da) politika belirsizliklerinin etkisi ortaya çıkmaktadır.

*Anahtar Kelimeler:* ekonomik politika belirsizliği, BIST 100 Turizm endeks getirileri, kısmi dalgacık bağdaşımı analizi.

*JEL Kodlar:* G41, Z33, C49

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## Introduction

Stock returns are sensitive to global and local uncertainty factors. Economic policy uncertainty can also affect stock market performance through induced changes in macroeconomic conditions and economic agents' behaviors (Brogaard & Detzel, 2015). Compared to other sectors, tourism is conceived to be more prone to adverse conditions like wars, pandemics or natural disasters, worsened economic outlook, and elevated systematic risks. By its very nature, the demand for tourism consumption exhibits high sensitivity to such uncertainties. An expected contraction in tourism demand would have repercussions for tourism companies' managerial decisions and stock returns. Given that, many academic studies aimed to reveal effective macroeconomic predictors for tourism stock returns and, in this vein, uncertainty measures have recently started to be scrutinized as potential candidates (Akdağ et al., 2019; Gozgor et al., 2021; Valadkhani, 2023). Of these uncertainty measures, economic policy uncertainty has received particular attention. Uncertainties in economic policy implementations cause delays and drops in tourism consumption (Nguyen et al., 2020) and also affect tourism companies' financial decisions in terms of cash holding, capital structure and corporate investments (Akron et al., 2020).

Economic Policy Uncertainty (EPU) index is first developed by Baker et al. (2016), for the United States based on a meticulous text analysis that covers ten leading newspapers in the United States. Following the similar methodology, many EPU indices are then developed for different countries and regions. Since their introduction, EPU indices have been employed in a bunch of academic studies to explain the changes in tourism stock returns. As expected, the relevant literature reported a negative relationship between EPU indices and tourism sector's stock return performance.

Tourism index is expected to be highly correlated or cointegrated with the broader index. As the stock market index movements reflect all relevant macroeconomic and psychological factors, it would also be potentially affected by the economic policy uncertainties. For portfolio management and hedging purposes, it is crucial to evaluate potential factors that would have a distinct effect on the return performance of an asset class relatively to that of the broader stock market index. In this respect, this paper aims to find out whether EPU indices may be employed to explain the excess return[1] performance of the Turkish tourism sector index (XTRZM) conditioning on that of the BIST 100, the broader Turkish stock market index.

Tourism consumption demand may be closely related to the value of domestic currency. Ceteris paribus, tourism sector in a country would become more competitive against its foreign rivals when that country's currency depreciates. In the other way around, international tourism may be a very important source of foreign exchange. A heightened performance in the tourism sector would thus tend to appreciate the domestic currency. In this regard, tourism index returns may be expected to exhibit a distinct and complex relationship with the changes in foreign

[1] In finance, the term "excess return" most broadly refers to the difference between the observed level of return and the level that is deemed to be appropriate based on a return generating model. While methods used to compute the excess returns vary in finance literature, they generally employ the market index levels as a benchmark. For instance, the market model computes the excess returns as the residuals obtained through a simple linear regression where the market index returns are used as the independent variable, while the risk-free rate is also accounted for in the CAPM framework. In most of the empirical studies excess returns are also computed simply as the difference between the stock/index return in question and the broader index return. This study does not employ any specific return generating model, yet it still refers to the broader index as a benchmark to define excess returns: tourism index excess returns are assessed through partial wavelet coherence analysis where the broader market (BIST 100) index returns are used as a conditioning variable.

exchange rates. It would thus be interesting to include the changes in the foreign exchange rates as an additional conditioning variable to analyze the relative return performance of XTRZM.

For the empirical analysis, a large dataset of EPUs including Global EPU (GEPU), European EPU (EEPU) and those of the countries that may be relevant for the Turkish tourism (Germany, France, Russia, United Kingdom, Italy and Spain) is employed. The Real Effective Exchange Rate (REDK) index and BIST 100 index data are also obtained to be employed as conditioning variables. The monthly data period spans from January 1997 through June 2023.

Explanatory power of each of the EPUs is analyzed using Partial Wavelet Coherence (PWC) method. Wavelets are previously used for signal processing in different scientific areas such as geophysics, engineering and medicine. Differently than a Fourier transformation, wavelet transformations enable one to obtain information not only about frequencies but also on the time localization of these frequencies. This powerful tool has thus recently started to be employed in econometrics to reveal complex, intermittent and latent associations between economic variables in both time and frequency domains. Wavelet coherence analysis is shown to be useful in identifying joint time and frequency variant co-movements between financial variables that have changing fluctuations within different time intervals (Kirik et al., 2023). Standard wavelet coherence analysis may provide erroneous results in a multivariate setting when explanatory variables are also correlated. PWC, first introduced by Mihanovic et al. (2009) provides an effective method for assessing the standalone relation between two variables after excluding the effect of another, potentially correlated variable. The PWC method adopted in this paper is the one developed by Hu and Si (2021) which enables the use of more than one excluding variable. To the best of my knowledge, this paper is the first study that applies this advanced method in econometrics by identifying both BIST 100 returns and changes in REDK as conditioning variables to assess the standalone dependence structure between the XTRZM index returns and changes in each of the EPU indices in the dataset.

Results confirm that the returns of the XTRZM and the BIST 100 indices are significantly and positively dependent especially for medium and low frequencies through the sample period. Results also show that tourism stocks perform relatively better while Turkish lira depreciates in real terms against foreign currencies. Yet, this holds true only from 2011 onwards, in the period during which the real value of Turkish lira followed a decreasing trend.

Compared to the global economic policy uncertainty, the uncertainty in Europe is found to be a more pertinent factor for the Turkish tourism sector's excess returns once controlled for the effect of the real effective exchange rates. There is a persistent negative dependence between the tourism index returns and European EPU at the higher scales (40 to 60 months), from 2004 onwards. Throughout this period, these two series are negatively related, and this negative relationship is led by the changes in the European economic policy uncertainty levels.

Partial wavelet coherence analysis results that are obtained by using country-level EPU indices reveal that the EPU in France affects the XTRZM index excess returns in a very similar way to the EPU in Europe. The German EPU, although it has a weaker influence compared to that of France, is observed to complement to this effect. The empirical study conducted by using the country-level economic policy uncertainty indices thus revealed that the observed negative relationship between the Turkish tourism sector's excess return performance and European EPU is mainly driven by the policy uncertainties in France and Germany.

Overall, the empirical results show that the negative relationship between the economic policy uncertainty and Turkish tourism sector's stock returns that is documented in the relevant literature tends to disappear when controlled for the broader index returns. Economic policy

uncertainty is shown to have no particular effect on the excess stock return performance of Turkish tourism companies. The policy uncertainties in Europe (particularly in France and, to a lesser extent in Germany) become effective only after controlling also for the changes in real effective exchange rates.

The remainder of this study is organized as follows: The next part summarizes the relevant literature. Then, the dataset used in the study is described and the emprircal methodology is explained. Emprical results are then presented and discussed. Finally, the last part concludes by summarizing the main results of the study.

## Literature Review

EPU indices have been widely employed in empirical studies to uncover the effect of economic policy uncertainty on various asset classes such as stocks (Antonakakis et al., 2013; Sum, 2013; Chang et al., 2015), and commodities like oil (Bekiros et al., 2015) and gold (Aye et al., 2015). Academic research results show that both firms and individuals take more conservative decisions during periods of high EPU, lowering their investment and consumption spending in a way that may lead to an economic slowdown (Al-Thaqeb & Algharabali, 2019).

EPU has a countercyclical effect on business activity. A heightened EPU would decrease firms' investments and economic growth in long term. In their study for the United States, Gulen and Ion (2015) found a negative relationship between EPU index and corporate capital investment. Karnizova and Li (2014) asserted that the EPU index can be effectively used to forecast recessions in the United States economy. High levels of economic policy uncertainty lead also to frictions in credit market and results in heightened borrowing costs (Bordo et al., 2016).

Economic and political uncertainty also affects stock market returns and volatility. Pastor and Veronesi (2012) asserted that stock prices fall following a government policy change and this fall is larger when the policy change is preceded by an economic downturn. Boutchkova et al. (2012) revealed that increases in political risks lead to greater return volatility, especially in the sectors that rely more heavily on trade, contract enforcement and labor. The effect of political uncertainty may also show spillover effects. Trade dependent sectors are exposed to a higher volatility following a surge in political uncertainty in a trading partner country. Yu et al., (2017) showed how the EPU is associated with long-term betas in different sectors. They found that the effect of EPU is more remarkable for certain sectors including the discretionary consumption industry.

Increasing EPU levels may have even more detrimental effects for the sectors in which the demand depends predominantly on discretionary funds. When faced with a surge in uncertainty, households increase their precautionary savings by cutting their nonvital spending. Higher-income households' consumption behavior is shown to be even more severely influenced by this surge (Wu & Zhao, 2022). This claim is in line with the finding that inbound and outbound tourism expenditures exhibit sharp declines while EPU rises (Işık et al., 2020; Gozgor & Demir, 2018). Declining demand has direct repercussions for the companies in the tourism sector. Madanoglu and Ozdemir (2019) showed that EPU is negatively related with hotel occupancy rates in the United States. As expected, the EPU index is found to affect the stock prices of tourism firms. Ersan et al. (2019) showed that both the European and the global EPU negatively affect the STOXX Europe 600 Travel & Leisure Index returns, and thereby demonstrated that EPU indices have superior forecasting power compared to various macroeconomic variables.

Similar results hold for the Turkish tourism sector stock returns. Demir and Ersan (2018) studied the relation between XTRZM returns and EPU, and showed that EPUs in Europe and Turkey have negative effects on XTRZM returns. Instead of using European EPU as an independent variable, Gursoy (2021) investigated the relation between XTRZM returns and the EPUs of the selected countries which are important for Turkish tourism sector. He found that German and Russian EPU indices have significant effects on XTRZM returns, while no causality is observed from the EPU of the United Kingdom.

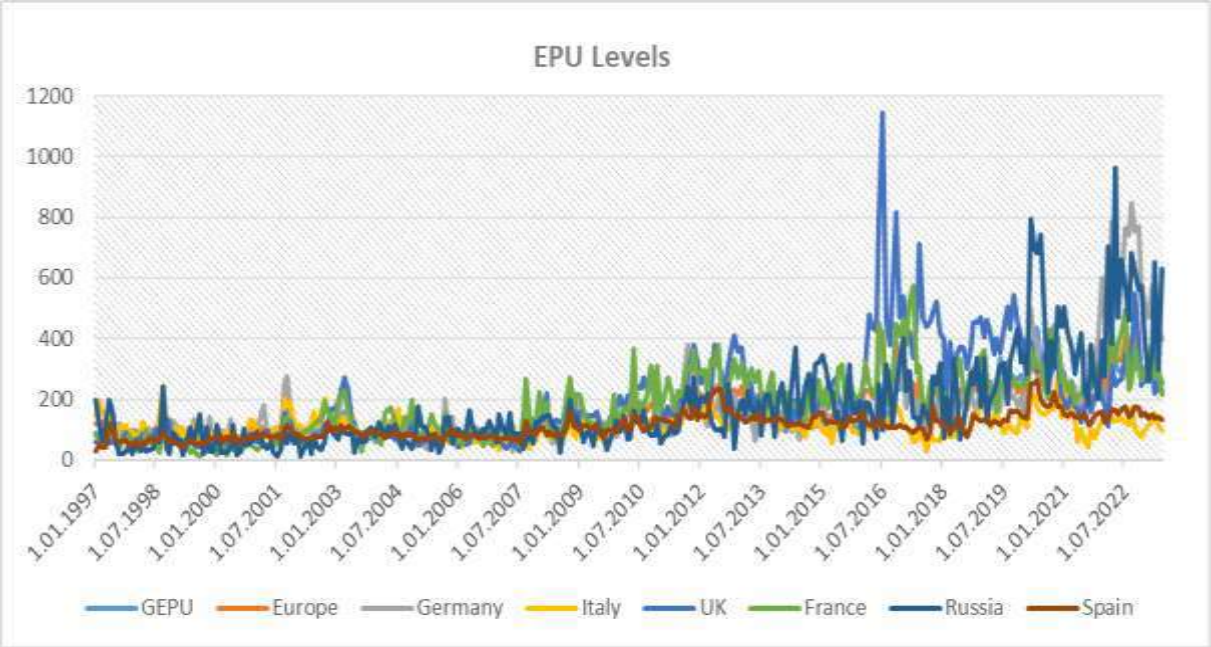
## Data and Methodology

### Data

The empirical study investigates the effect of a wide range of EPU indices on the Turkish tourism index returns. The first EPU index is developed for the U.S. market by Baker et al. (2016) aggregating uncertainty information from news, policy and the market. It covers newspaper articles regarding policy-related economic uncertainty, the uncertainty due to federal tax code, and the disagreement among economic forecasters. This methodology is then adopted for creating EPU indices for various countries and regions. The dataset in this study covers the Global EPU (GEPU), European EPU (EEPU) and those of the countries that may be relevant for the Turkish tourism including Germany, France, Russia, United Kingdom, Italy and Spain. The monthly data period spans from January 1997 through June 2023. The data is freely available at https://www.policyuncertainty.com. The Figure 1 depicts the evolution of the EPU indices that are used in the empirical study. It can be observed that the EPU indices tend to increase in the second half of the data period, especially during the Brexit, the Covid-19 pandemic, and the war between Russia and Ukraine.

**Figure 1**

*Economic policy index levels (1997-2023)*

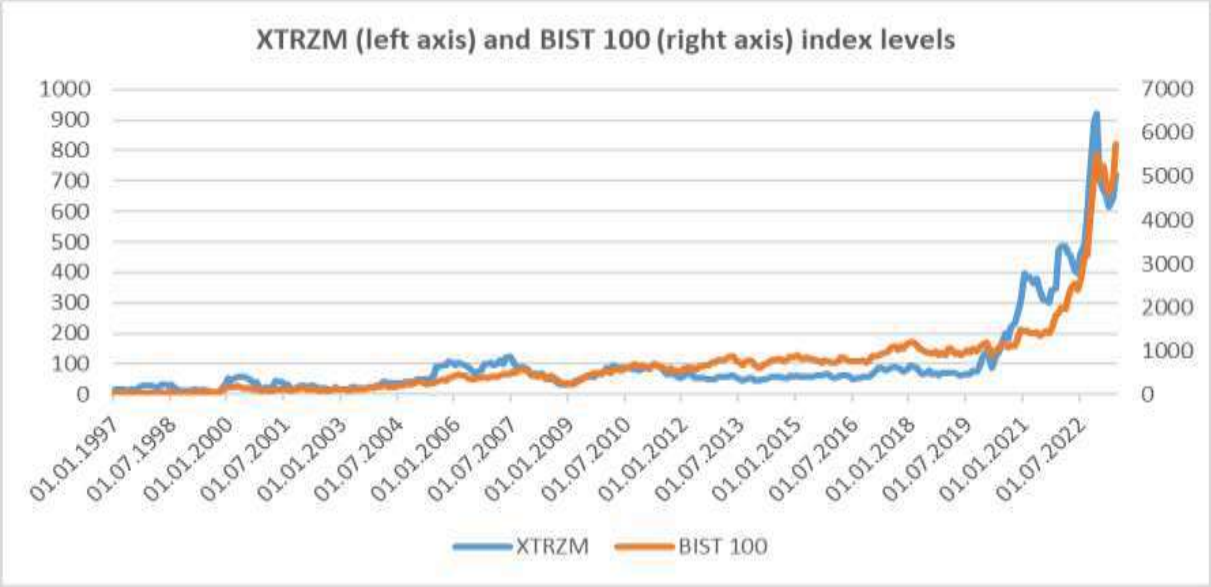



Note. Created by the author based on the data obtained from www.policyuncertainty.com.

The Figure 2 presents the evolution of the XTRZM (left axis) BIST 100 (right axis) index levels through the sample period. XTRZM index covers eleven companies including major hospitality and food and beverage firms in Turkey. The data is obtained from https://www.investing.com. It can be seen from the figure that the two indices closely comove. The XTRZM index levels show high positive correlation (0.92) with the BIST 100 index over the sample period. BIST 100 index is included in the empirical analysis as a conditioning variable to assess the standalone/marginal dependence of XTRZM on each of the EPU indices.

**Figure 2**

*XTRZM (left axis) and BIST 100 (right axis) index levels (1997-2023)*




Note. Created by the author based on the data obtained from www.investing.com.

**Figure 3**

*Real Effective Exchange Rate Index (1997-2023)*


Note. Created by the author based on the data obtained from the Central Bank of Republic of Turkey.

The Real Effective Exchange Rate index is calculated by the Central Bank of Republic of Turkey as the weighted average value of the Turkish lira relative to the basket of the selected countries' currencies that have a significant share in Turkey's foreign trade. As can be seen from the Figure 3, Turkish lira has been losing value against foreign currency since 2011, rendering tourism consumption cheaper for foreigners. That would have positive influence on tourism revenues, and potentially increase tourism stock returns, which could alleviate the negative effects of the general increase in EPUs observed in that same period. Including the REDK into the analysis as conditioning variable would thus be important to remove the

potential bias regarding the assessment of the relationship between the EPUs and tourism stock return performance.

The logarithmic returns are computed for XTRZM, BIST 100 and REDK series before being included in the analysis. EPU indices are employed without any transformation. For robustness, the empirical analysis is repeated using logarithmic differences of the EPU indices, and no remarkable difference is observed in the PWC results[2].

**Empirical Methodology: Wavelet Transformations and Wavelet Coherence Measures**

Wavelet analysis is based on wavelet transformations using a mother wavelet function. Morlet wavelet is commonly used as a mother wavelet function as it is the most suitable one for approximating the majority of data series. It is the product of a complex exponential and a Gaussian window, and as such, it is even more suitable for transforming financial time series data into a time-frequency domain. Wavelet transformations provide a great advantage over Fourier transformation. The latter is used in econometrics to transform time series data into frequencies. Through this transformation, one obtains exact information on frequency domain, but loses all information on time domain as the information about the timing of the frequencies could not be provided by Fourier transformations. Wavelet transformations enable one to obtain information not only about frequencies but also on the time localization of these frequencies maintaining a good balance between both domains.

The continuous wavelet transform is formulated as the following:

$$W_x(\tau, s) = \int_{-\infty}^{\infty} x(t)\psi^{\sim\prime}{}_{t,s}(t)dt, \qquad \tau, s \in \mathrm{R}, \qquad s \neq 0, \tag{1}$$

where τ and s determines the location (time) and length (scale) of the wavelet, respectively. $\psi^{\sim\prime}{}_{t,s}(t)$ is the complex conjugate of $\psi^{\sim}{}_{t,s}(t)$ that is expressed as

$$\psi^{\sim}{}_{t,s}(t) = |s|^{-0.5}\psi((t-\tau)/s) \tag{2}$$

where $\psi$ is the mother wavelet function. Mother wavelet can also be shifted in time in function of the translation parameter ($\tau$), while scale parameter ($s$) is used to shrink or expand the wavelet.

In order to examine the time-frequency relationship between two series, x and y, cross-wavelet transformation should be obtained through what follows:

$$W_{xy}(\tau, s) = W_x(\tau, s)W_y'(\tau, s) \tag{3}$$

Using this cross-wavelet transform, wavelet coherence, can be defined as follows:

$$R_{xy}(\tau, s) = \frac{\left|S\left(W_{xy}(\tau, s)\right)\right|}{\left[S(|W_{xx}(\tau, s)|)S\left(\left|W_{yy}(\tau, s)\right|\right)\right]^{0.5}} \tag{4}$$

[2] In their paper, Hu and Si (2021) conducted a simulation using artificial data to check the PWC results differ substantially between the cases where stationnnary and non-stationnary variables are used, and showed that there may be slight differences between the PWC results obtained in these two cases.

where $S$ is a smoothing operator for time and frequency. As it can be seen from the Equation (4), wavelet coherence is a time-frequency domain counterpart of the correlation measure. Wavelet coherence localizes correlation coefficients in the time-frequency plane. Monte Carlo simulation methods replace traditional significance tests to assess the significance of these complex coherence measures. Unlike the correlation measure, $R_{xy}$ can only take values between 0 and 1, and the sign of the wavelet coherence is measured by phase differences represented by arrows of different orientations shown in high coherence regions in a wavelet coherence plot. Arrows pointing to the right denote that the two series are in phase (positively related), the arrows pointing to the left indicate that the series are in anti-phase (negatively related). The angles of the arrows provide information on lead-lag relationships. Arrows pointing to the left and up and to the right and down denote that the first variable leads the second. Otherwise, the second variable leads the first.

On this theoretical basis that is summarized in Equations (1-4), Mihanovic et al. (2009) developed the PWC method that enables to assess the standalone relation between two variables after excluding the effect of a third, potentially correlated variable. The PWC method is advanced further by one developed by Hu and Si (2021) to allow for more than one excluding variable. To save space, formal development of the PWC methods detailed in the above cited papers will not be presented here.

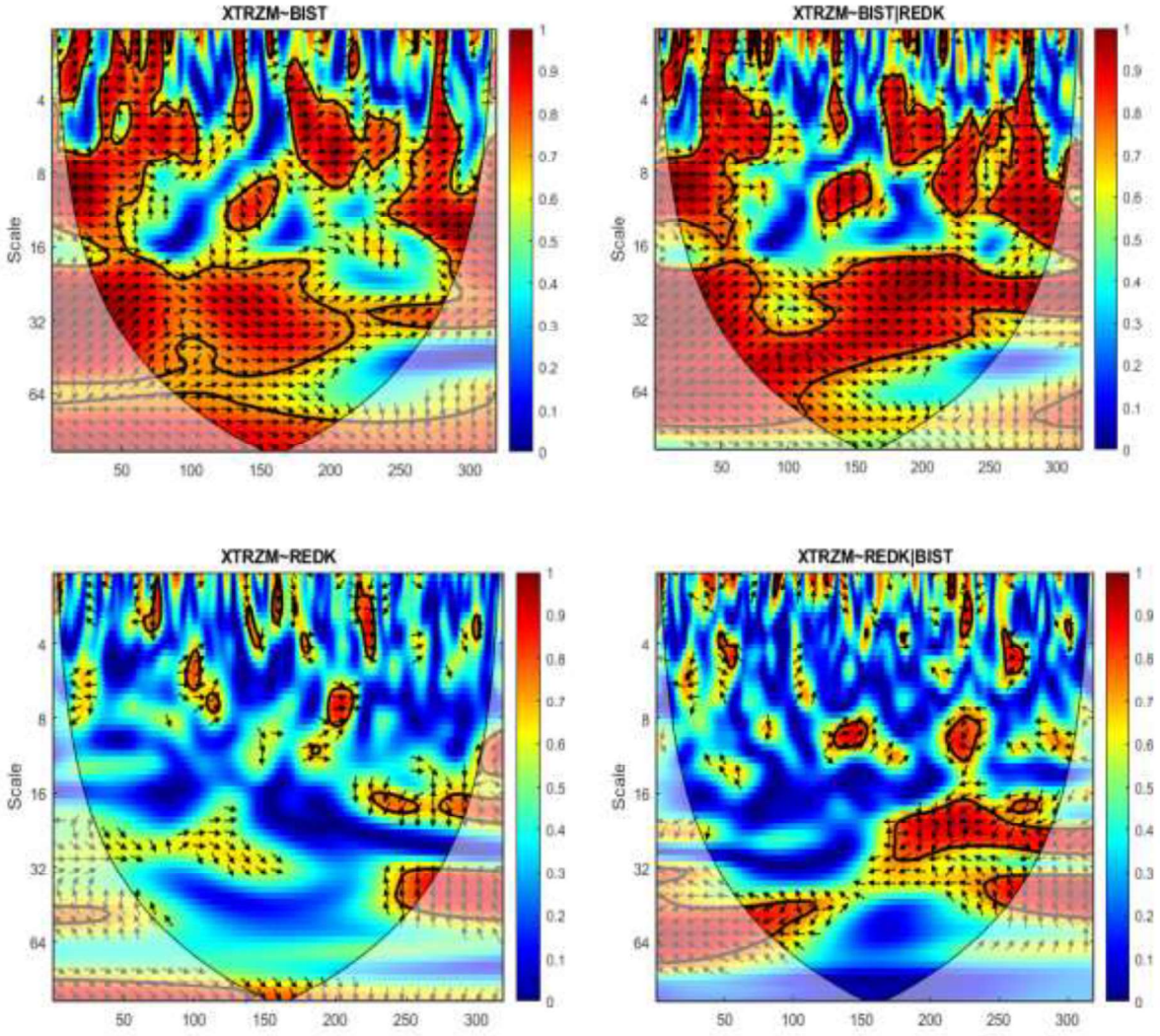
## Empirical Results and Discussion

Empirical findings are presented in the wavelet coherence and partial wavelet coherence plots given in the Figures 4, 5 and 6. In each plot, the vertical axis represents the scales, which can be deemed as the inverse of frequencies as the higher scales correspond to wavelets of lower frequencies. The time dimension is given in the horizontal axis. The time points 50, 100 150, 200, 250, 300 correspond to February 2001, April 2005, June 2009, August 2013, October 2017, and December 2021, respectively. The thick black contours designate the areas that are significant at the 5% significance level estimated from Monte Carlo simulations. The color code used in the plots ranges from dark blue (the lowest coherence) through dark red (the highest coherence). The cone of influence, the region affected by edge effects, is shown by a lighter shade.

The Figure 4 presents wavelet coherence (left panel) and partial wavelet coherence (right panel) plots for XTRZM index returns and conditioning variables used in the empirical study. As expected, very high levels of coherence are observed between XTRZM and BIST index returns confirming the high statistical correlation between these two variables. In all of the significant regions, the series are clearly in phase, indicating that the variables are positively dependent. A similar result holds for the relation between XTRZM and BIST index returns, also after partialling out the effect of REDK. For higher scales, significant coherences are consistently observed throughout the sample period while there are discontinuities for higher frequencies. This is an expected result, since even highly correlated financial series exhibit distinct movements due to short-run effects of idiosyncratic factors that dominate the lower scales. The relation between the changes in the XTRZM and REDK indices becomes more clear after isolating the effect of BIST. In the partial wavelet coherence plot given in the right bottom of the Figure 4, there is a remarkable negative dependence between the series at medium scales (16 to 32 months) from 2011 onwards. It is worth here to note that this is when the value of the Turkish lira has started to follow a decreasing trend as shown in the Figure 3. It can be concluded that depreciation in Turkish lira is associated with the overperformance of the Turkish tourism stocks in this period.

**Figure 4**

*Wavelet coherence and partial wavelet coherence analysis results obtained using XTRZM index returns and conditioning variables (BIST and REDK).*




Note.Created by the author.

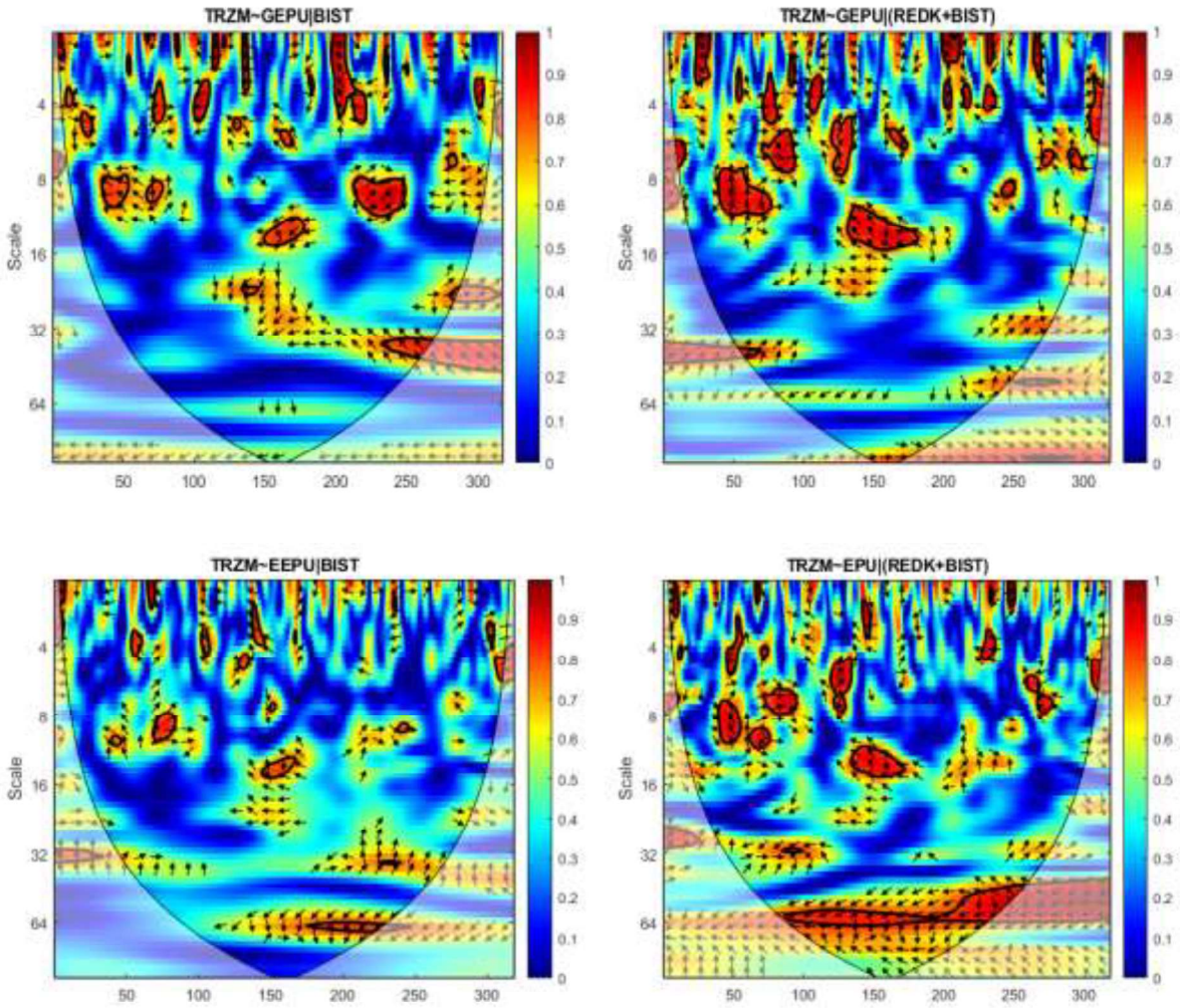
Partial wavelet coherences between the XTRZM index returns and Global (European) EPU are given in the upper (lower) panel of the Figure 5. Several ephemeral coherences are observed for the relation between the XTRZM index returns and Global EPU at lower scales in the cases where only the BIST is used as the control variable. However, they are not worth to interpret as these significant coherences rapidly disappear in time. It can be concluded that the documented negative relationship between the EPUs and XTRZM index returns tends to disappear when controlled for the BIST returns. Global and European EPUs have no remarkable effect on the standalone stock return performance of Turkish tourism companies.

The most remarkable result is found in the relation between the XTRZM index returns and the European EPU that is obtained after excluding the effects of both BIST and REDK. The PWC plot at the bottom left of the figure shows a persistent negative dependence between the XTRZM index excess returns and the European EPU at the higher scales (40 to 60 months),

from 2004 onwards. Throughout this period, these two series are in anti-phase, with the European EPU leading the XTRZM index excess returns. The negative relationship between the European EPU and the XTRZM index returns was already documented in the literature as mentioned in the literature part of this paper, while the empirical results above have shown that this negative relationship tends to weaken/disappear regarding the XTRZM index excess returns that are obtained by controlling for the BIST index returns.

**Figure 5**

*Partial wavelet coherence analysis results obtained using XTRZM index returns and Global EPU, and European EPU with conditioning variables (BIST and REDK).*




Note.Created by the author.

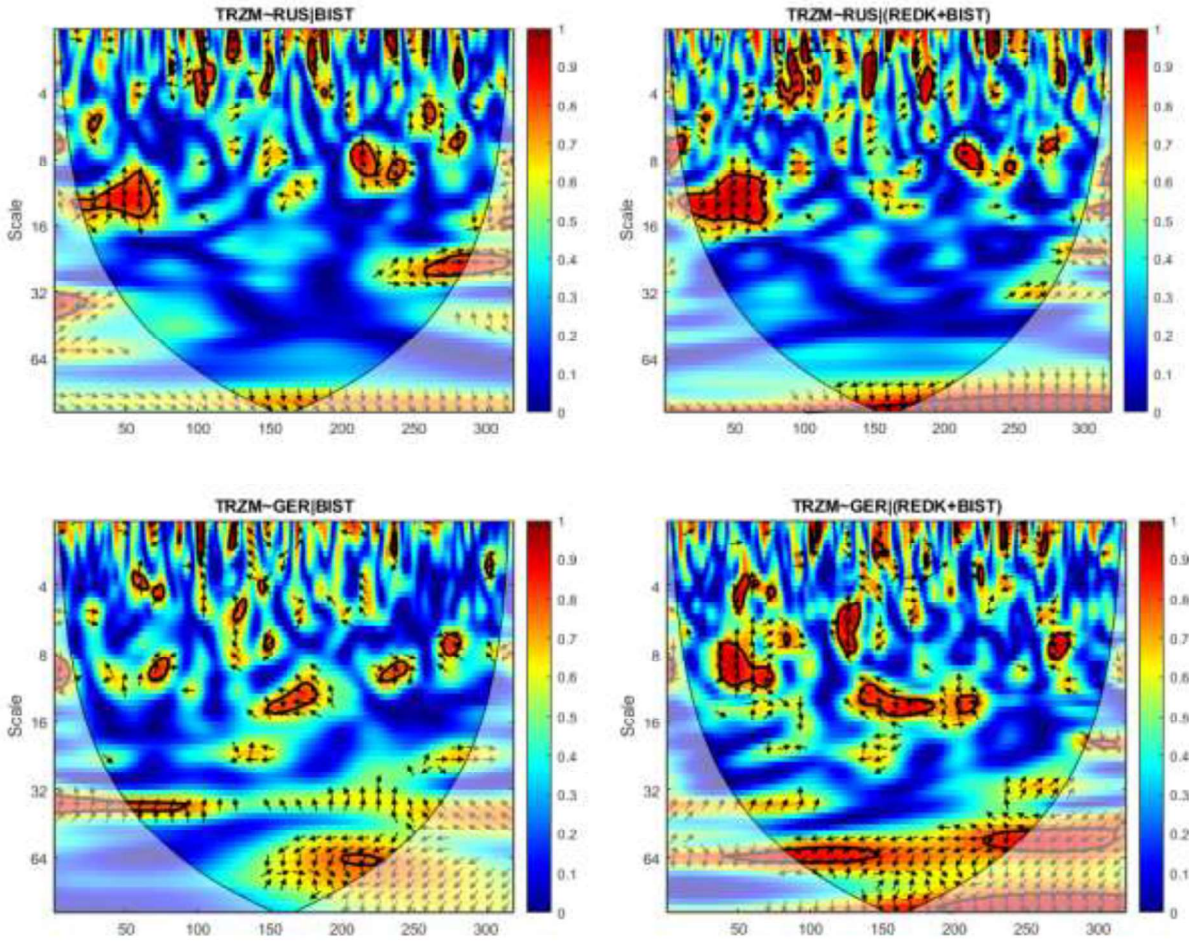
At this point, it would be important to note that starting from 2011, remarkable increases (decreases) in EPU levels (in the REDK index) are observed. Ceteris paribus, EPUs in foreign countries are expected to be positively correlated with the REDK. However, in this specific context, these increasing uncertainties coincide with the depreciating Turkish Lira, due to mediating financial and macroeconomic factors that lead to lower risk-adjusted real interest rate differentials (unsatisfactory nominal interest rates given higher risk premia demanded for holding Turkish assets and higher inflation rates in Turkey). As hypothesized before, decreasing REDK increases the tourism demand by foreigners, and thereby boosts revenues for tourism

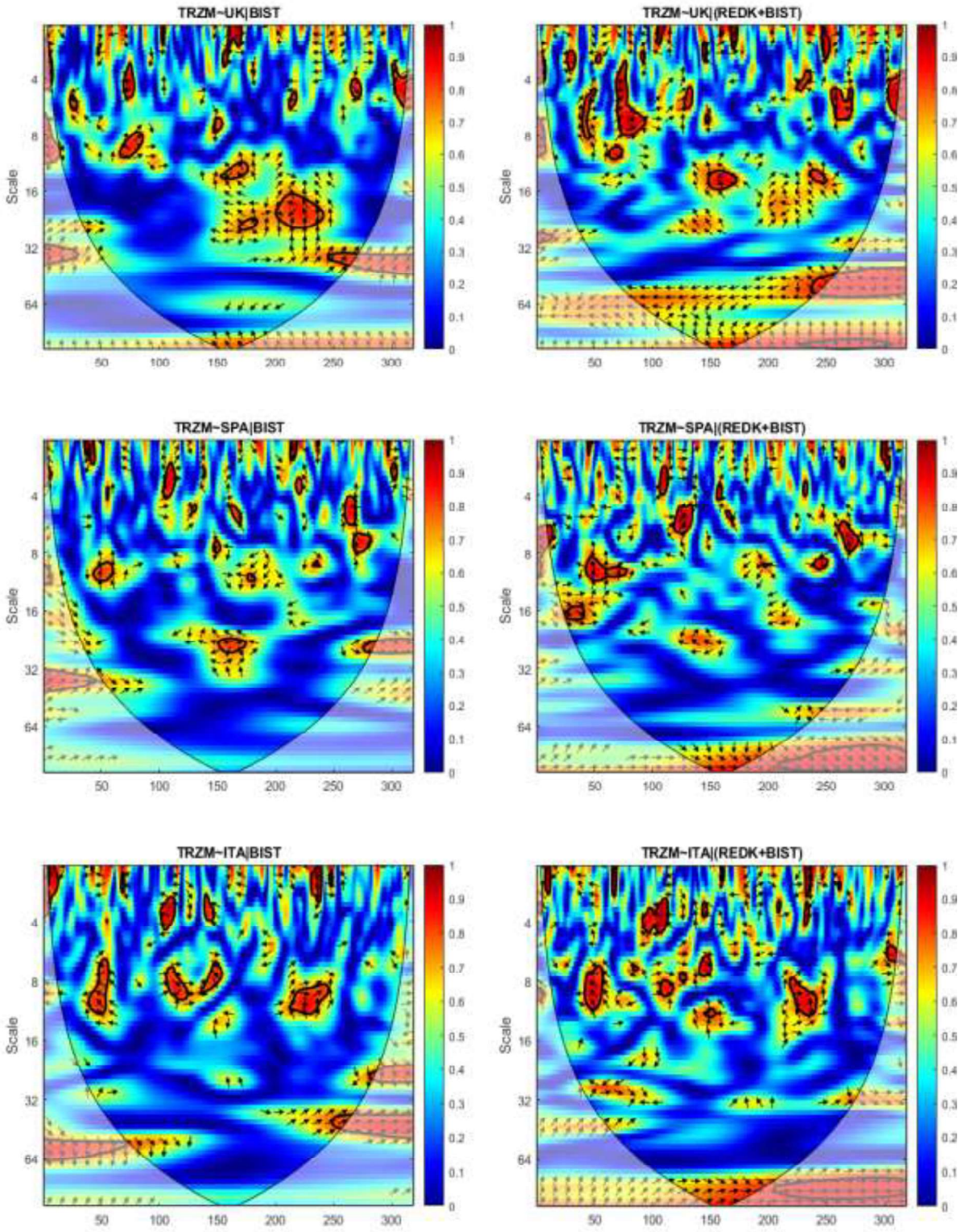
companies. Consequent positive effect of decreasing REDK on tourism stock returns seems to compensate the negative effect of increasing EPUs. That is why, the negative relationship between the tourism stocks excess returns and EPUs becomes remarkable only after partialling out this compensating effect of the REDK.

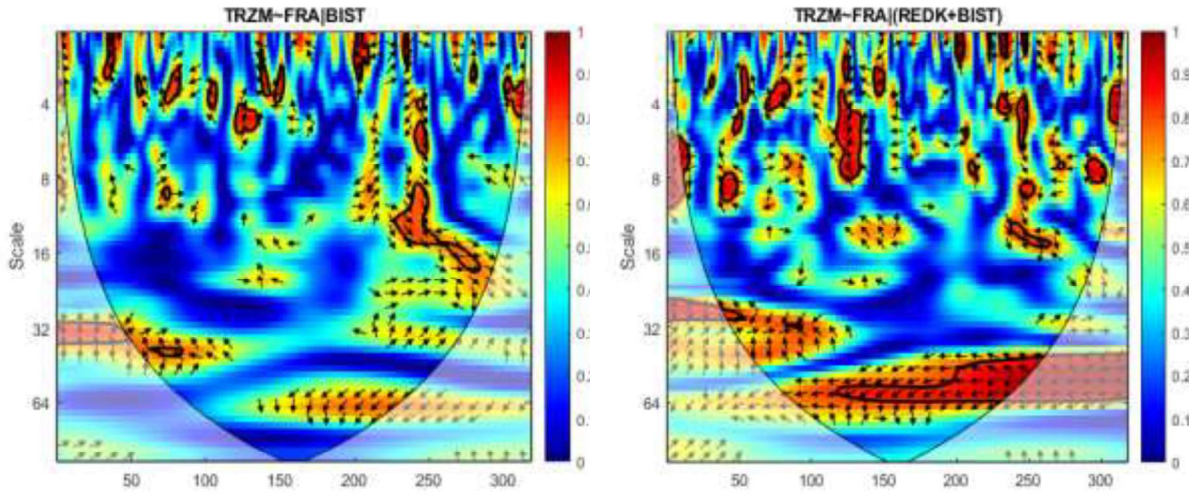
A more detailed PWC analysis is conducted to reveal the relation between the XTRZM index returns and country-based EPUs. The plots in the Figure 6 provide the results of PWC analysis results that are obtained by using the EPU of each country in the sample respectively. Here also, several statistically significant but ephemeral regions are observed, but these are generally not consistent enough to evaluate. What is worth to note here is that the EPU in France affects the XTRZM index excess returns in a very similar way to European EPU. The German EPU seems to complement to this effect. It can thus be concluded that the observed negative relationship between the XTRZM index excess returns and the European EPU is mainly driven by EPUs in France and Germany.

**Figure 6**

*Partial wavelet coherence analysis results obtained using XTRZM index returns and country-based EPUs with conditioning variables (BIST and REDK). From the top to the bottom of the Figure, included EPUs are those of Russia, Germany, the United Kingdom, Spain, Italy, and France.*




TRZM~UK|BIST
TRZM~UK|(REDK+BIST)
TRZM~SPA|BIST
TRZM~SPA|(REDK+BIST)
TRZM~ITA|BIST
TRZM~ITA|(REDK+BIST)
Scale
4
8
16
32
64
50
100
150
200
250
300
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

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## Conclusion

This paper aimed to reevaluate the well-documented negative relationship between economic policy uncertainty and tourism sector stock returns to find out whether changes in economic policy uncertainty have particular importance for the tourism companies or they end up with the same consequences regardless of the sector. To this end, the Turkish tourism sector's stock return performance is assessed using two conditioning variables: the BorsaIstanbul 100 index, the broader index that carries information on the aggregate return performance of all sectors in the country; and the real effective exchange rate index, a variable of particular importance for tourism demand, which is also potentially related to economic policy uncertainties. The empirical study employed not only the commonly referred Global or European Economic Policy Uncertainty indices but also those of the countries that are supposedly relevant for the Turkish tourism (Germany, France, Russia, United Kingdom, Italy and Spain) to identify the influential countries regarding the stock return performance of the tourism companies in Turkey.

Wavelet coherence analysis is conducted to reveal the dependence structure between the variables in both time and frequency domains. Results confirm that the return performances of the tourism sector and the BIST 100 index are significantly and positively dependent especially for medium and large scales throughout the sample period. Results also show that tourism stocks perform relatively better while Turkish lira depreciates in real terms against foreign currencies. Yet, this holds true only from 2011 onwards, in the period during which the real value of Turkish lira followed a decreasing trend.

Compared to the global economic policy uncertainty, the uncertainty in Europe is found to be more pertinent a factor for the excess returns of the Turkish tourism sector, once controlled for the effect of the real effective exchange rates. There is a persistent negative dependence between the tourism index excess returns and the European economic policy uncertainty index at the higher scales (40 to 60 months), from 2004 onwards. Throughout this period, these two series are negatively related, and this negative relationship is led by the changes in the European economic policy uncertainty levels. Partial wavelet coherence analysis results that are obtained by using country-based economic policy uncertainty indices revealed that the economic policy uncertainty in France affects the Turkish tourism index excess returns in a very similar way to the Europe-wide economic policy uncertainty. Economic policy uncertainty in Germany,

although it has a weaker influence compared to that of France, is observed to complement to this effect. The empirical study conducted by using the country-level economic policy uncertainty indices thus revealed that the observed negative relationship between the Turkish tourism sector's relative return performance and European economic policy uncertainty is mainly driven by the policy uncertainties in France and Germany.

To sum up, it can be concluded that the documented negative relationship between the economic policy uncertainty and Turkish tourism sector'sstock returns tends to disappear when controlled for the broader index returns. Economic policy uncertainty is shown to have no particular effect on the standalone return performance of Turkish tourism companies. The policy uncertainties in Europe (particularly in France and, to a lesser extent in Germany) become effective only after controlling also for the changes in real effective exchange rates.

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