Trade Policy Surprises and U.S. Convenience Yields: Evidence from Prediction Markets*

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Abstract

We show that U.S. trade policy surprises account for a large share of the variation in U.S. Treasury convenience yields during the trade war of 2025. Using transaction-level data from Polymarket's tariff-related prediction markets, we construct a novel high-frequency measure of trade policy surprises and provide causal evidence that unexpected U.S. tariff increases reduce Treasury convenience yields across all maturities. While tariff increases could enhance Treasuries' safe-haven appeal by improving fiscal sustainability, we find that the market uncertainty they generate erodes Treasuries' convenience benefits and dominates the fiscal channel. Consistent with this mechanism, tariff surprises elevate market-wide uncertainty, depress equity prices persistently, and raise the perceived probability of a U.S. recession. We further demonstrate that the decline in convenience yields operates through distinct safety and liquidity channels across maturities.

Keywords: Convenience yield; tariff announcements; prediction markets; high-frequency identification

JEL codes: E30; F13; G12; G13

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1 Introduction

Do U.S. Treasuries remain the world's premier safe asset in an era of rising geopolitical fragmentation? Since the start of 2025, the U.S. government has initiated a "global trade war," marked by an abrupt and broad re-escalation of trade tensions with major trading partners. This episode featured a rapid sequence of tariff announcements—often communicated through irregular and unscheduled channels—and targeted a wide range of countries and sectors. These announcements triggered sharp and frequent revisions in market participants' expectations, making trade policy a dominant force shaping asset-price dynamics during this period.

These developments bring renewed attention to the resilience of the U.S. safe-asset system and the durability of the privilege benefits historically associated with U.S. Treasuries. These benefits are commonly captured by the convenience yield: the yield discount investors accept for holding Treasuries due to their liquidity and safety. Recent work warns that geopolitical fragmentation and rising trade-related frictions may erode this privilege (e.g., Acharya and Laarits, 2025*a*; Jiang et al., 2025*b*). Yet causal evidence on how trade policy shocks affect convenience yields remains limited. Identifying whether and how trade policy surprises influence Treasury convenience yields is therefore essential for understanding how geopolitical shocks can undermine the attractiveness of U.S. assets.

This paper provides the first causal evidence on how trade policy surprises affect Treasury convenience yields, using a novel dataset from Polymarket, one of the largest global prediction markets. A key challenge in quantifying such effects is measurement. Traditional approaches rely on text-based indices or low-frequency indicators that confound trade policy news with broader economic news, making it difficult to isolate true surprises and their direction. We address this challenge by exploiting prediction contracts on Polymarket that are tied explicitly to U.S. tariff outcomes for specific countries. The prices of these contracts reflect real-time, risk-neutral perceived probabilities of certain tariff actions; see a few examples in Figure 1. This approach allows us to construct a forward-looking, high-frequency measure of trade policy surprises (TPS) with clear directional interpretation and to identify their dynamic effects on Treasury convenience yields.

Ex ante, the effect of perceived U.S. tariff increases on Treasury convenience yields is ambiguous. On the one hand, higher tariffs can generate additional government revenue, potentially improving fiscal sustainability given that U.S. public debt has reached historically elevated levels, exceeding 120% of GDP since 2024. Improved fiscal capacity could enhance the safe-haven appeal of Treasuries and, in turn, raise their convenience yields. On the other hand, frequent trade policy surprises may fuel market turbulence by increasing uncertainty. Because this uncertainty is largely driven by U.S. policy actions, investors may reduce their exposure to U.S. assets, lowering Treasury convenience yields.

To answer this question and shed light on the underlying mechanisms, we employ a high-frequency event-study design around major U.S. trade policy announcements in 2025. Trade-policy communications during this period were often disseminated via President Trump's Truth

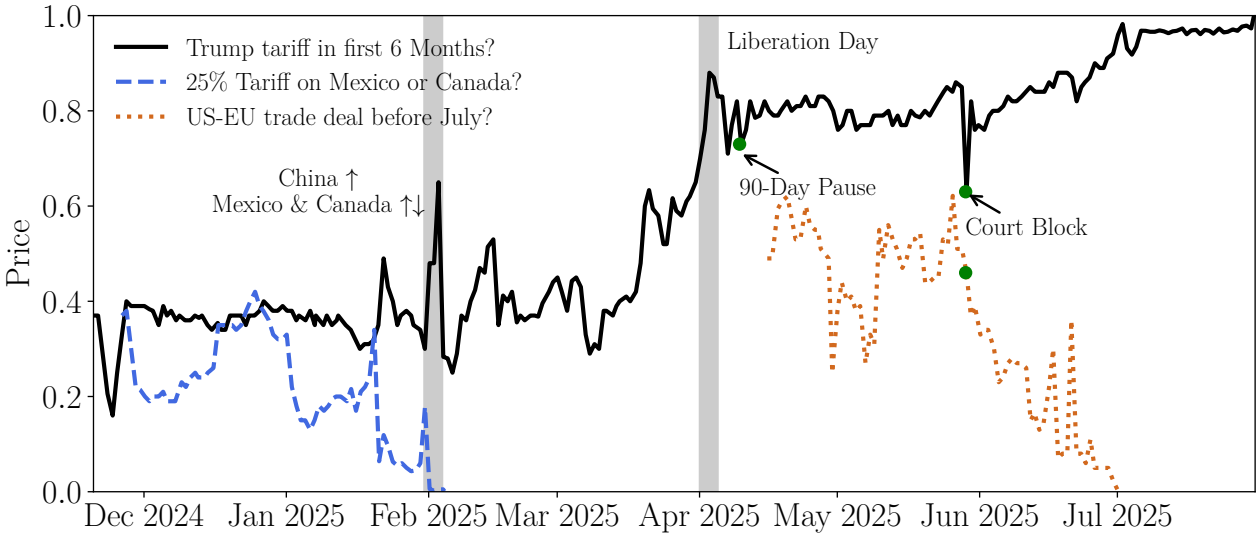


Figure 1: Polymarket Price Changes and Major Trade Policy Events

Notes: This figure shows the daily prices (in dollars) from Polymarket alongside major U.S. trade policy events for the period from November 18, 2024 to December 31, 2025. Each line represents a trade-related prediction market: the solid black line corresponds to the market "Will Trump impose large tariffs in his first 6 months?"; the dashed blue line corresponds to the market "Will Trump impose 25% tariff on Mexico or Canada before February 2025?"; and the dotted orange line corresponds to the market "Will the U.S. agree to a trade deal with the European Union before July 2025?". In each market, investors trade binary options on whether the stated outcome will occur, and the market price reflects the risk-neutral probability that the outcome will be realized. Additional details on Polymarket's market structure are provided in Section 2. The two shaded areas indicate early February and early April of 2025, periods during which multiple trade policy announcements were made on consecutive days.

Social account, and their timing was largely unanticipated by markets. We compile a comprehensive list of trade-related announcements from January 20, 2025 (Inauguration Day), through December 31, 2025. For each announcement, we construct high-frequency identified TPS from changes in Polymarket tariff-related contract prices within a 30-minute window surrounding the announcement. Following the high-frequency identification literature (e.g., Gertler and Karadi, 2015; Nakamura and Steinsson, 2018), we aggregate cross-market price changes using principal components to obtain a unified measure of trade policy surprises.

To measure the convenience yield on U.S. Treasuries, we use the spread between maturity-matched interest rate swap (IRS) rates and Treasury yields as our baseline measure (e.g., Fleckenstein and Longstaff, 2024; Jiang, Richmond, and Zhang, 2025). We also construct an alternative, cross-country measure of the U.S. convenience yield based on covered interest parity deviations between U.S. Treasuries and sovereign bonds issued by other G10 economies (e.g., Du and Schreger, 2016; Du, Im, and Schreger, 2018). This Treasury basis spread captures investors' relative preference for U.S. Treasuries over G10 sovereign bonds and provides a complementary measure of convenience benefits from a cross-country perspective.

We document three main findings. First, we estimate the cumulative response of Treasury convenience yields by regressing daily changes in our baseline convenience yield measure on the TPS. A positive trade policy surprise, i.e., an unexpected U.S. tariff increase, induces a

persistent and statistically significant decline in convenience yields across all maturities.

We also examine how TPS affects the relative convenience benefits of U.S. Treasuries compared with currency-hedged sovereign bonds issued by G10 economies. To do so, we focus on Polymarket contracts tied to tariff outcomes involving specific countries, which allow us to construct country-specific measures of TPS. A panel regression across G10 country pairs shows that U.S. convenience yields decline relative to their foreign counterparts following tariff-increase announcements. These effects persist for at least one month, indicating a durable reassessment of the privilege benefits traditionally associated with U.S. Treasuries.

These negative responses of convenience yields suggest that the fiscal channel associated with higher tariffs is unlikely to be the dominant mechanism. Instead, we find that uncertainty is the primary driver of these responses. First, using the same high-frequency event-study framework, we document a persistent decline in the S&P 500 index following tariff-increase surprises, accompanied by sustained increases in both the VIX and the text-based trade policy uncertainty (TPU) index constructed by Caldara et al. (2020). These responses point to heightened perceived uncertainty and increased media attention surrounding trade policy developments.

Next, using identified TPS shocks as instruments for the VIX, we show that the uncertainty-induced decline accounts for nearly the entire response of convenience yields on event dates. We then use the estimated coefficients to predict convenience yield movements through changes in the VIX and find that this channel explains a substantial share of Treasury convenience yield movements even outside event windows. This finding contrasts with the traditional flight-to-safety mechanism, suggesting that during the 2025 trade war, Treasuries were not perceived as safe-haven assets to the same extent.

Consistent with the uncertainty channel, trade disputes between the U.S. and other countries in 2025 heightened uncertainty, potentially raising concerns about the long-run outlook of the U.S. economy. To examine this implication, we explore whether trade policy shocks affect recession risk. Using prices from the Polymarket contract "US recession in 2025?", we find that TPS leads to a significant and persistent increase in the perceived probability of a U.S. recession during 2025.

Lastly, we decompose Treasury convenience yields, measured by the IRS–Treasury spread, into their liquidity and safety components. Following the literature (Longstaff, 2004), we use Refcorp bonds, whose payments are fully backed by the U.S. Treasury and share the same tax treatment, to isolate a default-risk-free benchmark. The Refcorp–Treasury spread captures the liquidity premium embedded in Treasuries, while we regard the residual IRS–Refcorp spread as the safety premium. At the short end, the decline in convenience yields is driven primarily by a reduction in the safety premium, with only a modest offset from an increase in liquidity premia. At longer maturities, the decline reflects both a deterioration in safety and a reduction in liquidity benefits, with liquidity playing a more prominent role. This heterogeneity highlights that trade policy shocks affect distinct dimensions of Treasury demand across maturities.

Literature Our paper contributes to the literature on the U.S. safe-asset status and convenience yields (e.g., Gorton, Lewellen, and Metrick, 2012; Krishnamurthy and Vissing-Jorgensen, 2012; Nagel, 2016; Du, Im, and Schreger, 2018; He, Nagel, and Song, 2021; Li and Krishnamurthy, 2024; Acharya and Laarits, 2025*b*; Fu, Li, and Xie, 2025). A recent strand of this literature emphasizes the potential erosion of dollar privilege and the decline in convenience yields. Acharya and Laarits (2025*a*) study the movements in convenience yields around the tariff war shock of early April 2025 through a hedging mechanism. Du, Keerati, and Schreger (2025) document a decoupling between the convenience yield on the U.S. dollar and on U.S. Treasuries. Jiang et al. (2025*b*) show that foreign investors' willingness to pay for the safety of dollar-denominated assets has declined, while Jiang et al. (2025*a*) argue that these movements are consistent with rising perceptions that the U.S. may lose its reserve-currency status. Hassan et al. (2025) develop a general-equilibrium model featuring endogenous exchange-rate regime choice and a safety premium on a country's currency.

We contribute to this literature by providing the first causal evidence on how trade policy surprises affect Treasury convenience yields, capturing both their immediate impact and dynamic responses. Our high-frequency identification strategy isolates exogenous shifts in investor beliefs about U.S. tariff policy, allowing us to quantify how changes in perceived trade policy translate into movements in convenience yields. We further show that the uncertainty channel is the dominant force driving the decline in convenience yields during this period, highlighting a distinct mechanism through which geopolitical shocks shape Treasury demand.

Our work also contributes to the growing literature studying the implications of trade wars and geopolitical risks. A large body of this literature examines how tariffs affect the real economy, trade flows, and welfare (e.g., Amiti, Redding, and Weinstein, 2019; Fajgelbaum et al., 2020; Lashkaripour, 2021; Keller and Pique, 2024; Clayton et al., 2025; Ignatenko et al., 2025; Rodríguez-Clare, Ulate, and Vasquez, 2025). In contrast, we study how investors' perceptions of U.S. tariff policies and trade relations since 2025 shape the resilience of the privilege benefits historically associated with U.S. Treasuries. Our focus is on the asset-pricing consequences of trade policy; specifically, how geopolitical shocks transmit to Treasury demand and convenience yields. Our findings imply that geopolitical shocks can weaken the safe-haven role of U.S. Treasuries through an uncertainty channel, even when fiscal fundamentals improve.

We further contribute to both literature by developing a new high-frequency measure of TPS using prediction-market data. To the best of our knowledge, ours is the first direct high-frequency measure regarding trade policy news. The closest benchmark is the text-based trade policy uncertainty index of Caldara et al. (2020), which captures the share of newspaper coverage related to trade policy uncertainty at a daily frequency. Khalil and Strobel (2024), for example, use this measure to study the effects of U.S. trade policy on dollar strength. In contrast, our Polymarket-based measure exploits real-time movements in binary contracts tied to specific tariff outcomes, providing a forward-looking, high-frequency assessment of the probabilities investors assign to trade-policy actions. Moreover, our measure contains directional information, allowing us to distinguish between news indicating tariff increases versus decreases.

Our measurement approach relates to recent studies using prediction markets to extract market expectations about the macroeconomy (e.g., Eichengreen et al., 2025; Swanson, Wang, and Wu, 2025; Taillard and Zeng, 2025; Diercks, Katz, and Wright, 2026), elections (e.g., Chernov, Elenev, and Song, 2025; Ng et al., 2025), and earnings (e.g., Gomez Cram et al., 2025; Rabetti, Shao, and Zhang, 2025). Earlier work in this literature (e.g., Gürkaynak et al., 2005; Wolfers and Zitzewitz, 2006; Snowberg, Wolfers, and Zitzewitz, 2007, 2013) established that prediction markets are informative beyond traditional polls and surveys. We contribute to this literature by leveraging novel transaction-level data from Polymarket together with a high-frequency identification strategy, with a particular focus on tariff-related markets. This approach allows us to construct a high-frequency measure of trade policy surprises and to identify their causal effects on financial market outcomes.

The rest of the paper is organized as follows. Section 2 explains the data we use in detail and presents summary statistics. Section 3 studies the effects of trade policy announcements using event studies and examines the underlying mechanism. Section 4 analyzes the implications on the cumulative evolution of convenience yields throughout 2025. Section 5 further decomposes the convenience yields into safety and liquidity components, and Section 6 concludes.

2 Data

We begin by introducing the novel prediction market data we use to measure trade policy surprises, followed by the financial market data employed in our empirical analyses.

2.1 Prediction Market: Polymarket

The prediction market data come from Polymarket, a blockchain-based decentralized prediction market where users trade binary options tied to real-world events.[1] Polymarket experienced substantial growth during the 2024 U.S. presidential election and has continued to expand thereafter. By December 2025, the monthly trading volume peaked at approximately 6 billion U.S. dollars, with around 0.6 million monthly active traders, establishing Polymarket as one of the world's largest prediction markets.

We first describe the structure of Polymarket's prediction markets and identify the subset related to U.S. trade policy. Our measures of trade-policy surprises are derived from binary options traded on these markets. The prices of these contracts embed investors' beliefs about future policy outcomes, and changes in these prices therefore reflect revisions in those beliefs. Section 3 details how we construct high-frequency trade-policy-surprise measures from these price changes.

[1] See https://polymarket.com.

Market structure and payoffs Polymarket is organized into a three-tier structure: *events*, *markets*, and *tokens*. Each *event* corresponds to a real-world outcome of interest. Within each event, one or more *markets* represent mutually exclusive outcomes. In each market, users trade two types of *tokens*—"Yes" and "No"—which pay out \$1 (per token) if the corresponding market outcome occurs or does not occur, respectively.

Table 1 illustrates this structure. We classify Polymarket events into three categories and provide an example of each. Type-1 events contain a single market; Type-2 events contain multiple markets tied to distinct non-numerical outcomes; and Type-3 events contain multiple markets tied to numerical outcomes (e.g., strike values).

The Type-1 example in Table 1 concerns the question "Will Trump impose large tariffs in his first 6 months?"[2] The market resolves to "Yes" if the U.S. weighted-average tariff, as reported in the Federal Reserve Economic Data (FRED) by the Federal Reserve Bank of St. Louis, reaches at least 5% in either Q1 or Q2 of 2025. This market opened for trading on November 18, 2024. On July 30, 2025 at 7:30 a.m., FRED released the Q2 tariff of 8.16%, triggering resolution to "Yes." A holder of a "Yes" ("No") token therefore received \$1 (\$0).

The Type-2 example in Table 1 contains multiple markets, each associated with a specific country.[3] The underlying event is "Which countries will the U.S. agree to trade deals with before July?" For instance, the market "Canada" pays \$1 if the U.S. reaches a trade agreement with Canada before July 2025. No such agreement occurred, and the market resolved to "No" on June 30, 2025.

Type-3 events, as shown in Table 1, are traded similarly to Types 1 and 2 but are less prevalent on Polymarket. They have substantially lower average trading volume than markets in the other categories. We therefore include this category only for completeness in describing the platform's market structure and exclude it from our empirical analyses.

In summary, under this market and payoff structure, the time-t price of a "Yes" token equals the time-t risk-neutral probability that the market outcome will be realized, and the price of the "No" token equals the corresponding probability that the outcome will not occur. By construction, in any given market and at any point in time, the two prices sum to \$1.[4]

Cross-validity check for Polymarket To assess whether Polymarket prices convey information about policy expectations, as an example, we compare Polymarket's Fed interest rate markets with federal funds futures traded on the Chicago Mercantile Exchange.[5] In these markets, participants trade on the Federal Reserve's target federal funds rate for a specific Federal Open Market Committee (FOMC) meeting. These contracts—among the largest and most liquid on Polymarket—allow participants to bet directly on the policy rate decision and thus

[2] See https://polymarket.com/event/will-trump-impose-large-tariffs-in-first-6-months.

[3] See https://polymarket.com/event/which-countries-will-the-us-agree-to-trade-deals-with-before-july.

[4] In practice, the sum of the "Yes" and "No" prices can deviate slightly from \$1, typically by no more than one cent.

[5] For an example of Polymarket's Fed interest rate markets, see https://polymarket.com/event/fed-decision-in-december?tid=1763223603737.

Table 1: Examples of Polymarket Events, Markets, and Tokens

Type	Event	Start	Market	Close	Resolution	Token	Payoff
1	Will Trump impose large tariffs in his first 6 months?	Nov 18, 2024	–	Jul 30, 2025	Yes	Yes	\$1
						No	\$0
2	Which countries will the U.S. agree to trade deals with before July?	Apr 14, 2025	China	May 12, 2025	Yes	Yes	\$1
						No	\$0
			EU	Jul 1, 2025	No	Yes	\$0
						No	\$1
			Canada	Jul 1, 2025	No	Yes	\$0
						No	\$1
			⋮				
3	How large will Trump's EU tariffs be?	Feb 2, 2025	<10%	Apr 3, 2025	No	Yes	\$0
						No	\$1
			10%-20%	Apr 3, 2025	No	Yes	\$0
						No	\$1
			20%-30%	Apr 3, 2025	Yes	Yes	\$1
						No	\$0
			⋮				

Notes: Type-1 events contain a single market; Type-2 events contain multiple markets tied to distinct non-numerical outcomes; and Type-3 events contain multiple markets tied to numerical outcomes (e.g., strike values). In each market, participants trade two types of tokens—"Yes" and "No"—which pay \$1 per token if the corresponding outcome is realized or not, respectively.

reflect market expectations of future interest rate movements. Their function is analogous to that of federal funds futures, though Polymarket operates outside traditional financial markets. Eichengreen et al. (2025) document that prices in Polymarket's Fed interest rate markets closely track those of federal funds futures, indicating that Polymarket provides an alternative, yet informative, venue for extracting policy expectations.

Trade-policy-related markets on Polymarket We identify trade-policy-related markets using the following procedure. First, we collect all Polymarket events tagged with any of the keywords *trade*, *trades*, *trade-war*, *tariff*, or *tariffs*. We then retain events whose descriptions contain at least one of these terms and manually review them to remove those unrelated to U.S. trade policy. To ensure sufficient trading activity, we further exclude markets with total dollar trading volume below \$100,000 over the sample period.

Next, we retain all Type-1 markets and restrict Type-2 markets to those corresponding to G10 countries, following the definition in Du, Im, and Schreger (2018).[6] Finally, we limit attention to markets whose outcomes imply a clear direction of U.S. tariff changes (i.e., increases or decreases).

This process yields a final sample of 63 distinct trade-policy-related markets. The earliest market in the sample began trading on November 18, 2024, and our sample period spans November 18, 2024 through December 31, 2025. Appendix A provides the full list of selected

[6]Specifically, the G10 countries include Australia, Canada, Switzerland, Denmark, the euro area, the United Kingdom, Japan, Norway, New Zealand, and Sweden.

markets and more details on sample construction.

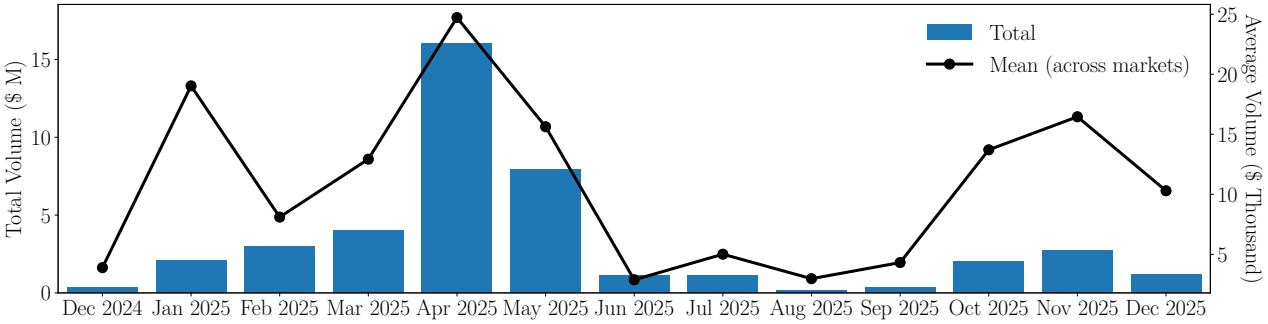


Figure 2: Trade-related Markets Trading Volume on Polymarket

Notes: This figure reports the total and average trading volumes of trade-policy-related prediction markets on Polymarket from November 18, 2024 to December 31, 2025. The bars display the total trading volume across markets in the sample, with the left y-axis measured in million dollars. The solid black line shows the average trading volume across markets, with the right y-axis measured in thousand dollars.

Liquidity of trade-policy-related markets Figure 2 shows the liquidity of the trade-policy-related prediction markets, measured by monthly trading volume. The bars display the total trading volume across markets in the sample, while the solid black line shows the average trading volume across markets. In the first half of 2025, both total trading volume and the number of active markets are relatively high, resulting in elevated average trading volume per market. In contrast, in the second half of 2025, total trading volume declines as fewer markets remain active (i.e., some markets had resolved). As a result, although aggregate trading volume is lower in the last quarter, average trading volume per market remains relatively high.

The most active market reaches a peak monthly volume exceeding $15 million in April 2025. This level of activity is comparable to that of the largest Polymarket Fed interest rate market, although on average the trade-policy-related markets exhibit roughly one-tenth of the volume of the Fed interest rate markets. In April 2025, the top ten markets (by total series volume) have bid-ask spreads ranging from 0.1 to 1 cent. Given that Polymarket's minimum tick size is either 0.1 or 1 cent, these spreads indicate that markets in our sample are highly liquid.

Transaction prices and economic interpretations We retrieve all transactions in the selected markets using Polymarket's Subgraph API and adjust transaction prices so that higher prices correspond to a higher implied probability of a U.S. tariff increase on other countries.

Specifically, consider a transaction k in which a user buys a token $i \in \{\text{Yes}, \text{No}\}$ at price $p_{i,k}$, where token i belongs to market m within Polymarket event e. We assign each token i a tariff-direction label $o(i) \in \{\text{Tariff Increase}, \text{Tariff Decrease}\}$. For markets that resolve to "Yes" when the U.S. increases its tariff, the "Yes" token is labeled $o(i) = \text{Tariff Increase}$, while the corresponding "No" token is labeled $o(i) = \text{Tariff Decrease}$. Thus, $o(i)$ captures the direction of the tariff change associated with the token's payoff, conditional on the outcome being realized. Any token pays $1 at settlement if its outcome is realized.

We then compute an adjusted transaction price that aligns prices with the direction of the tariff outcome, such that higher (lower) values correspond to a higher (lower) implied probability of a tariff increase. Formally, we define

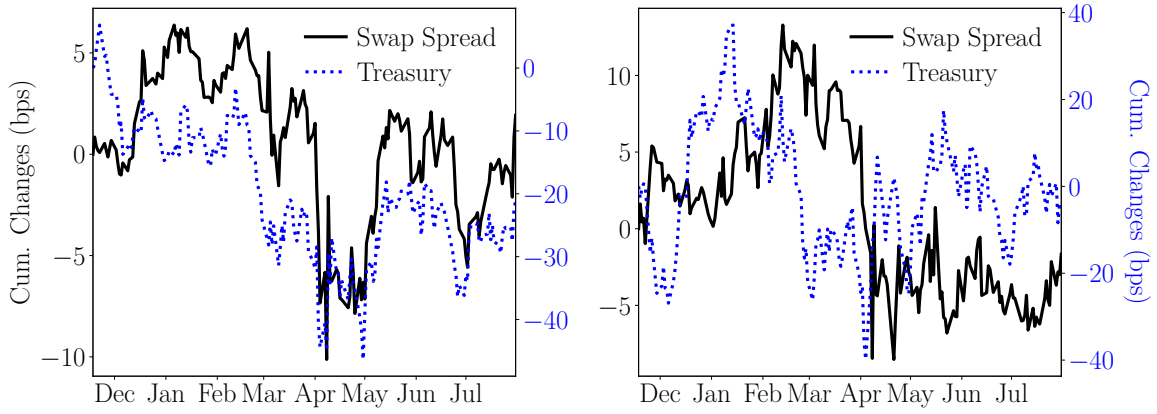
$$\hat{p}_k = \begin{cases} p_{i,k}, & \text{if } o(i) = \text{Tariff Increase} \\ 1 - p_{i,k}, & \text{if } o(i) = \text{Tariff Decrease} \end{cases}. \tag{1}$$

In our empirical analyses, we use these adjusted prices to construct our measures of trade-policy surprises.

2.2 Financial Market Data

Measures of convenience yield We use the spread between maturity-matched interest rate swap (IRS) rates, commonly referred to as overnight index swaps (OIS), and Treasury yields as our baseline measure of the U.S. Treasury convenience yield (e.g., Fleckenstein and Longstaff, 2024; Jiang, Richmond, and Zhang, 2025).

Specifically, we use interest rate swaps referencing the Secured Overnight Financing Rate (SOFR) and compute the convenience yield as the difference between the swap rate and the Treasury yield of the same maturity. In these swap contracts, the swap rate is the fixed interest rate received in exchange for paying the SOFR-based floating interest rate.



(a) 1-Year (b) 10-Year

Figure 3: Cumulative Changes in Convenience Yields and Treasury Yields

Notes: This figure shows cumulative changes in U.S. convenience yields and Treasury yields at the 1-year (Panel (a)) and 10-year (Panel (b)) maturities from November 18, 2024 to July 31, 2025. In each panel, the solid black line represents the cumulative change in the convenience yield (measured as the interest rate swap spread, in basis points), while the dotted blue line represents the cumulative change in the Treasury yield (in basis points). The left y-axis corresponds to the black solid line, and the right y-axis corresponds to the dotted blue line.

Figure 3 plots cumulative changes in Treasury convenience yields and the corresponding Treasury yields at the 1-year (Panel (a)) and 10-year (Panel (b)) maturities from December

2024 to July 2025—a period during which major U.S. tariff announcements were made, centered around the U.S. government's "Liberation Day" in early April. Both panels suggest a pronounced decline in convenience yields around this date. While the drop in the short-term convenience yield is relatively temporary, the decline at the long end is more persistent. In particular, Panel (b) shows that the 10-year interest rate swap rate and the 10-year Treasury yield fell by 24 and 17.4 basis points until the end of July, respectively, resulting in a cumulative 6.6-basis-point decline in the 10-year convenience yield.

While our baseline measure of Treasury convenience yields is based on spreads between two U.S.-focused assets, we also construct an alternative measure—often referred to as the Treasury basis—by examining investors' preference for U.S. Treasuries relative to sovereign bonds issued by other advanced economies (e.g., Du and Schreger, 2016; Du, Im, and Schreger, 2018). The Treasury basis is derived from covered interest parity (CIP) deviations for G10 currencies and corresponds to the yield spread between U.S. Treasuries and currency-hedged foreign government bonds.

Specifically, the Treasury basis of country c at maturity n on date t is given by

$$\Phi_{c,n,t} = y^{Govt}_{c,n,t} - \rho_{c,n,t} - y^{Govt}_{USD,n,t},$$

where $y^{Govt}_{c,n,t}$ and $y^{Govt}_{USD,n,t}$ denote the government bond yields of country c and the U.S., respectively, at maturity n on date t, and $\rho_{c,n,t}$ is the forward premium. We focus on short maturity of $n = 3$ months to mitigate the influence of differences in term premia across government bonds. The 3-month forward premium is defined as $\rho_{c,n,t} = \frac{1}{n}(f_{c,n,t} - s_{c,t})$, where $f_{c,n,t}$ and $s_{c,t}$ are the log forward and log spot exchange rates of country c's currency, respectively. In constructing this measure, we account for the actual days to maturity of the forward contracts, following Cerutti and Zhou (2024) and De Leo, Keller, and Zou (2024). Because not all G10 countries have corresponding trade-policy-related markets on Polymarket, the final sample includes five countries relative to the U.S.: Australia, Canada, Germany, Japan, and the United Kingdom.

Lastly, in Section 5, where we decompose movements in the convenience yield, we employ an additional measure that isolates its liquidity component. This measure is the Refcorp–Treasury spread, where Refcorp refers to the Resolution Funding Corporation, a government entity created under the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA). Unlike other agency securities, Refcorp bonds are explicitly backed by the U.S. Treasury and are subject to the same tax treatment as Treasury securities. As a result, the Refcorp–Treasury spread is free of default risk and reflects the liquidity benefits embedded in Treasury bonds.

All data used to construct the convenience yield measures are obtained from Bloomberg.

Other financial and economic variables We obtain the S&P 500 index and the VIX from Bloomberg. We also obtain the text-based trade policy uncertainty (TPU) index from Caldara et al. (2020), who construct the measure by counting the number of articles in the U.S. newspapers that mention terms related to both "trade policy" and "uncertainty."

Summary statistics Tables 2 and 3 present summary statistics of the key financial and economic variables mentioned in this section. The sample period is from November 18, 2024 to December 31, 2025. Appendix A provides details of all variables and data sources. Daily (log) changes in the S&P 500 and the VIX have standard deviations of 1.14% and 9%, respectively, with VIX changes ranging from −44% to 55%. These patterns indicate elevated economic uncertainty during this period. A similar pattern is observed for the convenience yield measure, which also exhibits a large standard deviation.

Table 2: Summary Statistics of Financial Market Data

Variable	Tenor	N	Mean	St. Dev.	Min	Max
ΔS&P 500		279	0.05	1.14	−6.16	9.09
ΔVIX		279	−0.07	9.00	−44.24	55.41
Treasury	3-Month	277	4.13	0.22	3.57	4.48
	1-Year	277	4.02	0.25	3.52	4.46
	10-Year	277	4.31	0.18	3.97	4.80
	30-Year	277	4.75	0.15	4.33	5.08
IRS	3-Month	278	4.18	0.22	3.65	4.53
	1-Year	278	3.89	0.26	3.42	4.34
	10-Year	278	3.81	0.17	3.50	4.32
	30-Year	278	3.95	0.13	3.54	4.17
Refcorp	3-Month	277	4.58	0.25	4.01	5.00
	1-Year	277	4.45	0.26	3.93	4.91
	10-Year	277	4.73	0.21	4.32	5.27
	30-Year	277	5.18	0.16	4.78	5.53
ΔIRS-Treasury	3-Month	277	0.00	1.10	−3.62	4.88
	1-Year	277	0.01	1.25	−4.54	8.04
	10-Year	277	0.06	1.67	−6.86	8.70
	30-Year	277	0.07	1.95	−7.70	9.13
ΔRefcorp-Treasury	3-Month	277	0.01	3.10	−14.40	9.77
	1-Year	277	0.01	2.07	−7.80	8.51
	10-Year	277	0.01	2.15	−11.65	14.23
	30-Year	277	0.05	3.69	−20.40	24.58

Notes: This table reports summary statistics for key financial variables at the daily frequency in our sample period. ΔS&P 500 and ΔVIX denote the daily (log) changes of S&P 500 and the VIX in percentage points, respectively. Treasury, IRS, and Refcorp denote the Treasury yield, interest rate swap rate, and the Refcorp yield in annualized percentage points, respectively. ΔIRS-Treasury and ΔRefcorp-Treasury denote the daily change of IRS-Treasury spread and Refcorp-Treasury spread in basis points. The sample period is from November 18, 2024 to December 31, 2025.

3 Event Study

In this section, we examine the effects of trade-policy surprises on convenience yields of U.S. Treasuries and other financial market variables using high-frequency event study. Trade-policy surprises are measured using price changes in the tariff-related Polymarket markets introduced in Section 2.1, computed over narrow windows surrounding the U.S. trade-policy announcements in 2025.

Table 3: Summary Statistics of 3-Month CIP Deviations Relative to the U.S.

Statistic	N	Mean	St. Dev.	Min	Max
AUD	269	−65.85	44.57	−153.76	20.92
CAD	271	19.85	5.50	7.63	43.19
EUR	273	−410.15	49.28	−495.12	−318.50
GBP	272	−23.19	33.64	−85.26	47.28
JPY	260	15.80	7.00	−1.83	42.43

Notes: This table reports summary statistics for CIP deviations relative to the U.S. at the daily frequency. The statistic column shows the Australian dollar (AUD), Canadian dollar (CAD), euro (EUR), British pound (GBP), and Japanese yen (JPY). For the euro, CIP deviations are computed using yields on German government bonds. All numbers are reported in basis points. The sample period is from November 18, 2024 to December 31, 2025.

3.1 U.S. Tariff Announcements and Trade Policy Surprises

3.1.1 Trade Policy Announcements

We compile a comprehensive list of U.S. trade-policy announcements issued between January 20, 2025 (the date of President Trump's inauguration) and December 31, 2025. Table 4 reports the dates, times, and communication venues for each announcement, along with a brief description and an indicator of whether the announcement corresponds to an increase or decrease in U.S. tariffs. Unlike FOMC announcements, which follow a prescheduled calendar and are released through a fixed venue, trade-policy communications during this period were primarily disseminated via President Trump's Truth Social account, and their timing was largely unanticipated by market participants.

Our sample includes all U.S. tariff-related announcements within this window, spanning multiple communication channels such as the White House website, White House briefings, President Trump's Truth Social posts, and court interventions. The first such announcement occurred on January 20, 2025, when President Trump issued a presidential memorandum outlining the "America First Trade Policy."[7] We treat each announcement as a distinct event in our analysis.

3.1.2 Measurement of Trade Policy Surprises

We measure the U.S. trade-policy surprises using price changes in the relevant prediction markets around each announcement. Each announcement s corresponds to a unique timestamp t. For an announcement s, we consider a 30-minute window $[t-u, t+v]$, where $u = 10$ minutes and $v = 20$ minutes. For each market m in the Polymarket sample, we identify the last transaction before the start of the event window, denoted as $k(m, t-u)$, and the first transaction after the end of the event window, denoted as $\tilde{k}(m, t+v)$.

[7] See https://www.whitehouse.gov/presidential-actions/2025/01/america-first-trade-policy/.

Table 4: Trade Policy Announcements

Date	Time	Venue	Description	Tariff Direction
Jan 20, 2025	8:31pm	White House website	America First Trade Policy	Increase
Jan 26, 2025	1:28pm	President Trump's Truth Social post	Tariffs on COL	Increase
Jan 26, 2025	4:03pm	White House website	Tariff pause on COL	Decrease
Jan 31, 2025	1:19pm	White House daily briefing	Tariffs on CAN, CHN, & MEX	Increase
Feb 1, 2025	8:03pm	White House website	Executive order enacting Jan 31 tariffs	Increase
Feb 3, 2025	10:21am	Mexican President Sheinbaum's X post	Tariff pause on MEX	Decrease
Feb 3, 2025	4:36pm	Canadian Prime Minister Trudeau's X post	Tariff pause on CAN	Decrease
Feb 4, 2025	12:01am	Federal Register	Feb 1 executive order took effect	Increase
Feb 5, 2025	11:52am	White House website	De minimis exemption for CHN	Decrease
Feb 10, 2025	6:19pm	President Trump's oval office remarks	Tariffs on steel & aluminum	Increase
Mar 2, 2025	9:40pm	White House website	De minimis exemption for CAN	Decrease
Mar 2, 2025	9:43pm	White House website	De minimis exemption for MEX	Decrease
Mar 3, 2025	1:57pm	Pool reports	Jan 31 tariffs confirmed to take effect	Increase
Mar 4, 2025	12:01am	White House website	Jan 31 tariffs took effect	Increase
Mar 5, 2025	1:00pm	White House press briefing	US automakers exempted from tariffs on CAN & MEX imports	Decrease
Mar 6, 2025	11:29am	President Trump's Truth Social post	Tariff pause on MEX	Decrease
Mar 6, 2025	4:25pm	White House website	Tariff pause on CAN	Decrease
Mar 12, 2025	12:01am	Federal Register	Feb 10 tariffs took effect	Increase
Mar 13, 2025	7:58am	President Trump's Truth Social post	Tariffs on EU wine	Increase
Mar 24, 2025	10:37am	President Trump's Truth Social post	Tariffs on countries importing Venezuelan oil	Increase
Mar 26, 2025	5:31pm	Pool reports	Tariffs on automobiles and automobile parts	Increase
Apr 1, 2025	12:29pm	White House daily briefing	Upcoming tariff announcements on Apr 2	Increase
Apr 2, 2025	4:07pm	"Make America Wealthy Again" event	Reciprocal tariffs	Increase
Apr 3, 2025	12:01am	Federal Register	Tariffs on automobiles (but not parts) took effect	Increase
Apr 5, 2025	12:01am	Federal Register	Apr 2 tariffs took effect	Increase
Apr 8, 2025	8:01pm	White House website	Tariffs on CHN	Increase
Apr 9, 2025	1:18pm	President Trump's Truth Social post	Tariff increase on CHN, tariff pause on RoW	Ambiguous
Apr 10, 2025	12:01am	Federal Register	Apr 9 tariffs on CHN took effect	Increase
Apr 29, 2025	1:41pm	Politico	Tariff relief on automobiles and automobile parts	Decrease
May 3, 2025	12:01am	White House website	Apr 29 tariff relief took effect	Decrease
May 4, 2025	7:18pm	President Trump's Truth Social post	Tariffs on movies	Increase
May 8, 2025	6:08am	President Trump's Truth Social post	US-UK trade deal	Decrease
May 11, 2025	11:56am	US-CHN trade meeting in Geneva	US-CHN trade deal	Decrease
May 12, 2025	3:01am	White House website	Details of May 11 trade deal released	Decrease
May 23, 2025	7:43am	President Trump's Truth Social post	Tariffs on EU	Increase
May 25, 2025	6:06pm	FOX News	Tariff pause on EU	Decrease
May 28, 2025	6:54pm		US court blocked Trump tariffs	Decrease
May 29, 2025	3:00pm		US appeals court reinstated Trump tariffs	Increase
May 30, 2025	6:06pm	Pool reports	Higher tariffs on steel & aluminum	Increase
Jun 3, 2025	1:56pm	Pool reports	Details of May 30 tariffs released	Increase
Jun 4, 2025	12:01am	Federal Register	May 30 tariffs took effect	Increase
Jun 11, 2025	8:04am	President Trump's Truth Social post	US-CHN trade deal	Decrease
Jun 16, 2025	5:46pm	White House website	Details of May 8 trade deal released	Decrease
Jul 2, 2025	10:44am	President Trump's Truth Social post	US-VNM trade deal	Decrease
Jul 7, 2025	12:18pm	President Trump's Truth Social post	Tariffs on JPN	Increase
Jul 7, 2025	12:19pm	President Trump's Truth Social post	Tariffs on KOR	Increase
Jul 7, 2025	1:33pm	White House daily briefing	Reciprocal tariffs paused	Decrease
Jul 7, 2025	2:14pm	President Trump's Truth Social post	Tariffs on MYS	Increase
Jul 7, 2025	2:15pm	President Trump's Truth Social post	Tariffs on KAZ & ZAF	Increase
Jul 7, 2025	2:16pm	President Trump's Truth Social post	Tariffs on LAO & MMR	Increase
Jul 7, 2025	4:30pm	President Trump's Truth Social post	Tariffs on TUN	Increase
Jul 7, 2025	4:35pm	President Trump's Truth Social post	Tariffs on IDN	Increase
Jul 7, 2025	4:36pm	President Trump's Truth Social post	Tariffs on BGD, SRB, & KHM	Increase
Jul 7, 2025	4:38pm	President Trump's Truth Social post	Tariffs on THA	Increase
Jul 7, 2025	6:37pm	President Trump's Truth Social post	Tariffs on BIH	Increase
Jul 9, 2025	11:36am	President Trump's Truth Social post	Tariffs on PHL	Increase
Jul 9, 2025	11:37am	President Trump's Truth Social post	Tariffs on BRN & MDA	Increase
Jul 9, 2025	11:38am	President Trump's Truth Social post	Tariffs on DZA & IRQ	Increase
Jul 9, 2025	11:39am	President Trump's Truth Social post	Tariffs on LBY	Increase
Jul 9, 2025	4:17pm	President Trump's Truth Social post	Tariffs on BRA	Increase
Jul 9, 2025	6:30pm	President Trump's Truth Social post	Tariffs on LKA	Increase
Jul 9, 2025	8:29pm	President Trump's Truth Social post	Tariffs on copper	Increase

Table 4: Trade Policy Announcements (continued)

Date	Time	Venue	Description	Tariff Direction
Jul 10, 2025	8:15pm	President Trump's Truth Social post	Tariffs on CAN	Increase
Jul 12, 2025	8:29am	President Trump's Truth Social post	Tariffs on MEX	Increase
Jul 12, 2025	8:31am	President Trump's Truth Social post	Tariffs on EU	Increase
Jul 15, 2025	9:50am	President Trump's Truth Social post	US–IDN trade deal	Decrease
Jul 22, 2025	1:30pm	President Trump's Truth Social post	US–PHL trade deal	Decrease
Jul 22, 2025	2:09pm	President Trump's Truth Social post	US–IDN trade deal	Decrease
Jul 22, 2025	7:12pm	President Trump's Truth Social post	US–JPN trade deal	Decrease
Jul 27, 2025	1:26pm	Trump-von der Leyen meeting	US-EU trade deal	Decrease
Jul 30, 2025	8:09am	President Trump's Truth Social post	Tariffs on IND	Increase
Jul 30, 2025	2:00pm	White House website	Suspension of de minimis exemption for commercial shipments, tariffs on BRA	Increase
Jul 30, 2025	2:47pm	White House website	Tariffs on copper	Increase
Jul 30, 2025	6:16pm	President Trump's Truth Social post	US-KOR trade deal	Decrease
Jul 31, 2025	11:03am	President Trump's Truth Social post	US-MEX trade deal extended	Decrease
Jul 31, 2025	6:57pm	White House website	Modifications of reciprocal tariffs, tariffs on CAN	Increase
Aug 1, 2025	12:01am	White House website	Jul 30 tariffs on copper & Jul 31 tariffs on CAN took effect	Increase
Aug 6, 2025	12:01am	White House website	Tariffs on BRA took effect	Increase
Aug 6, 2025	9:59am	White House website	Tariffs on IND	Increase
Aug 6, 2025	5:25pm	FOX News	Tariffs on computer chips	Increase
Aug 7, 2025	12:01am	White House website	Jul 31 reciprocal tariffs took effect	Increase
Aug 11, 2025	2:31pm	CNBC	Tariff pause on CHN	Decrease
Aug 15, 2025	9:29am	Reuters	Tariffs on steel & aluminum expanded	Increase
Aug 18, 2025	12:01am	US CBP	Tariffs on steel & aluminum took effect	Increase
Aug 21, 2025	7:00am	White House website	Details of US–EU trade deal released	Decrease
Aug 27, 2025	12:01am	White House website	Aug 6 tariffs on IND took effect	Increase
Aug 29, 2025	12:01am	White House website	De minimis exemption expired	Increase
Aug 29, 2025	5:43pm	AP News	Appeals court ruled Trump tariffs illegal	Decrease
Sep 4, 2025	4:43am	Reuters	US–JPN trade deal	Decrease
Sep 5, 2025	7:05pm	White House website	Modifications of reciprocal tariffs	Decrease
Sep 24, 2025	8:45am	Federal Register	Details of US–EU trade deal released	Decrease
Sep 25, 2025	7:24pm	President Trump's Truth Social post	Tariffs on branded/patented pharmaceutical products	Increase
Sep 29, 2025	8:41pm	White House website	Tariffs on lumber	Increase
Oct 10, 2025	1:02pm	Reuters	Tariffs on CHN	Increase
Oct 17, 2025	6:11pm	White House website	Tariffs on heavy-duty vehicles, tariff relief on automobiles	Ambiguous
Oct 20, 2025	11:44am	US–AUS Gov't Press	US–AUS trade deal	Decrease
Oct 20, 2025	5:48pm	Bloomberg	Tariffs on NIC	Increase
Oct 26, 2025	1:45am	White House website	US–THA trade deal	Decrease
Oct 26, 2025	1:53am	White House website	US–KHM trade deal	Decrease
Oct 26, 2025	2:10am	White House website	US–MYS trade deal	Decrease
Oct 26, 2025	4:15am	White House website	US–VNM trade deal	Decrease
Oct 30, 2025	2:58am	CHN MOFCOM	US–CHN trade deal	Decrease
Nov 4, 2025	5:29pm	White House website	Details of US–CHN trade deal released	Decrease
Nov 6, 2025	4:15pm	Federal Register	Tariff pause on CHN	Decrease
Nov 13, 2025	4:00pm	White House website	US trade deals with ARG, ECU, SLV, & GTM	Decrease
Nov 13, 2025	8:28pm	White House website	Details of US–KOR trade deal released	Decrease
Nov 14, 2025	12:25pm	White House website	US trade deals with LIE & CHE	Decrease
Nov 14, 2025	4:11pm	White House website	Tariff reduction on agricultural products	Decrease
Nov 20, 2025	4:37pm	White House website	Tariff reduction on BRA agricultural products	Decrease
Dec 1, 2025	7:05am	Reuters	US–UK trade deal on pharmaceuticals	Decrease
Dec 23, 2025	8:45am	Federal Register	Tariffs delay on CHN chips despite unfair trade claims	Ambiguous
Dec 31, 2025	12:12pm	White House website	Tariff delay on lumber	Decrease

Notes: This table reports all U.S. tariff-related announcements in our sample. The column "Time" reports the timestamps in Eastern Time. The column "Description" shows either the target countries or target sectors of tariff announcements. The last column "Tariff Direction" indicates whether the announcement corresponds to a U.S. tariff increase or decrease; the label "Ambiguous" indicates that within the same announcement, some countries/sectors face a tariff increase while others face a decrease. US CBP refers to the U.S. Customs and Border Protection, and CHN MOFCOM refers to China's Ministry of Commerce. The country codes used in this table are: AUS (Australia), ARG (Argentina), BIH (Bosnia and Herzegovina), BGD (Bangladesh), BRA (Brazil), BRN (Brunei Darussalam), CAN (Canada), CHE (Switzerland), CHN (China), COL (Colombia), DZA (Algeria), ECU (Ecuador), EU (European Union), GTM (Guatemala), IDN (Indonesia), IND (India), IRQ (Iraq), JPN (Japan), KAZ (Kazakhstan), KHM (Cambodia), KOR (South Korea), LAO (Laos), LBY (Libya), LIE (Liechtenstein), LKA (Sri Lanka), MDA (Moldova), MEX (Mexico), MMR (Myanmar), MYS (Malaysia), NIC (Nicaragua), PHL (Philippines), RoW (Rest of World), SLV (El Salvador), SRB (Serbia), THA (Thailand), TUN (Tunisia), VNM (Vietnam), and ZAF (South Africa).

We define the trade-policy surprise in market m for announcement s as

$$\Delta p^s_{m,t} = \hat{p}_{\tilde{k}(m,t+v)} - \hat{p}_{k(m,t-u)}, \tag{2}$$

where $\hat{p}_{k(m,t+v)}$ and $\hat{p}_{\tilde{k}(m,t-u)}$ are the adjusted transaction prices defined in expression (1). The 63 markets selected in Section 2.1 all had trading activity on at least one announcement day. Table 5 reports summary statistics of these market-level surprises and the trading quantity and amount. Panels (A) and (B) correspond to the market-event panel and market-trading-day panel, respectively.

Table 5: Summary Statistics of Polymarket Panel of Markets

Statistic	N	Mean	St. Dev.	Min	Max
Panel A: Market-Event Panel					
Δp	935	−0.01	0.07	−0.96	0.38
Quantity (Thousand)	758	31.23	134.11	0.00	2445.01
Amount ($ Thousand)	758	15.02	65.12	0.00	1308.59
Panel B: Market-Trading-Day Panel					
Δp	3148	0.00	0.08	−0.71	0.83
Quantity (Thousand)	2659	9.38	90.75	0.00	4232.43
Amount ($ Thousand)	2659	4.55	41.14	0.00	1852.66

Notes: This table reports summary statistics for the market-level price surprises and trading volume (measured in both quantities and dollar values) associated with the trade-policy announcements listed in Table 4. Panels (A) and (B) correspond to the market-event panel and market-trading-day panel, respectively. "Quantity" and "Amount" denote the number of tokens traded and the corresponding dollar value, both measured in thousands. For a given market, the number of tokens traded is the sum of the Yes tokens bought, Yes tokens sold, No tokens bought, and No tokens sold.

We aggregate the market-level surprises following Nakamura and Steinsson (2018). Specifically, we extract the first principal component of the cross-sectional vector of price changes $\Delta p^s_{m,t}$ across markets m.[8] Because the sign and scale of a principal component are indeterminate, we choose the sign such that the resulting aggregate surprise Δp^s_t is positively correlated with the maturity-weighted surprise across markets.[9] We then rescale the principal component to have unit variance and refer to this standardized first principal component as the *trade policy surprise* (TPS) associated with announcement s.

Figure 4 plots the variation in the TPS around the U.S. trade-policy announcements listed in Table 4. The x-axis lists the event dates, and the y-axis reports the TPS associated with each event. The upper panel shows the first half of 2025, while the lower panel shows the second half of 2025. Consistent with Table 4, black bars indicate announcements involving increases in U.S. tariffs, white bars indicate tariff reductions, and blue bars correspond to announcements without a clear directional implication. Comparing the two panels, we observe that the size of

[8] Appendix B provides the details of our principal component analysis.

[9] The maturity-weighted surprise is defined as $\Delta p^{s,MW}_t = \frac{\sum_m w_{m,t} \Delta p^s_{m,t}}{\sum_m w_{m,t}}$, where $w_{m,t}$ is the maturity of market m at announcement time t. This weighting assigns greater importance to markets further from their resolution dates, thereby emphasizing the forward-looking component of expected U.S. tariff changes.

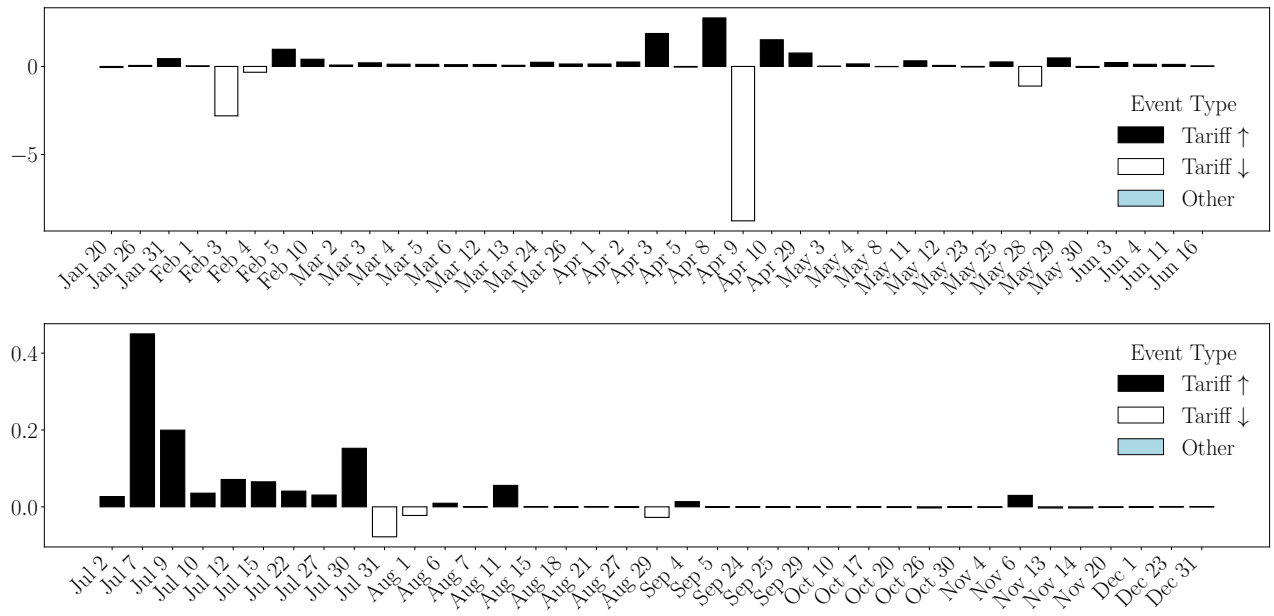


Figure 4: Trade Policy Surprises (TPS) Surrounding U.S. Trade Policy Announcements

Notes: This figure plots the trade policy surprise (TPS) surrounding the U.S. trade policy announcements listed in Table 4. The x-axis lists the event dates, and the y-axis reports the TPS associated with each event. The upper panel shows the first half of 2025, while the lower panel shows the second half of 2025. Consistent with Table 4, black bars indicate announcements involving increases in U.S. tariffs, white bars indicate tariff reductions, and blue bars correspond to announcements without a clear directional implication.

TPS shocks is substantially larger in the first half of 2025 than in the second half.

The sign of the TPS aligns with the qualitative direction of the underlying announcements: positive (negative) values correspond to general U.S. tariff increases (decreases) relative to other countries. As expected, black bars align with positive TPS values, and white bars predominantly align with negative values. These patterns indicate that our TPS measure successfully captures U.S. trade-policy surprises during the sample period. Note, however, that the sign of the shock is not perfectly correlated with the announced tariff direction, as it reflects the unexpected component of the policy change.

As a further validity check, we observe large positive TPS values coinciding with the "Liberation Day" tariffs, announced through a series of communications between April 1 and April 5. Similarly, on April 8, 2025, TPS is also substantially positive following the announcement of a significant additional tariff increase on China. The largest negative value appears on April 9, 2025, when President Trump announced a 90-day pause on reciprocal tariffs for dozens of countries, except China, whose tariff rate was increased to 125%. Notably, this announcement was first disseminated through President Trump's Truth Social account, demonstrating that prediction-market prices respond to information released via social media within narrow event windows.

For a robustness check, we also construct surprises using a 60-minute event window. All results in the remainder of this section keep robust, though the confidence intervals are wider. The details are provided in Appendix C.1.

3.2 Responses of Convenience Yields to Trade Policy Surprises

We use a high-frequency identification strategy to quantify the causal effects of trade-policy surprises on the variables of our interest. To study the dynamic effects of the TPS in a daily frequency, we estimate local projections following Jordà (2005) and Ramey and Zubairy (2018):

$$\Delta y_{t-1,t+h} = \alpha_h + \beta_h \Delta p_t + \varepsilon_{t+h}, \tag{3}$$

for $h \in \{0, 1, \cdots, 30\}$. The dependent variable $\Delta y_{t-1,t+h}$ is the cumulative change in the outcome variable y from the market close on date $t-1$ to the market close on date $t+h$, where $t-1$ is the trading day immediately preceding the start of the event window. The independent variable Δp_t is the trade policy surprise constructed using narrow event windows, as defined in Section 3.1, and aggregated across all events occurring on date t. Following Nakamura and Steinsson (2018), we compute Newey-West standard errors with four lags and construct confidence intervals accordingly.

The coefficient of interest is β_h, which measures the effect of the TPS on the outcome variable at horizon h. The identifying assumption is that price changes within the 30-minute window surrounding each trade-policy announcement are driven solely by news about U.S. trade policy. Under this assumption, the coefficient estimates bear a causal interpretation. Moreover, the sequence of estimates $\{\hat{\beta}_h\}_{h=0}^{30}$ traces out the cumulative impulse response of the outcome variable to a trade-policy surprise over a horizon of up to 30 days.

Baseline measure of Treasury convenience yields We now examine the effects of the TPS on U.S. Treasury convenience yields. Using the specification (3), we estimate the cumulative impulse responses of convenience yields, measured as the spread between interest rate swap and Treasury yields, across different maturities. Figure 5 reports the estimated responses, in basis points, to a one-standard-deviation increase in the TPS. Panels (a)–(d) correspond to the 3-month, 1-year, 10-year, and 30-year convenience yields, respectively.

We find that a positive trade policy surprise, i.e., an announcement of a U.S. tariff increase, reduces U.S. convenience yields on impact across all maturities. The effects remain statistically significant and negative for at least one month following the shock. The cumulative responses exhibit an initial decline and then remain relatively stable, suggesting that most of the adjustment occurs on impact.

Quantitatively, a one-standard-deviation increase in trade policy surprises lowers the 3-month convenience yield by 0.24 basis points, with the effects roughly twice as large at the 10-year and 30-year maturities. During the Liberation Day events from April 1–5, 2025, TPS increased by 2.2 standard deviations. This corresponds to declines in convenience yields of 0.5 basis points at the 3-month maturity and 1.2 basis points at the 10-year and 30-year maturities, all within five days.

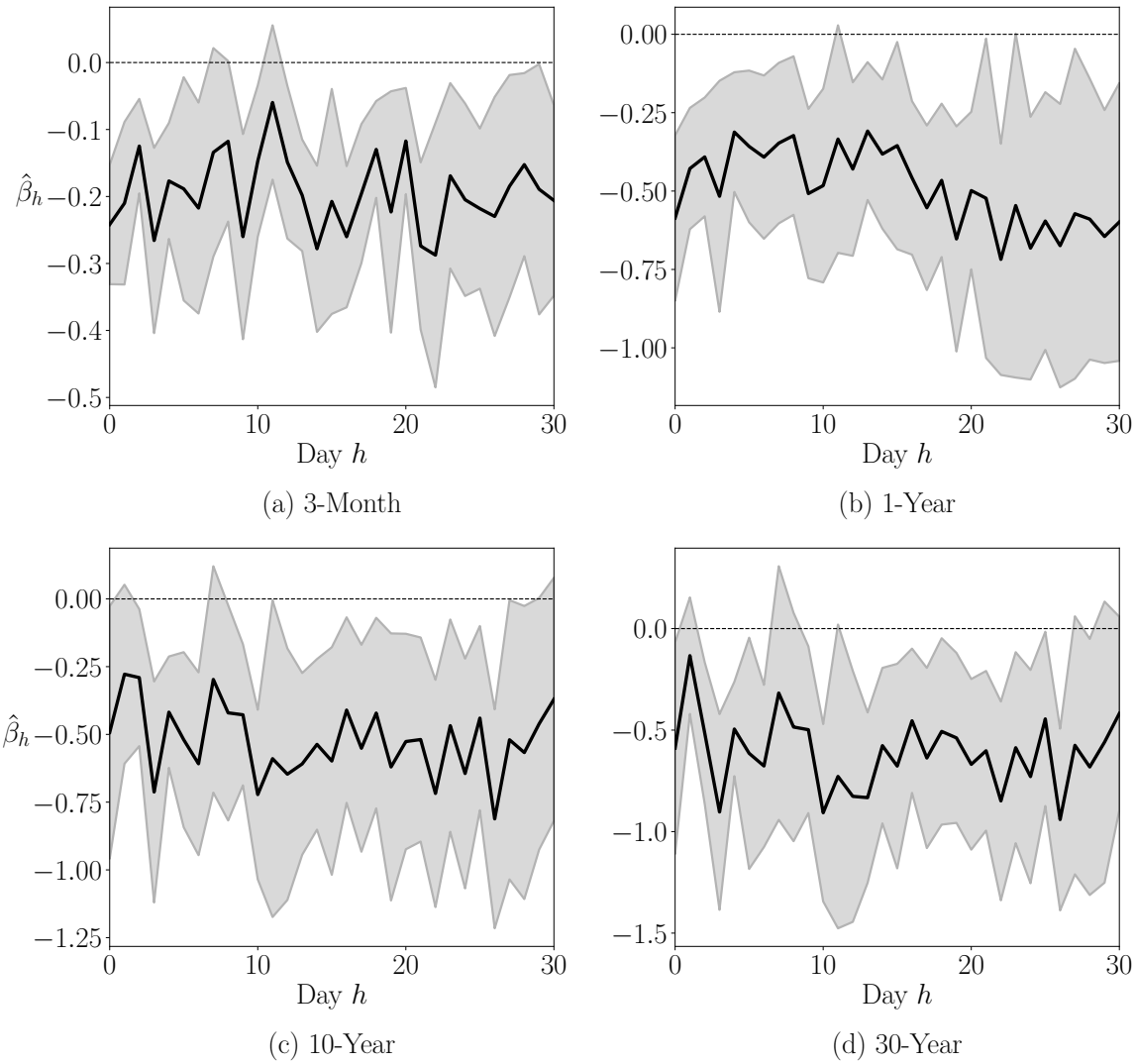


Figure 5: Cumulative Responses of Convenience Yields to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of U.S. convenience yields to a one-standard-deviation increase in trade policy surprise. Panels (a)–(d) correspond to convenience yields at the 3-month, 1-year, 10-year, and 30-year maturities, respectively. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of convenience yields in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

Cross-country measure of convenience yields Trade policy surprises affect not only the convenience yields of U.S. Treasuries measured from domestic asset spreads but also the relative convenience benefits of Treasuries compared with sovereign bonds issued by other advanced economies. To examine these cross-country effects, we focus on the Polymarket Type-2 events defined in Section 2.1, in which each market within an event corresponds to a distinct country. From these events, we select the subset of markets associated with G10 countries. As mentioned in Section 2.2, because not all G10 countries have corresponding trade-policy-related markets on Polymarket, the final sample includes five countries in addition to the U.S.: Australia, Canada, Germany, Japan, and the United Kingdom.

To construct a cross-country measure of the convenience yield of U.S. Treasuries, we follow Du, Im, and Schreger (2018) and compute country-pair-specific CIP deviations, all defined

relative to the U.S. As discussed in Section 2.2, the CIP deviation equals the yield spread between currency-hedged foreign sovereign bonds and U.S. Treasuries. A lower CIP deviation implies that U.S. Treasury yields are higher relative to the hedged foreign yields, implying a lower U.S. convenience yield relative to the foreign country.

We estimate the following panel regression across markets m:

$$\Delta y^{c(m)}_{t-1,t+h} = \alpha_h + \beta_h \Delta p_{m,t} + \varepsilon_{m,t+h}, \tag{4}$$

where $\Delta y^{c(m)}_{t-1,t+h}$ is the cumulative change in CIP deviations of country c corresponding to market m, and $\Delta p_{m,t}$ is the high-frequency, market-level trade policy surprise for market m on date t. We focus on the 3-month CIP deviations to avoid fluctuations potentially driven by cross-country differences in term premia. The time window $[t-1, t+h]$ matches that in specification (3), with t denoting the trade-policy announcement dates listed in Table 4. Standard errors are clustered by date.

Figure 6 plots the estimated coefficient $\hat{\beta}_h$ against the horizon h. We find that a positive trade policy surprise, i.e., an announcement increasing the U.S. tariffs on country c, reduces that country's CIP deviation relative to the U.S. The immediate response is small and statistically insignificant, but the effect becomes increasingly negative over time and remains significantly below zero for at least 30 days following the shock. Thus, relative to the G10 countries, the U.S. convenience yield declines in the aftermath of a tariff-increase announcement. These effects persist over the full month-long horizon, indicating a durable reassessment of the privilege benefits associated with U.S. Treasuries.

Taken together, our results indicate that trade policy surprises exert large and persistent downward pressure on U.S. Treasury convenience yields in 2025. This finding contrasts sharply with the 2018–2019 trade tension episode, during which heightened trade policy uncertainty increased global demand for U.S. safe assets and strengthened the dollar (Khalil and Strobel, 2024). In contrast, our findings align with the arguments in Acharya and Laarits (2025*a*) and Cardani et al. (2025), who show that tariff wars can erode the convenience yields of Treasuries. We provide the first causal evidence that trade policy surprises in 2025 lower Treasury convenience yields and highlight their persistent effects.

3.3 The Driving Force: Uncertainty Channel

One question naturally arises: why do Treasury convenience yields respond negatively to an unexpected U.S. tariff increase during the 2025 trade war? Considering the consequences of a higher tariff, one may naturally think of the fiscal channel. Higher tariffs generate additional government tax revenue, potentially improving fiscal sustainability given that the U.S. public debt-to-GDP ratio has exceeded 120% since 2024. Indeed, this argument has been repeatedly emphasized by the U.S. president.[10] Improved fiscal capacity could enhance the safe-haven

[10]See, for example, https://truthsocial.com/@realDonaldTrump/posts/115519726463094783.

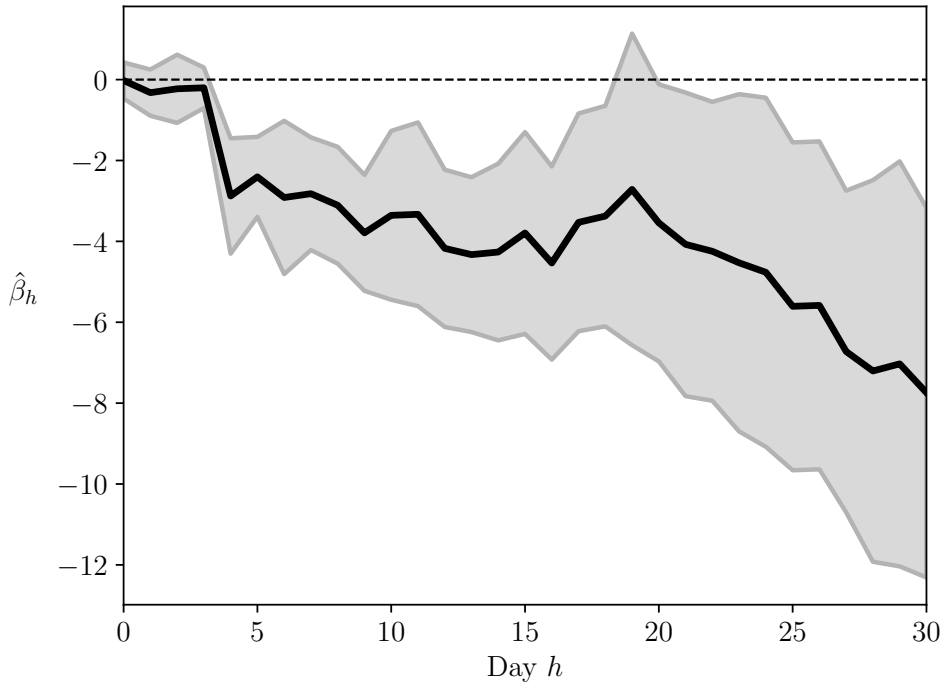


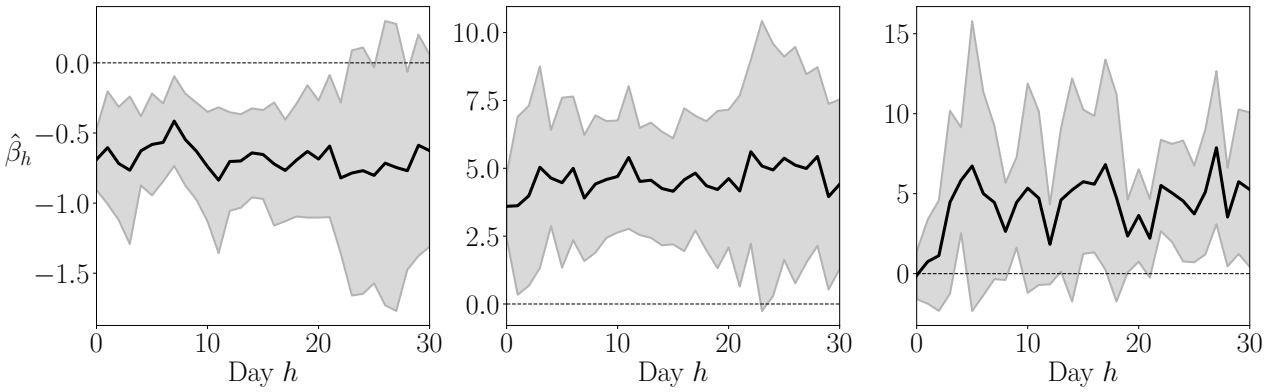
Figure 6: Cumulative Responses of Convenience Yields to Trade Policy Surprises: Evidence from Treasury Basis against the G10 Countries

Notes: This figure shows the cumulative impulse responses of convenience yields, measured by the CIP deviations against the G10 countries, to a one-standard-deviation increase in trade policy surprise. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (4), where the dependent variable is the cumulative change of the CIP deviations in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using standard errors clustered by date.

appeal of Treasuries and, in turn, raise their convenience yields. However, our results in Section 3.2 show that Treasury convenience yields decline, rather than increase, in response to unexpected tariff increases, suggesting that the fiscal channel is unlikely to be the dominant mechanism.

To investigate the potential alternative driving force, we begin by examining the impact of the TPS on equity returns, option-implied market uncertainty, and the text-based measure of trade policy uncertainty. Figure 7 shows the cumulative impulse responses of the S&P 500, the VIX, and the TPU index to a one-standard-deviation increase in trade policy surprises, estimated using specification (3). In each panel, we plot the estimated coefficient $\hat{\beta}_h$ on the y-axis, expressed in percentage points, against the horizon h (in days) on the x-axis. Shaded areas denote 95% confidence intervals, and the horizontal dashed line marks zero.

Panel (a) shows that a one-standard-deviation increase in the TPS leads to a persistent decline in the S&P 500 index, with an initial drop of approximately 0.7%. The negative response remains statistically significant for at least 30 days following an announcement of a U.S. tariff increase. Panel (b) shows that a positive TPS shock also produces a persistent rise in the VIX, indicating that markets perceive heightened uncertainty. The VIX increases by roughly 3.6% within one day of the shock. Panel (c) shows that, although the TPU index responds little on impact, reflecting delays in newspaper coverage, it rises in the following



(a) S&P 500 (b) VIX (c) TPU

Figure 7: Cumulative Responses of S&P 500, VIX and TPU to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of S&P 500 (Panel (a)), VIX (Panel (b)), and TPU (Panel (c)) to a one-standard-deviation increase in trade policy surprise. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative (log) change of each variable in percentage points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

days and remains significantly positive. This pattern reflects increased media coverage of trade policy and uncertainty following unexpected tariff increase announcements.

Given the increase in uncertainty following unexpected tariff shocks, we conjecture that heightened uncertainty may reduce, rather than increase, Treasury convenience yields during the 2025 trade war. To formally test this hypothesis, we use the same event-study framework and estimate the following regression:

$$\Delta cy_t = \alpha + \beta \Delta \text{VIX}_t + \varepsilon_t, \tag{5}$$

where Δcy_t denotes the change of the baseline measure of Treasury convenience yields across different maturities and ΔVIX_t denotes the change in the VIX on the same day. We instrument ΔVIX_t using TPS shocks. By construction, high-frequency identified TPS shocks are orthogonal to ε_t while affecting ΔVIX_t. Thus, TPS shocks satisfy both the exogeneity and relevance conditions, making them valid instrumental variables.

Table 6 reports the results of regression (5). The first-stage F-statistics all substantially exceed 10, alleviating concerns about weak instruments and indicating strong instrument relevance. The estimated coefficients are significantly negative across all columns, suggesting that increases in the VIX significantly reduce Treasury convenience yields at all maturities. The magnitude of the effect is smallest for the 3-month Treasury bill but is more than twice as large for maturities longer than one year.

Quantitatively, the uncertainty-induced decline in Treasury convenience yields accounts for nearly the entire response of convenience yields to a positive TPS shock. Using the estimates in Table 6, together with those in Figure 7, a one-standard-deviation increase in the TPS implies an on-impact decline of approximately 0.24 basis points in the 3-month convenience yield and

Table 6: The Effects of Uncertainty on Convenience Yields

	3-Month	1-Year	2-Year	5-Year	10-Year	30-Year
	(1)	(2)	(3)	(4)	(5)	(6)
ΔVIX_t	-0.067^{***}	-0.163^{***}	-0.223^{***}	-0.162^{**}	-0.137^{**}	-0.164^{***}
	(0.006)	(0.024)	(0.066)	(0.064)	(0.058)	(0.061)
Constant	0.068	0.084	0.191	0.227	0.182	0.128
	(0.158)	(0.178)	(0.262)	(0.217)	(0.177)	(0.167)
First-stage F-stat	36.54	36.54	36.54	36.54	36.54	36.54
First-stage R^2	0.113	0.113	0.113	0.113	0.113	0.113
N	76	76	76	76	76	76

Notes: This table reports the effects of uncertainty, as measured by the VIX, on Treasury convenience yields across different maturities. The dependent variable is Δcy_t at each maturity, and the independent variable is ΔVIX_t. The regressions use TPS shocks as instruments for ΔVIX_t. Newey-West standard errors with four lags are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

about 0.59 basis points in the 30-year convenience yield.[11] These implied changes closely match the total on-impact effect of TPS on convenience yields shown in Figure 5.

Taken together, these results suggest that the uncertainty channel is the dominant driver of the decline in convenience yields following an unexpected tariff increase. This finding contrasts with the traditional flight-to-safety mechanism, in which heightened uncertainty leads investors to shift capital into Treasuries, reflecting their perceived safety. During the 2025 trade war, however, the mechanism appears to operate in the opposite direction, suggesting that Treasuries are no longer viewed as safe-haven assets to the same extent in this episode.

3.4 Trade Policy Surprises and Recession Probability

Consistent with the uncertainty channel, trade disputes between the U.S. and other countries in 2025 heightened uncertainty, potentially raising concerns about the long-run outlook of the U.S. economy. To examine this implication, we use expectations about recession probabilities derived from the Polymarket event "US recession in 2025?". A higher price in this market reflects a higher perceived probability of a U.S. recession in 2025. The perceived probability rose from roughly 20% in March 2025 to more than 60% around the "Liberation Day" announcements in early April 2025, after which it fluctuated and gradually declined.[12]

Figure 8 shows the cumulative response of the perceived U.S. recession probability, derived from the Polymarket event, to a one-standard-deviation increase in trade policy surprises. We find a significant rise in recession probability of about 1% on impact. Scaled by the change in TPS around the "Liberation Day" announcements, this implies an increase in perceived recession probability of about 2.3% within five days. The effect persists throughout the 30-

[11] The decline of 0.24 basis points in the 3-month convenience yield is calculated as $-0.067 \times 3.6 \approx -0.24$, and for the 30-year maturity as $-0.164 \times 3.6 \approx -0.59$.

[12] See https://polymarket.com/event/us-recession-in-2025.

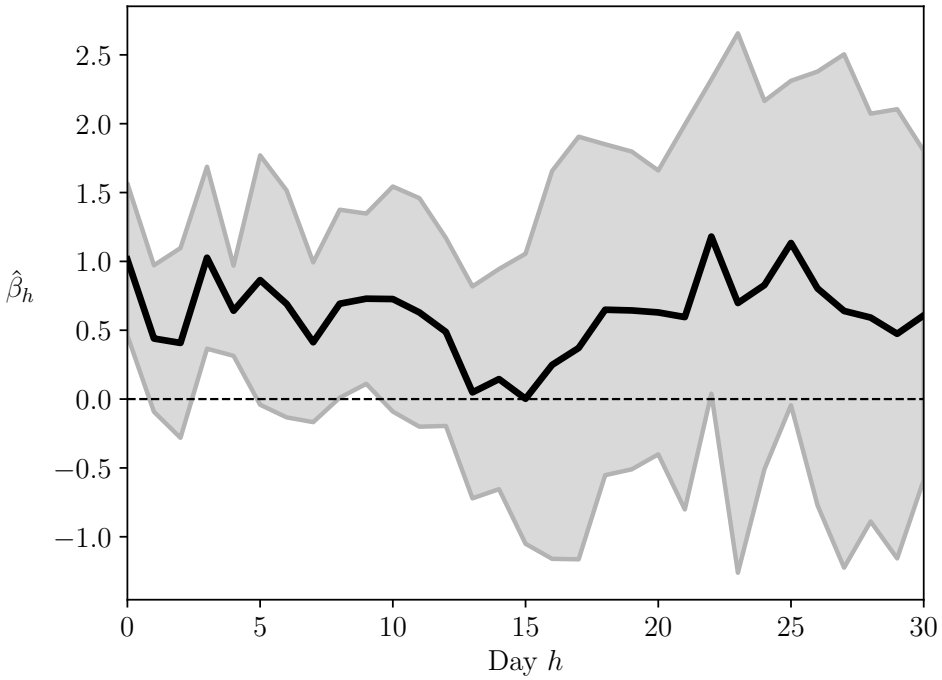


Figure 8: Cumulative Responses of the Perceived U.S. Recession Probability to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of the perceived U.S. recession probability, measured by the price of Polymarket event "US recession in 2025?", to a one-standard-deviation increase in trade policy surprise. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of recession probability in percentage points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

day estimation window, although the estimates become less statistically significant at longer horizons.

Overall, a positive trade policy surprise, which reflects an increase in U.S. tariffs, heightens concerns about a future recession. In Appendix C.2, we show that a positive TPS shock also raises the default risk of U.S. Treasuries measured by sovereign credit default swap (CDS) premium. This evidence is consistent with the increase in recession probability inferred from Polymarket.

In summary, our high-frequency event study shows that an unexpected increase in perceived U.S. tariffs leads to a persistent decline in Treasury convenience yields, whether measured using U.S. dollar–denominated assets or cross-country currency-hedged sovereign spreads. While tariff increases could, in principle, enhance Treasuries' safe-haven appeal by improving fiscal sustainability, we find that the uncertainty they generate in U.S. asset markets erodes Treasuries' convenience benefits and is the dominant force. Moreover, an unexpected increase in perceived U.S. tariffs leads to a sustained decline in equity prices and an elevated perceived probability of recession.[13]

[13]In Appendix C.3, we also report the impulse responses of inflation expectations and interest rate expectations to a TPS shock. We find that short- and medium-term inflation expectations respond positively, consistent with the conjecture that higher tariffs raise expected future price levels, while long-run inflation expectations remain largely anchored.

4 TPS-Induced Uncertainty and Convenience Yields

In this section, we quantify the extent to which time-series variation in Treasury convenience yields is driven by trade policy surprises operating through the uncertainty channel established in Section 3. We begin with the 30-year maturity. From Table 6, the estimate $\hat{\beta} = -0.164$ captures the contemporaneous causal effect of TPS-induced changes in the VIX on the 30-year convenience yield. We use this estimate to construct the cumulative change in the 30-year convenience yield attributable to TPS-induced uncertainty. Specifically, the implied cumulative change from date t_0 to date t is

$$\Delta \widehat{cy}_{t_0,t} = \hat{\beta} \sum_{\tau=t_0}^{t} \Delta \text{VIX}_\tau,$$

where the start date t_0 corresponds to President Trump's inauguration on January 20, 2025. We construct analogous series for convenience yields at the 3-month, 1-year, and 10-year maturities using the estimates reported in Table 6.

Figure 9 plots cumulative changes in convenience yields implied by TPS-induced uncertainty alongside realized cumulative changes across maturities. The dotted blue line represents the fitted series based on TPS-induced uncertainty, while the solid black line represents the realized series. Realized convenience yields decline sharply from late January to early April 2025 across all maturities. They then stabilize from mid-April onward, with longer maturities beginning to recover in September.

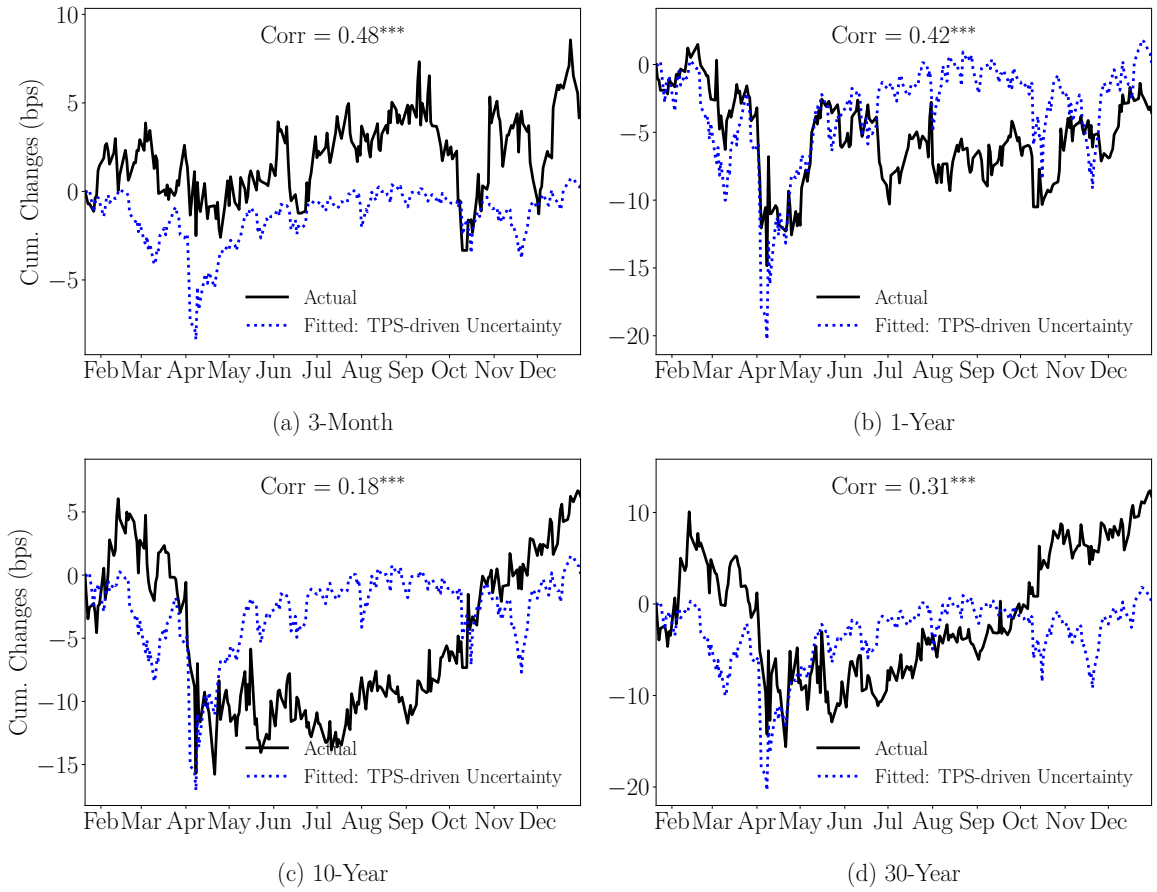
This overall pattern is well captured by TPS-induced uncertainty. Across all panels, fitted convenience yields decline sharply around "Liberation Day." In particular, the fitted series for the 30-year maturity has a correlation of 0.31 with the realized series, which is statistically significant at the 1% level. The correlation is even stronger at shorter maturities, reaching 0.48 for the 3-month case.

Taken together, TPS-induced uncertainty accounts for a substantial share of movements in U.S. Treasury convenience yields in 2025, with stronger explanatory power at shorter maturities. Combining the event study evidence in Section 3 with the analysis in this section, we establish trade policy news as a quantitatively important driver of Treasury demand, operating primarily through the uncertainty channel.[14]

5 Safety vs. Liquidity Premium Decomposition

In this section, we further decompose the response of Treasury convenience yields to U.S. trade policy developments into safety and liquidity components across maturities. Using the

[14] Trade-policy news is also quantitatively important for other asset classes, including the cross section of equity returns (e.g., Liu and Pan, 2025).



(a) 3-Month (b) 1-Year

(c) 10-Year (d) 30-Year

Figure 9: Cumulative Changes in Convenience Yields Implied by TPS-Induced Uncertainty

Notes: This figure plots cumulative changes in realized convenience yields (solid black line) and those implied by TPS-induced uncertainty (dotted blue line) over the period from January 20, 2025 to December 31, 2025. Panels (a)–(d) correspond to convenience yields at the 3-month, 1-year, 10-year, and 30-year maturities, respectively. The y-axis shows cumulative (daily) changes in basis points, and the x-axis shows the date. The correlation between the two series is reported at the top of each panel.

same high-frequency event-study methodology as in Section 3, we split the overall convenience yield into two components: a liquidity premium and a safety premium. To construct these components, we use yields on Refcorp bonds, as introduced in Section 2.2.

Refcorp bonds are fully guaranteed by the U.S. Treasury under FIRREA and therefore carry the same credit risk as Treasury securities. They also receive identical tax treatment.[15] As a result, the spread between Refcorp yields and Treasury yields isolates the liquidity premium embedded in Treasuries and is free of default-risk considerations.

Formally, we decompose the convenience yield, measured as the spread between maturity-matched interest rate swap rates and Treasury yields, into two components:

$$\begin{aligned} cy_t &= y_t^{Swap} - y_t^{Govt} \\ &= \left(y_t^{Swap} - y_t^{Refc}\right) + \left(y_t^{Refc} - y_t^{Govt}\right), \end{aligned} \tag{6}$$

where cy_t denotes the convenience yield of Treasuries, y_t^{Swap} is the interest rate swap rate,

[15] See Longstaff (2004) for institutional details.

y_t^{Govt} is the Treasury yield, and y_t^{Refc} is the yield on Refcorp bonds, all measured at the same maturity.

By construction, the second term in equation (6), $y_t^{Refc} - y_t^{Govt}$, captures the liquidity component of the Treasury convenience yield. Under the assumption that neither interest rate swaps nor Refcorp bonds offer special liquidity benefits, the first term, $y_t^{Swap} - y_t^{Refc}$, can be interpreted as the safety component embedded in Treasury convenience yields. We examine each component in turn.

Following the specification in (3), Figure 10 reports the cumulative impulse responses of the Refcorp–Treasury spread to a one-standard-deviation increase in trade policy surprises across maturities. Panels (a) and (b) show that the Refcorp–Treasury spread rises at shorter maturities, such as the 1-year and 2-year horizons. In both panels, the responses are positive on impact and remain statistically significant for several days, with point estimates remaining broadly stable thereafter. Although the estimates briefly lose statistical significance, they subsequently become significant again. Overall, these results indicate that the liquidity premium embedded in convenience yields increases modestly at short maturities following tariff-increasing announcements.

In contrast, Panels (c) and (d) show that at longer maturities, specifically 5-year and 10-year, the Refcorp–Treasury spread declines following the shock. In particular, the response of the 10-year spread remains significantly negative for an extended period. Comparing the two panels, longer maturities exhibit both larger initial declines and more persistent negative responses. This pattern suggests that investors place less value on the liquidity benefits of long-term Treasuries, while attaching greater value to the liquidity services provided by short-term Treasuries in response to trade policy shocks during 2025.

Having examined the liquidity component, we now turn to the safety component. Figure 11 reports the cumulative impulse responses of the IRS–Refcorp spread to the same trade-policy shock analyzed in Figure 10, across maturities. Panels (a) and (b) show that the IRS–Refcorp spread declines at shorter maturities. In both panels, the responses are negative on impact and remain statistically significant for most of the 30-day horizon.

Comparing these panels with those in Figure 10, we observe responses in the opposite direction, indicating that the IRS–Refcorp spread captures the component of the convenience yield different from liquidity. Moreover, the magnitude of the decline in the IRS–Refcorp spread exceeds the increase in the liquidity premium at short maturities documented in Figure 10. As a result, the overall convenience yield declines in response to a positive trade-policy surprise, consistent with the results in Section 3.2.

Long-term IRS–Refcorp spreads, however, exhibit weaker negative responses to the trade-policy shock, as shown in Panels (c) and (d). The 5-year spread displays a statistically significant negative response over the 30-day horizon, but its magnitude is smaller than in Panels (a) and (b). At the 10-year maturity, as shown in Panel (d), the estimates are close to zero throughout the horizon. Taken together, responses weaken with longer maturities and are less statistically significant.

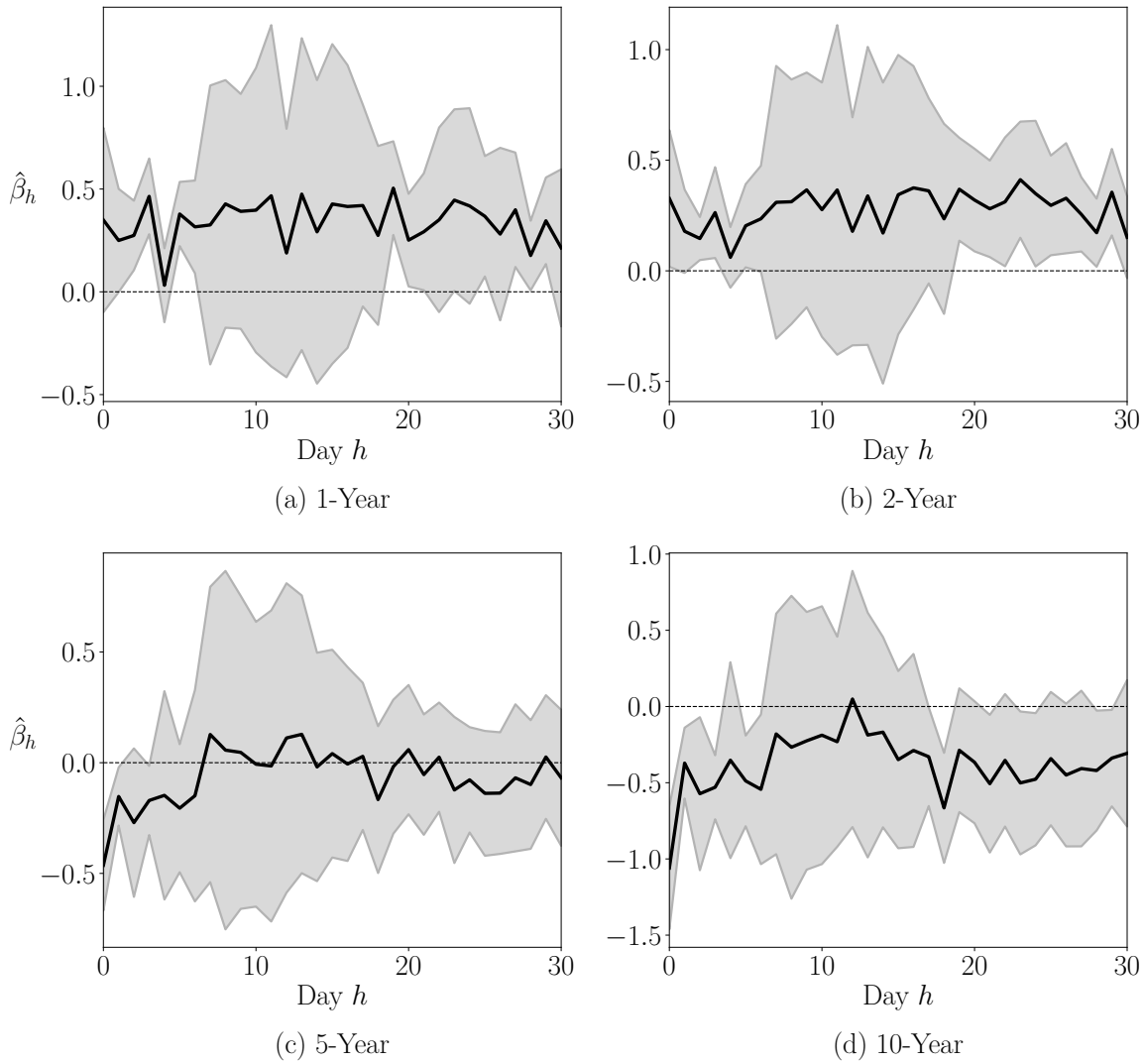


Figure 10: Cumulative Responses of Refcorp–Treasury Spread to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of the Refcorp–Treasury spreads to a one-standard-deviation increase in trade policy surprise. Panels (a)–(d) correspond to the Refcorp–Treasury spreads at the 1-year, 2-year, 5-year, and 10-year maturities, respectively. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of Refcorp–Treasury spreads in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

In summary, Figures 10 and 11 show that although the aggregate convenience yield of U.S. Treasuries declines at both short and long maturities following a tariff-increase announcement, the underlying mechanisms differ across the maturity spectrum. The decline in convenience yields at the short end is driven primarily by a reduction in the safety premium, with only a modest offset from an increase in liquidity premia. At longer maturities, the decline reflects both a deterioration in safety and a reduction in liquidity benefits, with liquidity playing a more prominent role.

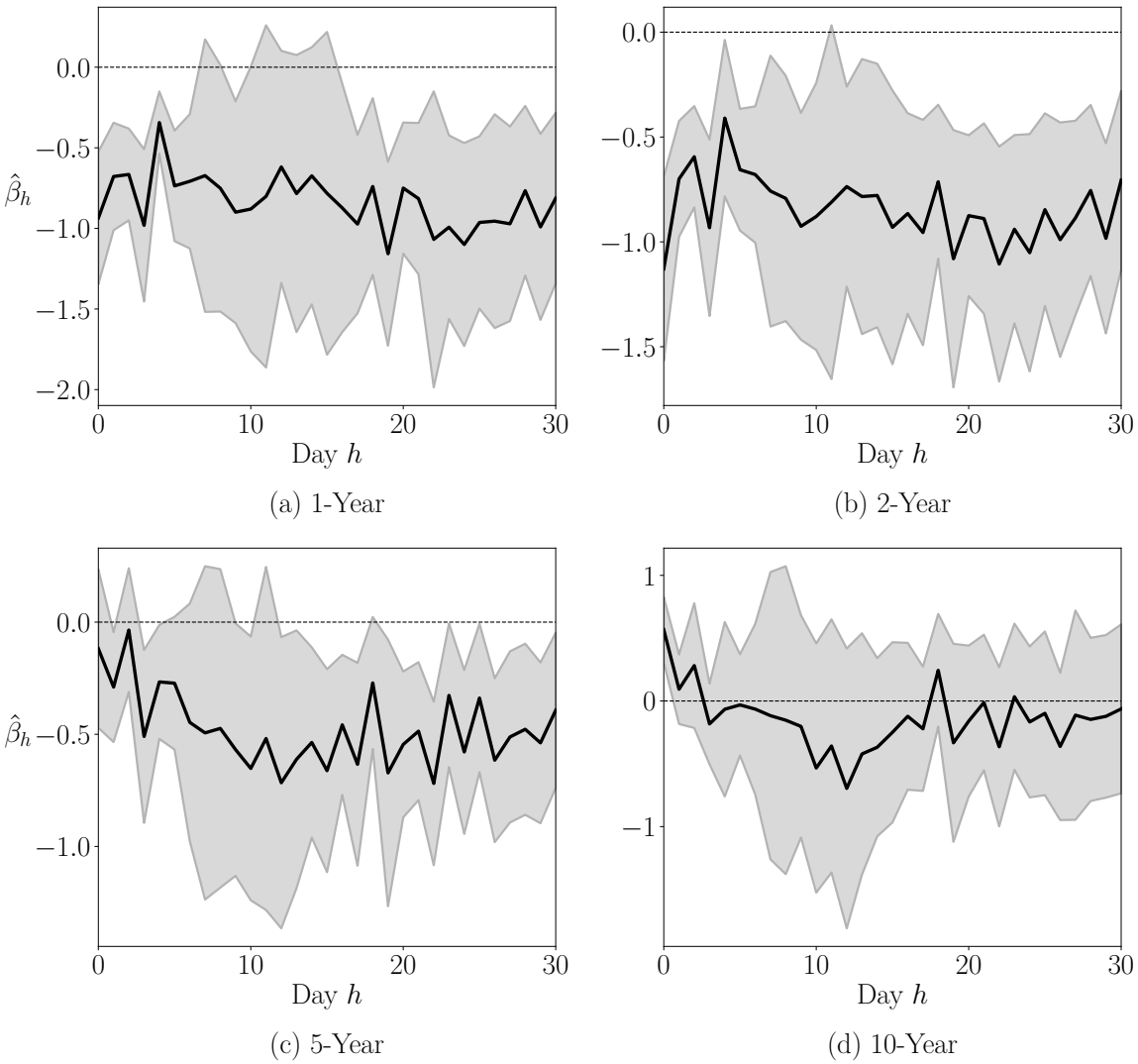


Figure 11: Cumulative Responses of IRS–Refcorp Spread to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of the IRS–Refcorp spreads to a one-standard-deviation increase in trade policy surprise. Panels (a)–(d) correspond to the IRS–Refcorp spreads at the 1-year, 2-year, 5-year, and 10-year maturities, respectively. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of IRS–Refcorp spreads in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

6 Conclusion

In this paper, we provide new causal evidence that U.S. trade policy surprises were a key driver of Treasury convenience yields during the 2025 trade war. Using transaction-level data from Polymarket's tariff prediction markets, we construct a novel high-frequency measure of trade policy surprises and exploit narrow event windows around unscheduled announcements to isolate exogenous shifts in tariff expectations.

We highlight three main findings. First, unexpected tariff increases persistently reduce Treasury convenience yields across all maturities, weakening the privilege benefits historically

associated with U.S. government bonds. Second, we show that this negative response is primarily driven by heightened uncertainty. Quantitatively, the uncertainty-induced decline accounts for nearly the entire response of convenience yields on event dates and explains a substantial share of their movements outside event dates. This finding contrasts with the traditional flight-to-safety mechanism, suggesting that during the 2025 trade war, Treasuries were not perceived as safe-haven assets to the same extent. Third, we find that the decline in convenience yields differs by maturity, reflecting distinct safety and liquidity channels.

Our findings underscore the sensitivity of Treasury convenience yields to geopolitical and policy developments. We also show that prediction markets provide a powerful tool for capturing policy surprises at high frequency. More broadly, prediction-market data offer a promising platform for measuring expectations about economic and geopolitical events that lack traditional financial-market instruments. As prediction markets continue to expand in scope and liquidity, they may become an increasingly valuable complement to existing market- and text-based indicators for studying policy shocks, real-time belief updating, and the transmission of geopolitical risk into asset prices.

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Online Appendix

A Data Construction

A.1 Polymarket Data

We select our sample of Polymarket events and markets according to the following procedure:

1. Retrieve all Polymarket events tagged with the keywords trade, trades, trade-war, tariff, or tariffs. Specifically, we query the Polymarket Gamma API using the `tag_slug` parameter set to each keyword (case-insensitive); see https://docs.polymarket.com/developers/gamma-markets-api/overview.
2. Retain events whose descriptions contain at least one of the above keywords. We search the keywords (case-insensitive) across the `ticker`, `slug`, and `title` fields returned by the API.
3. Manually review the remaining events and exclude those unrelated to U.S. trade policy.
4. Exclude markets with total dollar trading volume over the sample period below 100,000.
5. From the remaining markets, retain all Type-1 markets and the subset of Type-2 markets corresponding to G10 countries.
6. Keep only markets whose outcomes indicate a clear direction of tariff increase or decrease.

This procedure yields a final sample of 50 Polymarket events, corresponding to 63 markets, as reported in Table A.1. The URL of a Polymarket event webpage is https://polymarket.com/event/[event_slug], where `event_slug` is given in the last column of the table.

Table A.1: Polymarket Events on U.S. Trade Policy

Title	Polymarket `event_slug`
Trump imposes 25% tariff on Canada and Mexico before March?	trump-imposes-25-tariff-on-canada-and-mexico-before-march
100% tariff on China in effect by November 1?	100-tariff-on-china-in-effect-by-november-1
50% tariff goes into effect on EU by July 9?	50-tariff-goes-into-effect-on-eu-by-july-9
50% tariff goes into effect on EU by June 1?	50-tariff-goes-into-effect-on-eu-by-june-1
54% tariff goes into effect on China by Wednesday?	54-tariff-goes-into-effect-on-china-by-wednesday
Supreme Court rules in favor of Trump's tariffs?	will-the-supreme-court-rule-in-favor-of-trumps-tariffs
Trump imposes 100% tariff on China before July?	trump-imposes-100-tariff-on-china-before-july
Trump imposes 200% tariff on China before June?	trump-imposes-200-tariff-on-china-before-june
Trump imposes 40% tariff on China in first 100 days?	trump-imposes-40-blanket-tariff-on-china-in-first-100-days
Trump imposes tariff on pharmaceuticals before May?	trump-imposes-tariff-on-pharmaceuticals-before-may
Trump imposes tariff on semiconductors by December 31?	trump-imposes-tariff-on-semiconductors-by-december-31
Trump tariff on EU alcohol before May?	trump-tariff-on-eu-alcohol-before-may
Trump tariffs on Mexico in effect by May 1?	trump-tariffs-on-mexico-in-effect-by-may-1
Trump trade deal before June?	trump-trade-deal-before-june
Trump trade deal in April?	trump-trade-deal-in-april
US x China tariff agreement by November 10?	us-china-tariff-agreement-before-90-day-deadline-518
US-China tariff agreement before 90 day deadline?	us-china-tariff-agreement-before-90-day-deadline
US-China trade deal before June?	us-china-trade-deal-before-june
US-EU trade agreement by July 9?	us-eu-trade-agreement-by-july-9
US-EU trade deal before June?	us-eu-trade-deal-before-june-849
Which countries will Trump reduce tariffs on before June?	which-countries-will-trump-reduce-tariffs-on-before-june
Which countries will Trump tariff in first 100 days?	which-countries-will-trump-tariff-in-first-100-days
Which countries will Trump tariff on April 2?	which-countries-will-trump-tariff-on-april-2
Which countries will the U.S. agree to tariff agreements with before August?	which-countries-will-the-us-agree-to-tariff-agreements-with-before-august
Which countries will the U.S. agree to tariff agreements with by November 30?	which-countries-will-the-us-agree-to-tariff-agreements-with-by-november-30
Which countries will the U.S. agree to trade deals with before July?	which-countries-will-the-us-agree-to-trade-deals-with-before-july

Table A.1: Polymarket Events on U.S. Trade Policy (continued)

Title	Polymarket `event_slug`
Will Trump create a tariff dividend in 2025?	will-trump-create-a-tariff-dividend-in-2025
Will Trump impose 25% tariff on Mexico or Canada before February?	will-trump-impose-25-tariff-on-mexicocanada
Will Trump impose large tariffs in his first 6 months?	will-trump-impose-large-tariffs-in-first-6-months
Will Trump impose tariff on oil from Mexico or Canada by next Friday?	will-trump-impose-tariff-on-oil-from-mexico-or-canada-by-next-friday
Will Trump increase tariffs on Canada before May?	will-trump-increase-tariffs-on-canada-before-may
Will Trump increase tariffs on China before May?	will-trump-increase-tariffs-on-china-before-may-2025
Will Trump increase tariffs on China before May?	will-trump-increase-tariffs-on-china-before-may
Will Trump increase tariffs on Mexico before May?	will-trump-increase-tariffs-on-mexico-before-may
Will Trump lower tariffs on Canada by...?	will-trump-lower-tariffs-on-canada-by
Will Trump lower tariffs on China by...?	will-trump-lower-tariffs-on-china-by
Will Trump lower tariffs on China in April?	will-trump-lower-tariffs-on-china-in-april
Will Trump lower tariffs on EU in April?	will-trump-lower-tariffs-on-eu-in-april
Will Trump lower tariffs on Mexico by...?	will-trump-lower-tariffs-on-mexico-by
Will Trump reduce tariffs on Mexico or Canada today?	will-trump-reduce-tariffs-on-mexico-or-canada-by-wedneday
Will Trump remove 10% blanket tariff before July?	will-trump-remove-10-blanket-tariff-before-july
Will Trump remove 10% blanket tariff in April?	will-trump-remove-10-blanket-tariff-in-april
Will Trump remove tariff on Canada before March?	will-trump-remove-blanket-tariff-on-canada-before-march
Will Trump remove tariff on Canada before May?	will-trump-remove-blanket-tariff-on-canada-before-may
Will Trump remove tariff on China before March?	will-trump-remove-blanket-tariff-on-china-before-march
Will Trump remove tariff on China before May?	will-trump-remove-blanket-tariff-on-china-before-may
Will Trump remove tariff on Mexico before March?	will-trump-remove-blanket-tariff-on-mexico-before-march
Will Trump remove tariff on Mexico before May?	will-trump-remove-blanket-tariff-on-mexico-before-may
Will courts block Trump's tariffs before June?	will-courts-block-trumps-tariffs-before-june
Will the Court Force Trump to Refund Tariffs?	will-the-court-force-trump-to-refund-tariffs

A.2 Financial Data

Table A.2 provides details on the data sources for constructing the financial variables. All data are obtained from Bloomberg, and the last column shows the corresponding Bloomberg ticker.

Table A.2: Variable Definitions for Financial Data

Variable	Tenor	Bloomberg Ticker
S&P 500	–	SPX Index
VIX	–	VIX Index
Fed Funds Futures	–	FFA[M][Y]
Inflation Swap	1-Year	USSWIT1 BGN Curncy
	2-Year	USSWIT2 BGN Curncy
	10-Year	USSWIT10 BGN Curncy
Treasury	3-Month	BV3M0082 BVLI Index
	1-Year	BV010082 BVLI Index
	2-Year	BV020082 BVLI Index
	5-Year	BV050082 BVLI Index
	10-Year	BV100082 BVLI Index
	30-Year	BV300082 BVLI Index
Interest Rate Swap	3-Month	USOSFRC BGN Curncy
	1-Year	USOSFR1 BGN Curncy
	2-Year	USOSFR2 BGN Curncy
	5-Year	USOSFR5 BGN Curncy
	10-Year	USOSFR10 BGN Curncy
	30-Year	USOSFR30 BGN Curncy
RefCorp STRIPs	1-Year	BV010091 BVLI Index
	2-Year	BV020091 BVLI Index
	5-Year	BV050091 BVLI Index
	10-Year	BV100091 BVLI Index
U.S. Sovereign CDS	1-Year	US CDS USD SR 1Y D14
	2-Year	US CDS USD SR 2Y D14
	5-Year	US CDS USD SR 5Y D14
	10-Year	US CDS USD SR 10Y D14

B Principal Component Analysis

We provide details on the principal component analysis conducted in Section 3.1.2. We first reshape the market-event panel underlying Table 5 into a $T \times N$ matrix, where T is the number of announcement days and N is the number of markets in the panel. Not every market is active around every announcement. Hence, the resulting matrix contains missing values. We impute the missing values with the column mean, which can be interpreted as the

Table A.2: Variable Definitions for Financial Data (continued)

Currency	Variable	Tenor	Bloomberg Ticker
AUD	Spot	3-Month	AUD Curncy
	Forward	3-Month	AUD3M Curncy
	Govt	3-Month	BV3M0127 BVLI Index
CAD	Spot	3-Month	CAD Curncy
	Forward	3-Month	CAD3M Curncy
	Govt	3-Month	BV3M0101 BVLI Index
EUR	Spot	3-Month	EUR Curncy
	Forward	3-Month	EUR3M Curncy
	Govt	3-Month	BV3M0910 BVLI Index
GBP	Spot	3-Month	GBP Curncy
	Forward	3-Month	GBP3M Curncy
	Govt	3-Month	BV3M0110 BVLI Index
JPY	Spot	3-Month	JPY Curncy
	Forward	3-Month	JPY3M Curncy
	Govt	3-Month	BVCSEI3M BVLI Index

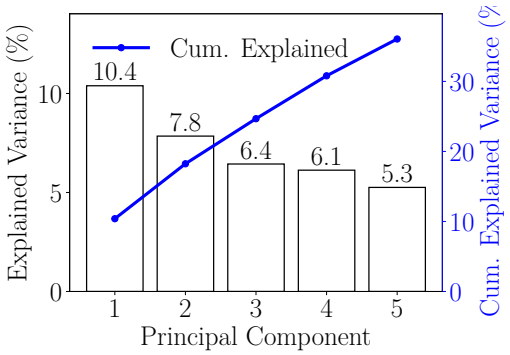
unconditional expectation of a market's surprise.[16] We then standardize each column to zero mean and unit variance and extract the first three principal components. We set the sign of the first principal component such that it is positively correlated with the maturity-weighted surprise across markets. Finally, we rescale the principal components to have unit variance.

In Figure B.1, Panel (a) indicates that the first principal component explains about 10.4% of the cross-sectional variation in market-level surprises, and the first three principal components jointly explain 24.6% of the variation. Panels (b) and (c) plot the second and the third principal components for all trade announcements in Table 4, respectively.

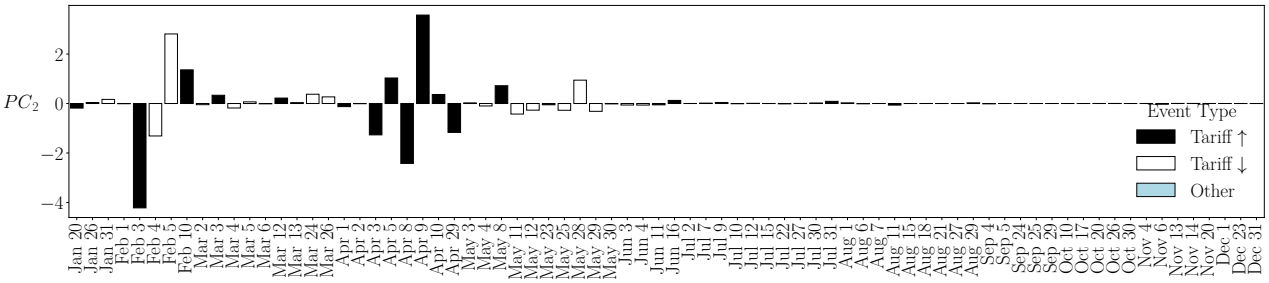
As a robustness check, we re-extract the principal components after weighting market-level surprises by the economic importance of the corresponding trade partners. For each market, we identify the relevant trade partner (i.e., a country, region, or the rest of the world) associated with the Polymarket event and scale the surprise by that partner's share of U.S. imports in 2023. The import partner shares are retrieved from the World Bank's WITS database.[17] This weighting scheme reflects the idea that trade policy shocks involving larger partners should receive greater weight in the aggregate measure. The first principal component extracted from the weighted panel is similar to the baseline.

[16] Our main results are robust to imputing missing values using the column-wise median or zero.

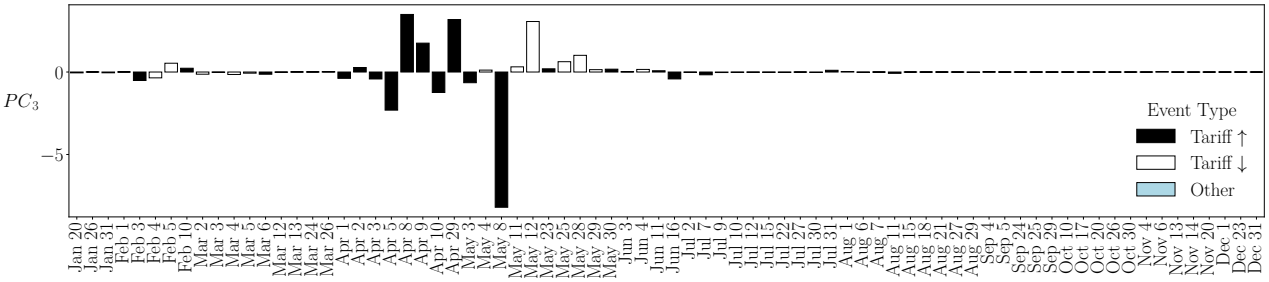
[17] See the "Import Partner Share (%)" column at https://wits.worldbank.org/CountryProfile/en/Country/USA/Year/2023/TradeFlow/EXPIMP/Partner/by-country.



(a) Explained Variance



(b) PC_2



(c) PC_3

Figure B.1: Principal Component Analysis for Event Study

C Robustness and Additional Evidence in Event Study

C.1 Results Using A 60-Minute Event Window

Figures C.1–C.3 redo the empirical analyses in Section 3 using a 60-minute event window instead of the baseline 30-minute window. Specifically, the event window is defined as $[t-20, t+40]$, doubling the pre- and post-announcement intervals used in the baseline specification. Our results remain robust.

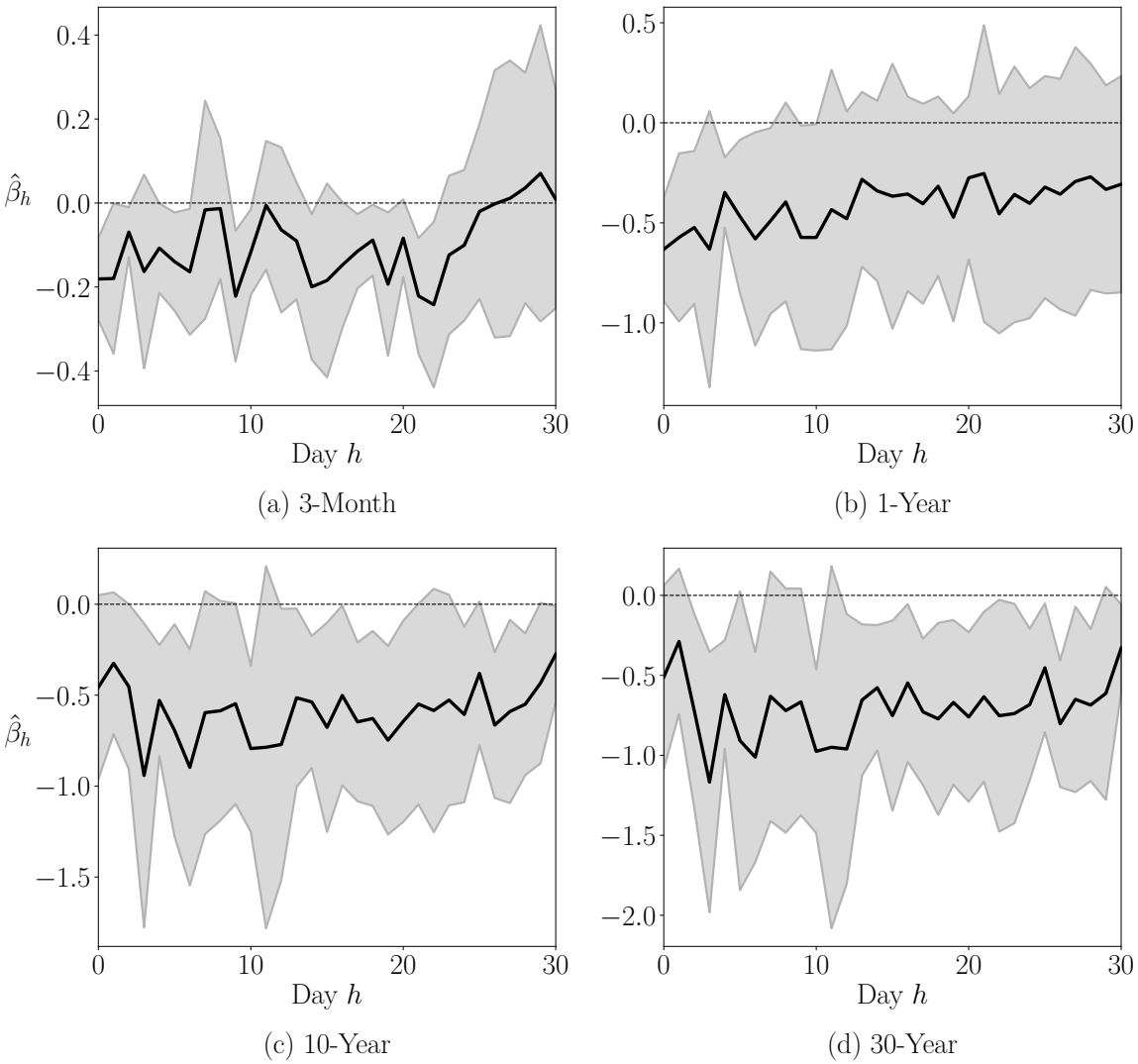


Figure C.1: Cumulative Responses of Convenience Yields to Trade Policy Surprises (60-Minute Event Window)

Notes: This figure shows the cumulative impulse responses of U.S. convenience yields to a one-standard-deviation increase in trade policy surprises, using a 60-minute event window. Panels (a)–(d) correspond to convenience yields at the 3-month, 1-year, 10-year, and 30-year maturities, respectively. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of convenience yields in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

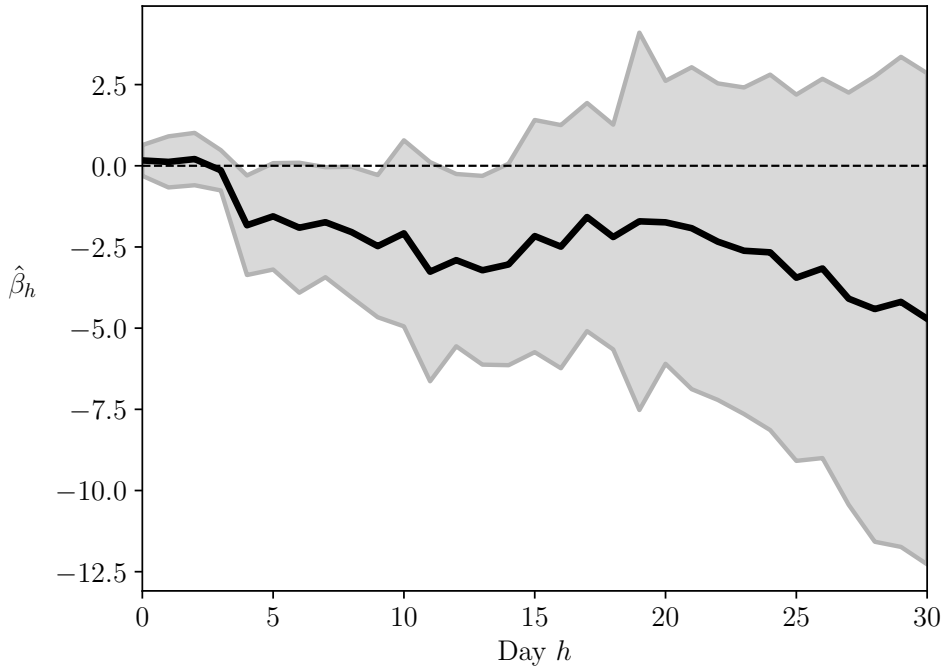
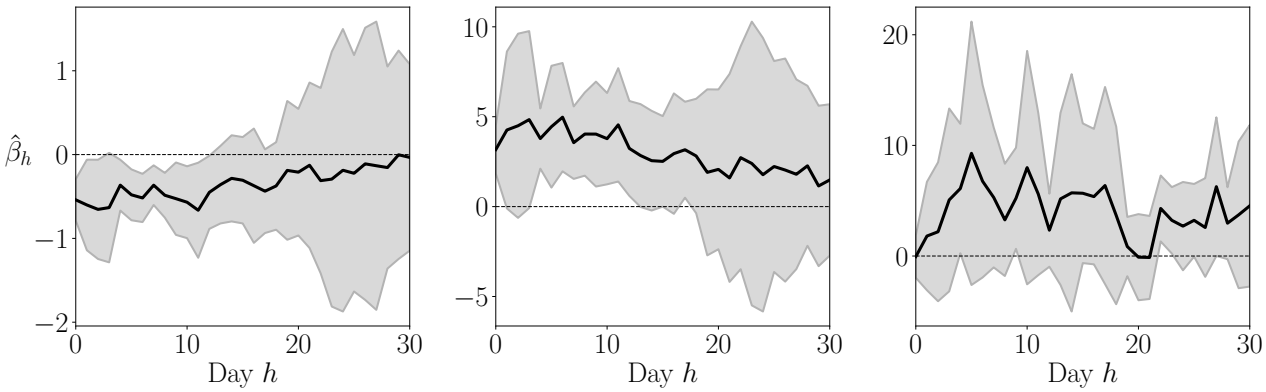


Figure C.2: Cumulative Responses of Cross-Country Treasury Basis to Trade Policy Surprises (60-Minute Event Window)

Notes: This figure shows the cumulative impulse responses of convenience yields, measured by the CIP deviations against the G10 countries, to a one-standard-deviation increase in trade policy surprises, using a 60-minute event window. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (4), where the dependent variable is the cumulative change of the CIP deviations in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.



(a) S&P 500 (b) VIX (c) TPU

Figure C.3: Cumulative Responses of S&P 500, VIX and TPU to Trade Policy Surprises (60-Minute Event Window)

Notes: This figure shows the cumulative impulse responses of S&P 500 (Panel (a)), VIX (Panel (b)), and TPU (Panel (c)) to a one-standard-deviation increase in trade policy surprises, using a 60-minute event window. The y-axis is the estimated coefficient $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative (log) change of each variable in percentage points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

C.2 U.S. Sovereign CDS Premium

Here, we measure the default risk of U.S. Treasuries by the sovereign credit default swap (CDS) premium. In a sovereign CDS contract, the buyer pays the CDS premium to the seller in exchange for compensation in the event of a sovereign default (Longstaff et al., 2011; Augustin et al., 2022). U.S. sovereign CDS contracts are available in both USD and EUR denominations. Following Engel and Wu (2023), we use the USD-denominated U.S. sovereign CDS contract.

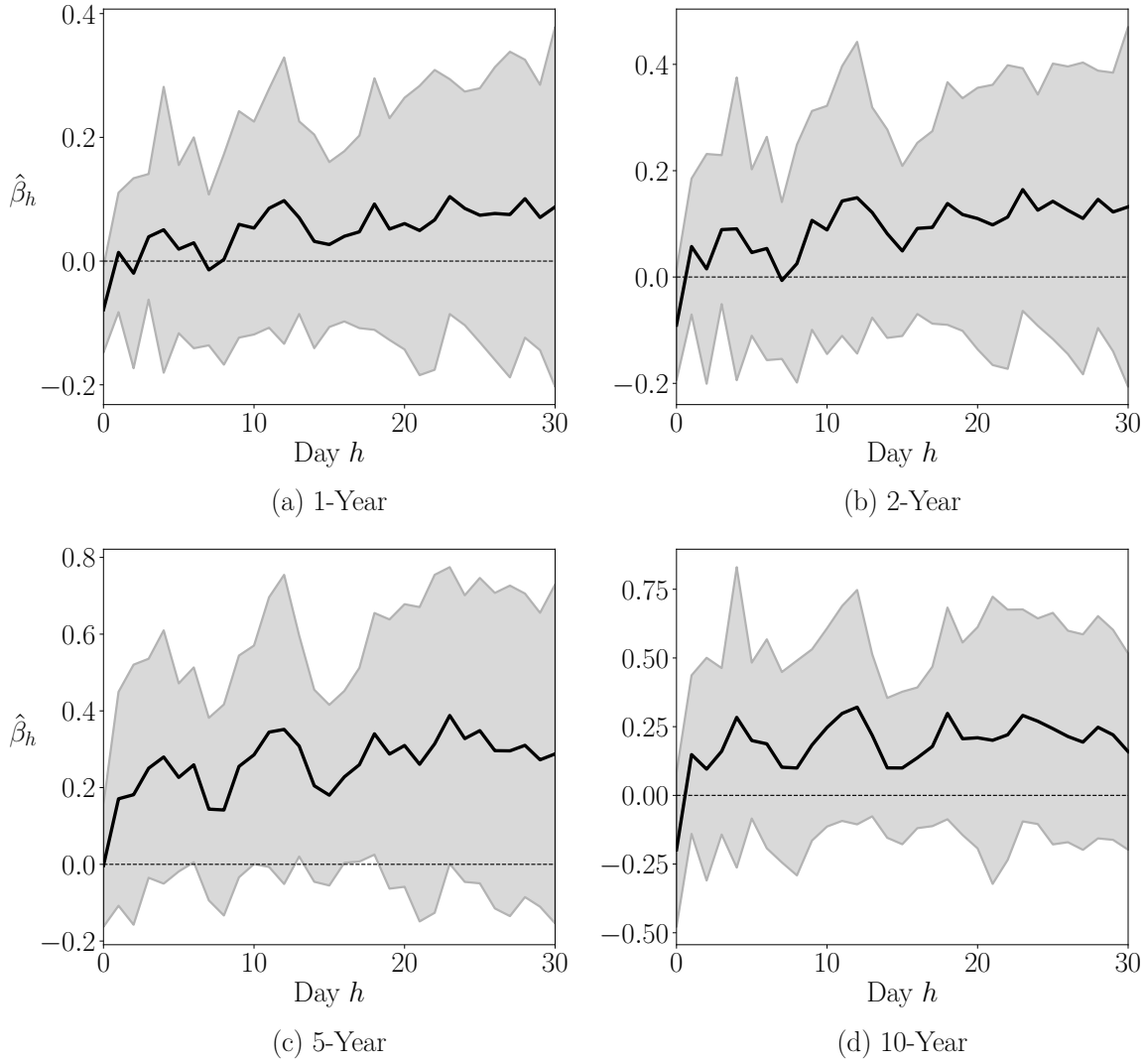


Figure C.4: Cumulative Responses of U.S. Sovr. CDS Premia to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of the U.S. sovereign CDS premia to a one-standard-deviation increase in trade policy surprises. Panels (a)–(d) correspond to the U.S. sovereign CDS premia at the 1-year, 2-year, 5-year, and 10-year maturities, respectively. The y-axis is the coefficient estimate $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of U.S. sovereign CDS premia in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

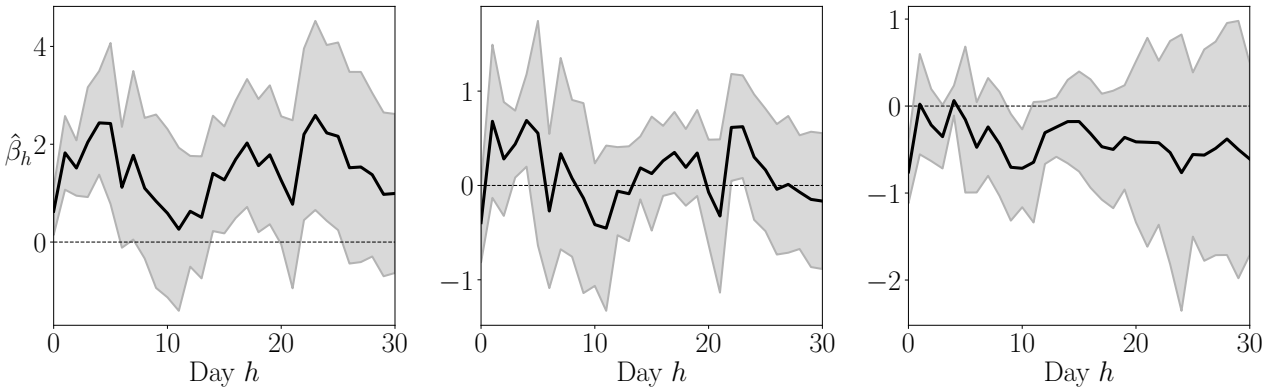
Following specification (3), Figure C.4 reports the cumulative impulse responses of U.S. sovereign CDS premia to a one-standard-deviation increase in trade policy surprises. We find

that CDS premia rise following a positive trade policy surprise, although the estimates are not statistically significant at the 95% level.

C.3 Impulse Responses of Inflation and Interest Rates Expectations

Higher tariffs may raise concerns about future price levels by increasing the cost of imported goods, thereby putting upward pressure on inflation expectations. We test this channel empirically using inflation expectations derived from inflation swaps. An inflation swap is a financial derivative in which one party pays a predetermined fixed rate while the other pays a floating rate linked to the consumer price index (CPI). These contracts provide a market-based measure of the average expected inflation rate over the swap's maturity.

Following specification (3), Figure C.5 shows the cumulative impulse responses of inflation expectations to a one-standard-deviation increase in trade policy surprises. We consider the 1-year, 2-year, and 10-year inflation expectations implied by inflation swaps. The y-axis plots the estimated coefficient $\hat{\beta}_h$, expressed in basis points. Panel (a) shows a persistent and statistically significant increase in short-term inflation expectations over the 30-day horizon. Panel (b) shows a delayed and temporary increase in medium-term inflation expectations. These patterns are consistent with the conjecture that higher tariffs raise expected future price levels.



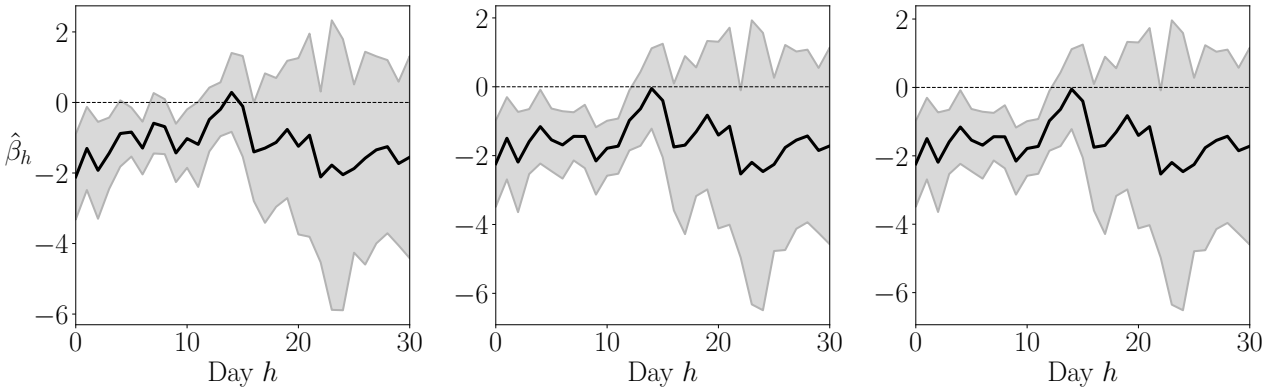
(a) 1-Year (b) 2-Year (c) 10-Year

Figure C.5: Cumulative Responses of Inflation Expectations to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of inflation expectations to a one-standard-deviation increase in trade policy surprises. Panels (a)–(c) correspond to the inflation expectation at the 1-year, 2-year, and 10-year horizons, respectively. The y-axis is the coefficient estimate $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of inflation expectations in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

By contrast, Panel (c) shows that long-run inflation expectations initially decline in response to tariff-increase news but become statistically insignificant thereafter. The magnitude of the point estimates is small relative to Panel (a), suggesting that long-run inflation expectations remain well anchored.

Following the same specification, Figure C.6 shows the cumulative impulse responses of interest rate expectations to a one-standard-deviation increase in trade policy surprises. We measure expectations of future interest rates using federal funds futures prices (e.g., Bernanke and Kuttner, 2005; Gertler and Karadi, 2015). We find that a higher tariff surprise leads to a decline in expected policy rates across all horizons.



(a) 1-Year (b) 2-Year (c) 4-Year

Figure C.6: Cumulative Responses of Interest Rate Expectations to Trade Policy Surprises

Notes: This figure shows the cumulative impulse responses of interest rate expectations to a one-standard-deviation increase in trade policy surprises. Panels (a)–(c) correspond to the interest rate expectations at the 1-year, 2-year, and 4-year horizons, respectively. The y-axis is the coefficient estimate $\hat{\beta}_h$ from regression (3), where the dependent variable is the cumulative change of interest rate expectations in basis points. The x-axis is the horizon h in days. The shaded area denotes the 95% confidence intervals and the horizontal dashed line indicates zero. The confidence intervals are constructed using Newey-West standard errors with four lags.

D Text-Based Trade Policy Uncertainty Measure and Convenience Yields

Table D.1 reports regressions of convenience yields on the text-based TPU measure across maturities using daily data over our sample period. The results indicate that TPU alone provides little explanatory power for the contemporaneous variation in convenience yields. This contrasts with the strong explanatory power of our prediction-market-based TPS measure, underscoring the value of the high-frequency and directional information embedded in prediction market prices.

Table D.1: Effects of TPU on Convenience Yields

	3-Month	1-Year	5-Year	10-Year	30-Year
	(1)	(2)	(3)	(4)	(5)
TPU	0.049	−0.045	−0.125	−0.130	−0.149
	(0.054)	(0.056)	(0.081)	(0.083)	(0.104)
Constant	−0.005	−0.011	0.009	0.013	0.028
	(0.051)	(0.060)	(0.050)	(0.062)	(0.077)
N	274	274	274	274	274
Adj. R^2	-0.002	-0.002	0.002	0.003	0.002

Notes: This table reports contemporaneous regression results of U.S. Treasury convenience yields on TPU. Columns (1)–(5) present results for the 3-month, 1-year, 5-year, 10-year, and 30-year maturities, respectively. TPU is standardized to have zero mean and unit standard deviation over the sample period from November 18, 2024 to December 31, 2025. Newey-West standard errors with four lags are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.