Mapping Trade Uncertainty: Investigating the extent of the effects of Trade Policy Uncertainty on S&P 500 returns

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Abstract

The following study explores the extent to which Trade Policy Uncertainty (TPU) influences financial markets, focusing on U.S. stock market performance. It leverages monthly time-series data from 2006 to 2025, employing an Autoregressive Distributed Lag (ARDL) modelling approach. It captures long-run effects while also setting the groundwork for an analysis of short-run dynamics using daily data. It empirically indicates that an increase in TPU has a negative effect on stock returns. The relationship holds controlling a range of macroeconomic variables and other uncertainty indices. Possible endogeneity between TPU and market outcomes is acknowledged.

1.1 Introduction and Literary Review

In today's interconnected and globalised society, trade policy has steadily moved in an anti-protectionist direction, which has often seemed to function effectively. It is the unpredictability of sudden tariffs, shifting trade agreements, or export restrictions that holds the potential to disrupt global supply chains, corporate competitiveness and investor expectations. Notably, throughout the 2018–2019 U.S.–China trade conflict and most recently in the first quarter of 2025, the United States have witnessed disruptive spikes in Trade Policy Uncertainty (TPU). This lays the pretext and highlights the relevance for the following study, important to investors, policymakers, and researchers.

The following paper investigates TPU's effect on financial markets, specifically focusing on equities, taken as a general indicator of economic outlook. The scope of the study is defined primarily in one dimension. It attempts to use historical monthly data to accurately find the effect of TPU on financial markets. It comprehensively captures the extent to which trade uncertainty drags equity valuations and slows growth expectations, also laying the groundwork for future exploration into the effects on the U.S. Treasury Yield Spread. These were explored preemptively using daily 2025 data points. Exploring such captures statistically and economically significant ongoing effects, yet beyond the scope of the paper.

Broad literature on policy uncertainty, notably *Baker, S. R., Bloom, N., & Davis, S. J. (2015)*, shows how spikes in Economic Policy Uncertainty (EPU) lead to reduced investments and slowed employment growth, while increasing market volatility. Similarly, *Brogaard and Detzel (2015)* find that uncertainty lowers equity returns, and *Pastor and Veronesi (2012)* argue that political uncertainty can depress valuations by increasing discount rates. Shifting specifically to U.S. tariffs, *Amiti et al. (2019)* finds that Trump's Administration's 2018 Trade Policy Uncertainty was largely passed on to domestic consumers, with *Fajgelbaum et al. (2019)* and *Cavallo et al. (2019)* estimating large welfare losses. It is Caldara and Iacoviello (2020) who provide insight into trade policy uncertainty more narrowly, associating it with market volatility. Using a TPU index which captures sentiment from news, earnings calls, and tariff data, they highlighted how uncertainty itself can harm corporate investments. Building on these insights, our paper's novelty lies in its updated analysis of TPU's potential impact, specifically on financial markets, regarded as a large component of economic health.

After a preliminary investigation into underlying relationships amongst variables, we hypothesise that increases in Trade Policy Uncertainty will be associated with negative returns in equity markets, with a flattening

in the U.S. Treasury yield curve. These results would highlight deteriorating growth expectations and increased investor risk aversion. Attached below, in Figure 1, is the visualisation of key variables which are later explored.

Figure 1: Key Variables Explored & Their Progression Over Time

2.1 Data Description

The following section describes and explains the motivations behind the utilised data. The dataset combines sources of economic and financial data: policy uncertainty indices, market variables, and macroeconomic controls. The core explanatory variable, Trade Policy Uncertainty (TPU), uses the TPU index constructed in *Caldara and Iacoviello (2020)*. It is composed by measuring how often trade-related uncertainty terms appear in leading U.S. newspapers, like the WSJ or the NYT. In particular, "*the index is normalised to a value of 100 for a one percent article share*" amongst the selected newspapers (*Caldara, 2020*). The TPU Index is available at monthly and daily frequencies. For our historical, primary model, monthly data was utilised to enable the use of other macro indicators available at a monthly/quarterly intervals. The elongated time period provides long-run context and trends, including multiple economic cycles and major events: the 2008 Financial Crisis, 2010 trade policy tensions and the COVID-19 pandemic. The dataset spans data from 2006 onwards because earlier measurements of TPU may have been impacted by differences in communication technology, news reporting, and

trade dynamics. In our further analysis of the 2025 market reaction, daily data points are utilised to capture more granular short-run dynamics alongside the more immediate impact of uncertainty on markets. In that case, consistency was ensured by only observing trading days across the series.

Similarly constructed to *TPU*, we utilise categorical sub-indexes to the Economic Policy Uncertainty index collected from *Baker, S. R., Bloom, N., & Davis, S. J. (2015)*, for completeness and to better control the origin of uncertainty observed. The indices provide fluctuations specifically stemming from policy and political events. The categorical indices we are interested in for our analysis are, in particular: *Monetary Policy Uncertainty* for fluctuations in expectations surrounding Federal Reserve decisions; *Sovereign Debt Crisis* and *National Security* to capture uncertainty related to geopolitical risks and sovereign financial instability; and *US-China Tension* to specifically track bilateral tensions analyzing news coverage of contentious issues between the two countries. A more detailed methodology regarding the quantification of uncertainty-related concepts and the specific terms looked out for in news can be found on the *Economic Policy Uncertainty (2012)* website.

Regarding financial market variables, they were obtained primarily from the Federal Reserve Economic Data (FRED) database and Bloomberg. Importantly, the dependent variable, equity markets, is represented in this paper using a major stock index: the *S&P 500* (for its broad and round representation of U.S. equities' performance), with daily/monthly returns all taken via Bloomberg price data. The *S&P 500 Index* is primarily utilised instead of others as we try to understand trade uncertainty's impact on markets overall (including sectors like manufacturing). The yield spread (*10-Year 3-Month U.S. Treasury Yield Spread* from FRED) is included and investigated preliminarily, due to its role in interpreting recessionary dynamics. The *CBOE Volatility Index (VIX)*, sourced via Bloomberg, is utilised to capture market volatility and investor risk appetite. Also, the dollar price of gold (*London gold price*, FRED) and oil (*West Texas Intermediate crude*, FRED) are included. These act as global economic indicators, which try to capture supply or demand shocks and safe-haven assets dynamics. Finally, to control for the representative value of the dollar's strength, the *USD/EUR Exchange Rate* (FRED) and the *U.S. Dollar Index* (FRED) are included.

Shifting to Macroeconomic control variables, they were gathered to account for and control for the underlying economic conditions present. *Core Personal Consumption Expenditure* via FRED is used to proxy for inflation trends, whereas *U.S. Unemployment Rates* and *Real GDP Growth* (annualised percentage change) control for the economy's current state. Due to a lack in the latest datapoint of *PCE*, *Consumer Price Index for All Urban Consumers (CPI-U)* is used instead when investigating and testing on daily data points.

The above financial and macroeconomic variables were initially chosen for their relevance to the broader economic environment, market expectations and investors' risk behaviour. Including such data attempts to capture U.S. economic dynamics, controlling for as many elements as possible that could be impacting markets and trade policy uncertainty.

2.2 Stationarity and Pre-Estimation Tests

In refining the dataset prior to investigation and analysis, as a precaution against spurious regression, multiple time series tests for stationarity are conducted. Variables exhibiting trends or unit roots are all transformed via first differences, logs (changing functional form), or by computing returns. Figure 6 in the appendix contains the results of *Augmented Dickey-Fuller (ADF) Tests*, examining the null hypothesis of a unit root for all relevant variables. The significance level utilised as a boundary was 10%.

Specifically, the *TPU Index* contains unit roots (intuitively, since unbounded). First-differencing was primarily implemented, as well as it alternatively being transformed into log form (to normalise and flatten its high values) for some investigative test regressions. As for the USD currency, stock market indices and commodity prices (all intuitively non-stationary), we convert them to return series. These are stationary by construction due to them effectively being the first log-difference of the price index. In the monthly dataset, *FFR*, *DXY*, *Unemployment* and *PCE* were found to be non-stationary and initially transformed using first differences. However, after conducting a cointegration test, suggesting non-stationarity in the residuals, the variables present a strong long-run relationship, justifying their inclusion in levels.

2.3 Summary Statistics

The summary statistics presented below in Figure 2, calculated on the cleaned variables of interest, highlight several key insights to keep in mind throughout the analysis. The uncertainty indices, such as *TPU*, *National Security* and *Sovereign Debt Crises*, exhibit large spikes and high volatility. In particular, the *TPU Index*, which is typically low and stable, spikes in periods of tariff announcements and trade conflicts. In this period, the values of the index we observe could look like outliers in the data, and may seem the main drivers of our relationship. These periods of elevated data points are, however, exactly the purpose of our paper, since we are investigating the impacts of trade policy shocks on market performance. As for the core macroeconomic controls, like the *Fed Funds Rate* and *Unemployment Rate,* they are instead more stable data series.

Figure 2: Summary Statistics

Variable	Mean	SD	Min	Max	Units	Source
Diff TPU (t, scaled)	*1.339232*	*27.74984*	*-120.8899*	*203.526*	*Index points / 1000*	*Caldara (2020)*
Diff TPU (t-1, scaled)	*1.447853*	*27.70787*	*-120.8899*	*203.526*	*Index points / 1000*	*Caldara (2020)*
SP Returns (t)	*.0057068*	*.0490412*	*-.1810821*	*.136107*	*% (decimal form)*	*Bloomberg*
SP Returns (t-1)	*0.005809*	*0.0940239*	*-0.1810821*	*0.136107*	*% (decimal form)*	*Bloomberg*
SP Returns (t-2)	*.0062417*	*.0488604*	*-0.1810821*	*0.136107*	*% (decimal form)*	*Bloomberg*
Federal Funds Rate	*1.42544*	*1.837565*	*0.05*	*5.33*	*%*	*FRED*
VIX Index	*19.67852*	*8.707681*	*10.13*	*62.67*	*%*	*FRED*
WTI Price Change	*0.0201315*	*1.203571*	*-0.7902015*	*0.5831697*	*% (decimal form)*	*Bloomberg*
DXY Index	*104.3335*	*11.88106*	*85.5999*	*127.5159*	*Index points*	*FRED*
Unemployment Rate	*5.992308*	*2.259221*	*3.4*	*14.8*	*%*	*FRED*
Monetary Policy Uncertainty Index	*0.989148*	*0.0564292*	*0.0176162*	*0.3042094*	*Index points / 1000*	*FRED*
Core PCE	*97.91632*	*9.664855*	*83.764*	*120.309*	*Index Points*	*FRED*
National Security Uncertainty Index	*81.56504*	*50.41496*	*23.73712*	*318.1425*	*Index points*	*FRED*
Sovereign Debt Crises Uncertainty Index	*1.009689*	*161.0623*	*0.0*	*1039.343*	*Index points*	*FRED*
Real GDP Growth	*2.29619*	*6.225585*	*-28.07673*	*35.19544*	*%*	*FRED*
Gold Returns	*0.005328*	*0.0530796*	*-0.2059202*	*0.1426391*	*% (decimal form)*	*Bloomberg*
US-China Tension Uncertainty Index	*-0.1239255*	*0.0385972*	*0.077213*	*0.3494555*	*Index points / 1000*	*FRED*

2.4 Correlation Matrix

The variables included in the original dataset are subject to multicollinearity. To diagnose such and preemptively understand the relationships amongst independent variables, correlation matrices are examined. They generally align with economic intuition and can be found in the appendix under Figures 4 and 5. As expected, the *TPU Index* exhibits a positive correlation with the *VIX* and a negative correlation with *SP 500 Returns* and the spread. Other interesting elements to note are a moderately negative correlation between *SP 500 Returns* and *VIX* changes; a negative correlation between *SP 500 Returns* and *Gold Returns*, and the *USD/EUR Exchange Rate* being negatively correlated to *SP 500 Returns* and *VIX*.

Examining magnitudes, most macro controls, like *Inflation* or *Unemployment* (included to mitigate omitted variable bias), show moderate correlations with uncertainty and market variables, providing effective control without introducing multicollinearity. On the other hand, higher correlations are present amongst uncertainty

measures, indicating significant overlap between them. To avoid multicollinearity, the *Variance Inflation Factor (VIF)* is additionally later utilised to verify the validity of each regression.

2.5 Variable Construction

Lagged variables were generated to explore dynamic effects. The lagged values of key predictors (*TPU or SP500 Returns*) capture delayed effects. These transformations and lags were included in the final regressions when they, given statistical significance, significantly improved explanatory power. Including such in the initial data construction process ensured that potential longer-horizon influences would not be omitted.

To be mentioned, is also the first difference of *TPU* being rescaled and divided by 1000. This was done in order to facilitate the interpretation of the regression results.

2.6 Data Limitations

Various limitations of our datasets should be mentioned. First, the missing observations and frequency mismatches required careful adjustment. Stock market variables only trade on trading days, and hence, when testing for additional regressions on the daily 2025 dataset, the model was restricted to such. This reduction in data points also limited the number of variables included in the regression due to the risk of overfitting. As for variables like *GDP Growth*, *Unemployment* or *CPI Inflation*, available only monthly/quarterly, they were held constant within days or excluded. Second, measurement errors affect some variables: the *TPU* and *EPU Indices*, based on newspaper text analysis, witness media biases and amplifications. Changes in such variables do reflect uncertainty, but could also come from heightened media attention. Additionally, they contain inherent noise, since not every mention of uncertainty leads to actual economic impacts.

3.1 Methodology and Model

The following section describes the analytical part of the investigation. The monthly data set spanning 2006-2025 is primarily analysed. We utilise time series analysis as our main methodology. We investigate the relationship between *Trade Policy Uncertainty* and stock market returns relative to the *S&P 500* over time. We take into consideration numerous factors that could lead to omitted variable bias and model misspecification. The specification we estimate is an *Autoregressive Distributed Lag (ARDL)* model of order *(2,1)*, including two lags

of our dependent variable and one lag of the independent variable, selected based on *Akaike Information Criteria (AIC)*. The specification is as follows:

$$SPret_t = \alpha + \beta_1 SPret_{t-1} + \beta_1 SPret_{t-2} + \gamma_1 diffTPU_{t-1} + \delta_k controls_t + \epsilon_t$$

The model is estimated utilising the first difference of TPU to avoid the spurious regression problem.

4.1 Empirical Analysis and Results

Figure 3: Regression Results on the Effect of TPU on S&P 500 returns using Newey-West Standard Errors

	(1)	(2)	(3)	(4)	(5)	(5)
Constant	*0.006*	*-0.084**	*0.001*	*-0.081*	*-0.081*	*-0.005*
	(0.004)	*(0.048)*	*(0.011)*	*(0.049)*	*(0.049)*	*(0.010)*
Diff TPU (t, scaled)	*-0.174***	*-0.129***	*-0.145***	*-0.172****	*-0.169****	*-0.188****
	(0.086)	*(0.059)*	*(0.058)*	*(0.055)*	*(0.052)*	*(0.052)*
Diff TPU (t-1, scaled)				*-0.106****	*-0.120****	*-0.122***
				(0.032)	*(0.036)*	*(0.047)*
SP Returns (t-1)				*-0.171*	*-0.172*	*-0.171**
				(0.112)	*(0.112)*	*(0.097)*
SP Returns (t-2)				*-0.208****	*-0.212****	*-0.207****
				(0.061)	*(0.057)*	*(0.064)*
Federal Funds Rate		*0.002*		*0.002*	*0.002*	
		(0.002)		*(0.002)*	*(0.002)*	
VIX Index		*-0.002****	*-0.003****	*-0.003****	*-0.003****	*-0.003****
		(0.000)	*(0.000)*	*(0.000)*	*(0.000)*	*(0.000)*
WTI Price Change		*0.158****	*0.166****	*0.163****	*0.163****	*0.169****
		(0.032)	*(0.031)*	*(0.031)*	*(0.032)*	*(0.029)*
DXY Index		*0.000*		*-0.000*	*-0.000*	
		(0.000)		*(0.000)*	*(0.000)*	
Unemployment Rate		*0.008****	*0.006****	*0.009****	*0.009****	*0.007****
		(0.002)	*(0.001)*	*(0.002)*	*(0.002)*	*(0.001)*
Monetary Policy Uncertainty Index		*-0.089*		*-0.108**	*-0.111**	
		(0.068)		*(0.064)*	*(0.063)*	
Core PCE		*0.001*		*0.001*	*0.001*	
		(0.001)		*(0.001)*	*(0.001)*	
National Security Uncertainty Index		*-0.000*		*-0.000*	*-0.000*	
		(0.000)		*(0.000)*	*(0.000)*	
Sovereign Debt Crises		*-0.000*		*-0.000*	*-0.000*	
		(0.000)		*(0.000)*	*(0.000)*	
Real GDP Growth		*0.001*		*0.001****	*0.001****	*0.001****
		(0.000)		*(0.000)*	*(0.000)*	*(0.000)*
Gold Returns		*0.007*		*0.016*	*0.014*	

US-China Tension Uncertainty Index		*(0.052)*		*(0.051)*	*(0.051)*	
		*0.144**	*0.190****	*0.216***	*0.220***	*0.253****
		(0.080)	*(0.060)*	*(0.108)*	*(0.106)*	*(0.069)*
Observations	*182*	*182*	*182*	*182*	*182*	*182*
R-squared	*0.010*	*0.462*	*0.440*	*0.524*	*0.523*	*0.505*
AIC	*-577.8*	*-664.9*	*-673.5*	*-679.1*	*-680.8*	*-687.9*

** p < 0.1, ** p < 0.05, *** p < 0.01 Standard errors in parentheses*

We begin the empirical analysis by estimating the simple linear regression of *S&P 500 Returns* on *TPU*. After performing the *Dickey-Fuller Test* on the series, we decided to continue testing the model using differences of the main explanatory variable. We observe a negative and statistically significant coefficient when testing the simple linear regression between differences in *TPU* and *S&P Returns*. We continue the analysis with a two-folded approach: adding one control at a time, and adding all controls at once, subsequently restricting the model via *F-tests* for joint significance. Both methodologies reach the same conclusion, and hence, for clarity, we report the second approach. We include in the unrestricted model a *Volatility Index (VIX*), since this indicator is a forward-looking gauge of investor risk sentiment (a higher *VIX* signals that investors anticipate higher market turbulence or risk). Therefore, we expect higher *VIX* (more fear) to coincide with lower stock returns, all else equal. We also control for movements in oil and gold prices, as these often reflect global risk aversion and inflation expectations. While oil is a pro-cyclical commodity, its price change could have a mixed effect on equities, since rising oil prices could signal either an improving global demand or a rise in inflationary pressures. In *Regression (2)*, we find a positive coefficient, suggesting that when oil prices jump, *S&P 500 Returns* tend to be higher. Gold, in contrast, is considered a safe-haven asset, and we included it to capture this risk-aversion channel, but in our estimations, the gold coefficient was small and not significant. We further include major macroeconomic variables, such as inflation, unemployment, and *Real GDP growth*, to control for the state of the economy. These controls ensure that any correlation between *TPU* and returns isn't driven by underlying economic expansions or contractions that affect both. *Federal Funds Rate* and *Dollar Index* are also part of the unrestricted model (2), as changes in interest rates can directly affect stock valuations (via discount rates) and indirectly signal economic conditions, and the exchange rate accounts for global risk appetite and trade-related effects. We used the monthly change in *DXY* and, in the full model, the *DXY* variable is not statistically significant, suggesting that at a monthly frequency, its effect on U.S. stock returns is modest once other factors are accounted for. We further control for a few most relevant economic uncertainty indices, such as *Monetary*

Policy Uncertainty, *Sovereign Debt Crisis Uncertainty*, *National Security Uncertainty*, and a measure of tension between the U.S. and China, since we observe spikes in *TPU* during the US-China trade war in 2018. In *Model (2)*, we observe that the *Dollar Index*, *Inflation*, *GDP Growth*, *FFR*, *Gold Returns*, and the uncertainty indicators of *Monetary Policy*, *Debt*, and *National Security* do not appear to be individually significant. We, therefore, perform a few F-tests and conclude these factors are also jointly insignificant; in fact, we do not observe a significant change in our main coefficient of interest when we define the restricted *Model (3)*. We analyse further the restricted model, and we find evidence for serial correlation by performing the *Breusch-Godfrey Test*. This suggests that lagged values of our variables might matter for a more precise specification of the relationship. We once again take into consideration the unrestricted model and include different numbers of lags for dependent and independent variables. We utilise the *Akaike Information Criteria* to identify the best model, represented in the table as *Regression (4)*. This model includes one lagged value of Trade Policy Uncertainty and two lagged values of *S&P 500 Returns*, and we define it as ARDL(2,1). This specification allows us to account for autocorrelation and dynamic effects of past returns, and to capture both contemporaneous and delayed effects of trade uncertainty on market returns. The autocorrelation of the returns has a negative direction in our final model. This demonstrates some predictability of the stock market, and more specifically, it suggests there is a mean reversion behaviour of returns. This observation makes intuitive sense, since short-term reversal patterns in financial markets are often observed, reflecting the correction of investors to overreaction to news or shocks, or possibly identifying frictions in the information processing. Since the coefficients on the *S&P 500 Returns* lags are smaller than one, the shocks are not persistent. Finally, we restrict *Model (4)* testing for joint significance to the *U.S. Dollar Index*, *FFR*, *Gold Returns*, *National Security* and *Sovereign Debt* indicators, which reveal joint insignificance. Our final *Model (5)* includes the most important factors, explains 51% of the variation in *S&P 500 Returns* and is once again classified as the best of the described models from the *Akaike Information Criteria*. Since the *Breusch-Godfrey* test reveals the presence of serial correlation and the *Breusch-Pagan Test* reveals heteroskedasticity, we utilise the *HAC Newey-West Standard Errors* for more efficient inference. Additionally, the Variance Inflation Factor (VIF) reveals no evident multicollinearity among the explanatory variables. Furthermore, we test the final model for cointegration as mentioned previously, and find that the residuals are stationary and therefore cointegrated.

4.2 Economic interpretation

Since the first difference of *TPU* is scaled and divided by 1000 for better visualization of the coefficient, we can say that a one unit increase in the original difference of *TPU* (e.g from 100 to 101) corresponds to a 0.001-unit increase in the scaled difference of *TPU*, or more intuitively, for a 100 units increase in ΔTPU (e.g from 100 to 200, equivalent to a 1 percentage point increase in articles about trade uncertainty following how *TPU* was normalised), the effect on the *S&P 500 Returns* is estimated to be (-0.188*0.1 = 0.0188) to be a monthly decrease by 1.88%. This is economically very interesting, since *S&P Returns* average monthly around 0.6%. Therefore, a 1 percentage point (equivalent to 100 TPU points) increase in major newspaper coverage of trade uncertainty-related news is associated with a contemporaneous cumulative annual decrease in stock returns by around 20%, holding all else constant. Similarly, we can interpret the short-run effects of trade uncertainty in the previous month on the following month's stock returns. The results suggest that for a 1 percentage point increase in *Trade Policy Uncertainty* coverage in the main U.S. newspapers last month, on average, *S&P 500* returns are estimated to decrease by 1.2% this month, all else constant. We observe an autocorrelation effect as well. The coefficients on the lags of stock returns are both negative and statistically significant, however, they are both smaller than one, which means that the model is stable and the short-term shocks will fade over time. When computing the long run effect through the long run multiplier, or the total accumulated impact of a change in *TPU* on market returns, we conclude that that a persistent increase by 1 percentage point of news articles covering trade uncertainty topics is associated with a 2.1% decrease in stock returns monthly, all else equal, which is an extremely relevant shock for the financial market. From our final model, we can also notice that the volatility index negatively affects market returns, while oil prices affect them positively, and this could indicate a higher expected global demand or gains in the energy sector. The coefficient on the unemployment rate is interestingly positive, maybe because worse labour market data could foresee an expansive policy by the Federal Reserve. An increase in economic growth is associated with increases in stock market returns, probably because of confidence in economic activity, and finally, the US-China uncertainty index also appears to be positively correlated with stock market returns. We hypothesise that this could be due to a flight-to-safety effect in periods of tension, benefiting U.S. equities.

4.3 Further Analysis

We also preliminarily tested the effect of *TPU* on the *10-year 3-month U.S. Treasury Yield Spread*, using higher frequency data (daily), and zooming into the first 3 months of 2025, as we have observed a sudden spike in trade uncertainty due to the new tariff announcements. We include the results in Figure 7. We follow a similar procedure to our previous analysis. Differently, we use a level-log model (to dampen spikes and interpret per cent changes) as well as include interaction terms in the controlled variables. Even though the study is preliminary and would require further refinement, we can comment on the direction of the relationship. In particular, we observe an inverse relationship between *TPU* and the yield curve, which indicates that a percentage increase in *TPU Index* is associated with a narrowing of the term spread, and therefore a flattening of the yield curve. This could be due to a decrease in long-term yields, as investors demand safer bonds in times of uncertainty, and may reflect growing market expectations of slower future growth. However, it would be interesting to include, in a future paper, lagged values to account for adjustments of information flow. From this analysis, we do not capture any potential reversal in behaviour suggested by the most recent movements of the long-term treasury yield. A more in-depth analysis, leveraging higher frequency data and conducted over more months to observe medium-run effects of recent tariff announcements, could explore if this relationship might be inverted instead.

4.4 Limitations

We acknowledge our models present limitations. The most important factor we have to pay close attention to is the risk of endogeneity. The model could hide simultaneity bias, and market returns could affect trade policy, or better, how trade policy uncertainty is reported in the media. Even if lags may help reduce this risk, further research could implement the use of an instrumental variable to further isolate the direct effect of trade policy uncertainty on market returns. Moreover, there could be omitted variable bias, since our data access was not unlimited, and some factors are difficult to model. In the literature, Fama-French factors are often used to analyse stock market returns. We do not include them, since we are conducting a time series analysis, and we do not dispose of a panel dataset, but it would be interesting to try to incorporate these factors into the regressions, or conduct the regressions in panel data format. In that case, we would also be able to better control for heterogeneity that may affect both of our variables. Furthermore, an additional limitation lies in the possibility of measurement error. In this analysis, we are relying on the reliability of the index constructed by Caldara and Iacoviello. We also recognise that more lags might belong in the model, and further research could analyse the impact of past

observations of the explanatory variables on stock market returns. Lastly, the period considered is rich in economically significant shocks, from the Global Financial Crisis to the Pandemic. Even though we try to isolate these effects, structural breaks are present and could be further explored in the future. In future research, it would be insightful to conduct event studies to analyse the effects of trade policy uncertainty before and after important tariffs' announcements. For example, it would be interesting to explore the effect of the announcements on Liberation Day in 2025 on key asset prices, and compare them with announcements in the 2018 US-China trade war. For example, we have recently observed a reversal of the long-term yield for U.S. Treasury bonds, and future research could investigate the significance and magnitude of these trends in asset prices.

4.5 Conclusion

This paper investigates the relationship between *Trade Policy Uncertainty*, measured in newspaper coverage from major US newspapers, and *S&P 500 Returns*. It also includes a preliminary analysis of the most recent effects on *TPU* on the yield curve, by looking at the term spread. We find a negative and statistically significant relationship between *TPU* and stock market returns and a potential flattening of the yield curve due to rising uncertainty. Limitations remain, and hence, caution is warranted in interpreting coefficients as strictly causal.

Trade policy uncertainty, acting as a drag on the economy, has policy implications. Policymakers could prioritise clarity, consistency, and credibility in policy to anchor expectations stabilising markets, reducing unnecessary trade uncertainty—through transparent communication.

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Appendix:

Figure 4: Correlation Matrix Daily 2025 Data

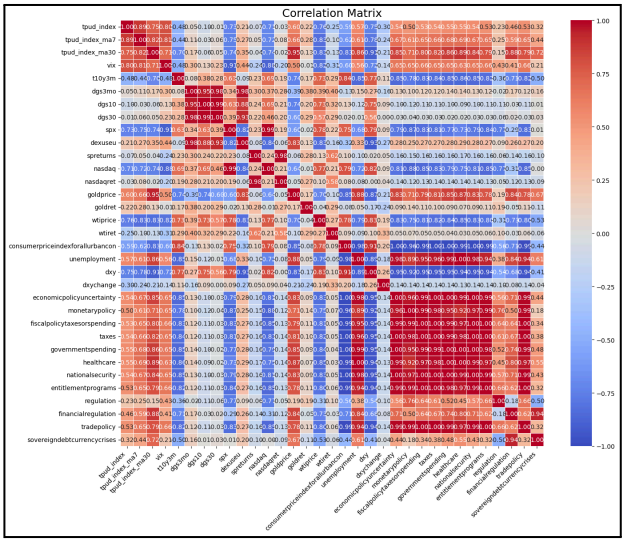

Figure 5: Correlation Matrix Monthly 2006-25 Data

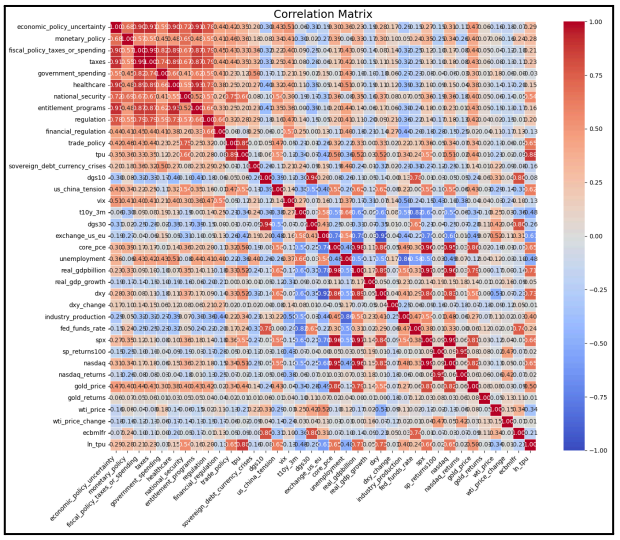

Figure 6: Augmented Dickey-Fuller Tests

Variable	P-Value	Stationarity
TPU Index	*0.226*	*Non Stationary*
Diff TPU (t, scaled)	*0.01*	*Stationary*
Diff TPU (t-1, scaled)	*0.01*	*Stationary*
SP Returns (t-1)	*0.01*	*Stationary*
SP Returns (t-2)	*0.01*	*Stationary*
FFR	*0.046*	*Stationary*
VIX Index	*0.094*	*Stationary*
WTI Price Change	*0.01*	*Stationary*
DXY Index	*0.221*	*Non Stationary*
Unemployment Rate	*0.327*	*Non Stationary*
Monetary Policy Uncertainty Index	*0.11*	*Non Stationary*
Core PCE	*0.985*	*Non Stationary*
National Security Uncertainty Index	*0.015*	*Stationary*
Sovereign Debt Crises Uncertainty Index	*0.255*	*Non Stationary*
Real GDP Growth	*0.01*	*Stationary*
Gold Returns	*0.01*	*Stationary*
US-China Tension Uncertainty Index	*0.053*	*Stationary*

Figure 7: Regression Results on the Effect of TPU 10Y-3M US Treasury Spread using Newey-West Standard Errors

	(2)	(3)	(4)	(5)
Constant	*-0.009***	*0.005*	*0.021*	*-0.008*
	(0.004)	*(0.064)*	*(0.068)*	*(0.006)*
Diff Log TPU (2025)	*-0.020**	*-0.030***	*-0.031***	*-0.032***
	(0.011)	*(0.012)*	*(0.014)*	*(0.013)*
Diff USD/EUR (2025)	*0.868*	*1.154*	*1.115*	*1.389*
	(1.116)	*(0.878)*	*(1.076)*	*(1.014)*
NASDAQ Returns	*0.005*	*0.130***	*0.165***	*0.144***
	(0.005)	*(0.052)*	*(0.068)*	*(0.057)*
WTI Returns	*0.013****	*0.012***	*0.011***	*0.013***
	(0.005)	*(0.005)*	*(0.006)*	*(0.005)*
Gold Returns	*0.015**	*0.016***	*0.016***	*0.016***
	(0.009)	*(0.007)*	*(0.007)*	*(0.007)*
CPI (Inflation)		*-0.005*	*-0.010*	
		(0.023)	*(0.025)*	
Diff VIX (2025)			*0.011*	*0.006*
			(0.011)	*(0.009)*
TPU × VIX Interaction			*-0.011*	
			(0.015)	
NASDAQ × CPI Interaction		*-0.047***	*-0.056***	*-0.050***
		(0.020)	*(0.023)*	*(0.021)*
Observations	*58*	*58*	*58*	*58*
R-squared	*0.209*	*0.312*	*0.324*	*0.317*
AIC	*-176.7*	*-180.8*	*-177.8*	*-181.2*

** p < 0.1, ** p < 0.05, *** p < 0.01 Standard errors in parenthes*