Supplementary Material for
The Economic Effects of Trade Policy Uncertainty

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A Description of Firm-Level and Industry Data

Our firm-level data source is the Compustat North America database. Our key variables are investment, cash flows, and Tobin's Q, which we construct following standard approaches to Compustat data in the literature. Compustat variables names are shown in all capital letters.

1. *Data preparation.* We consider only firms with headquarters located in the United States (Compustat variable LOC is "USA"). We drop observations with quarterly acquisitions (AQCY) that are greater than 5 percent of total assets (ATQ). We drop observations where net property, plant, and equipment (PPENTQ) decreases and then increases (or vice versa) more than fifty percent between two successive quarters. We exclude observations for which total assets (ATQ) are less than $1 million in 2012 dollars.

2. *Industries included.* We first exclude firms in the utilities, banking, and finance sectors (firms with a 4-digit Standard Industrial Classification (SIC) code in the ranges 4900-4999 and 6000-6299). For our baseline local projection, we also restrict the sample to sectors trading in agricultural, mining, and manufacturing goods (3-digit NAICS codes in the ranges 111-115, 211-212, and 311-339), omitting construction, wholesale, and service industries. These sectors are those for which we have complete data to construct our measure of openness, but they are also those with higher instances of TPU. Our final industry selection includes about one half the original sample Compustat firms. We then re-introduce these firms to the sample for additional robustness experiments.

3. *Investment.* Our measure of investment takes the form $\log k_{i,t+h} - \log k_{i,t-1}$, where $k_{i,t}$ is firm i's capital stock at time t, defined as gross property, plant, and equipment (PPEGTQ) for $h = 0$. For $h > 0$, we compute capital using changes in net property, plant, and equipment (PPENTQ). Missing values of PPENTQ at time t are replaced with the averages of the values at $t - 1$ and $t + 1$.

4. *Tobin's Q.* We define Tobin's Q as the ratio of a firm's total market value to its total asset value, where market value is the book value of assets plus the market value of stock (price at close (PRCCQ) multiplied by common shares CSHQQ)) less the book value of stock (CEQ). The final measure is thus equal to $\frac{ATQ+(PRCCQ*CSHOQ)-CEQQ}{ATQ}$. We winsorize the variable at the 1st and 99th percentile.

5. *Cash flows.* We measure cash flows using the ratio of cash and short-term investments (CHEQ) to beginning-of-period property, plant, and equipment, which is the first lag of PPENTQ in our sample. We winsorize the variable at the 1st and 99th percentile.

6. *Openness.* Openness is defined at the 3-digit level of the North American Industry Classification System (NAICS). We use a standard measure equal to the ratio of an industry's gross output to usage, where usage is gross output plus imports less exports. Using gross output by industry from the Bureau of Economic Analysis' Industry Economic Accounts Data and exports/imports by industry from the U.S. Census Bureau's U.S. International Trade and Goods and Services report (FT900).

B Search Terms for Firm Trade Policy Uncertainty

The list of trade policy terms in the earnings calls is: *tariff**, *import dut**, *import barrier**, *trade treat**, *trade polic**, *trade act**, *(anti-)dumping*, *trade agreement**, *trade relationship**, *GATT*, *World Trade Organization/WTO*, and *free trade*. We also search for *import**, *export**, and *border** within three words of either *ban**, *tax**, or *subsid**. Lastly, we require that *tariff** not appear within one word of *feed-in*, *MTA*, *network**, *transportation*, *adjustment**, *regulat**, *rate**, or *escalator*. An asterisk indicates a search wild card.

We require the uncertainty-related words to be within ten words of one or more of the trade policy-related terms. The list of uncertainty terms is: *risk**, *threat**, *caution**, *uncertaint**, *propos**, *future*, *worr**, *concern**, *volatile*, *tension**, *likel**, *probab**, *possib**, *chance**, *danger**, *fear**, *expect**, *potential*, *rumor**, and *prospect**.

In our implementation, we search for instances of trade policy uncertainty using regular expressions. We count the number of matches returned by the expression below:

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\b(?:((((?<!\b[Ff]eed\-[Ii]n\b.)(?<!\b[Mm][Tt][Aa]\b.)(?<!\b[Mm]\W[Tt]\W[Aa]\W\b.)(?<!\b[
Nn]etwork\b.)(?<!\b[Nn]etworks\b.)(?<!\b[Tt]ransportation\b.)(?<!\b[Aa]djustment\b.)
(?<!\b[Aa]djustments\b.)(?<!\b[Rr]egulate\b.)(?<!\b[Rr]egulates\b.)(?<!\b[Rr]egulated
\b.)(?<!\b[Rr]egulation\b.)(?<!\b[Rr]egulations\b.)(?<!\b[Rr]ate\b.)(?<!\b[Rr]ates\b
.)(?<!\b[Ee]scalators?\b.))(\b[Tt]ariffs?\b)(?!.\b[Ff]eed\-[Ii]n\b|.\b[Mm]\W?[Tt]\W?[
Aa]\W?\b|.\b[Nn]etworks?\b|.\b[Tt]ransportation\b|.\b[Aa]djustments?\b|.\b[Rr]egulat(
es?|ed|ions?)\b|.\b[Rr]ates?\b|.\b[Ee]scalators?\b))|\bimport dut(ies|y)\b|\bimport
barriers?\b|\btrade treat(ies|y)\b|\btrade agreements?\b|\btrade polic(ies|y)\b|\
btrade acts?\b|\btrade relations(hips?)?\b|\b(anti-?)dumping\b|\bGATT\b|\bWTO\b|\b[Ww
]orld [Tt]rade [Oo]rganization\b|\b[Ff]reer? [Tt]rade\b|((\b[Ii]mports?\b|\b[Ee]
xports?\b|\b[Bb]orders?\b)\W+(?:\w+\W+){0,3}?(\b[Bb]ans?\b|\b[Tt]ax(es)?|\b[Ss]ubsid(
y|ies)\b)|(\b[Bb]ans?\b|\b[Tt]ax(es)?|\b[Ss]ubsid(y|ies)\b)\W+(?:\w+\W+){0,3}?(\b[Ii]
mports?\b|\b[Ee]xports?\b|\b[Bb]orders?\b)))\W+(?:\w+\W+){0,10}?([Rr]isks?|[Tt]hreats
?|[Cc]autio(us|n)|[Uu]ncertain(ties|ty)?|[Pp]ropos(ed|e|als?)|[Ff]uture|[Ww]orr(ies|y
)|[Cc]oncerns?|[Vv]olatil(e|ity)|[Tt]ensions?|[Ll]ikel(ihood|y)|[Pp]robab(ility|le)|[
Pp]ossib(ility|le)|[Cc]hances?|[Dd]angers?|[Ff]ears?|[Ee]xpect(ed|ations?)|[Pp]
otential|[Rr]umor(ed|s)?|[Pp]rospects?)|([Rr]isks?|[Tt]hreats?|[Cc]autio(us|n)|[Uu]
ncertain(ties|ty)?|[Pp]ropos(ed|e|als?)|[Ff]uture|[Ww]orr(ies|y)|[Cc]oncerns?|[Vv]
olatil(e|ity)|[Tt]ensions?|[Ll]ikel(ihood|y)|[Pp]robab(ility|le)|[Pp]ossib(ility|le)
|[Cc]hances?|[Dd]angers?|[Ff]ears?|[Ee]xpect(ed|ations?)|[Pp]otential|[Rr]umor(ed|s)
?|[Pp]rospects?)\W+(?:\w+\W+){0,10}?((((?<!\b[Ff]eed\-[Ii]n\b.)(?<!\b[Mm][Tt][Aa]\b.)
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ransportation\b.)(?<!\b[Aa]djustment\b.)(?<!\b[Aa]djustments\b.)(?<!\b[Rr]egulate\b.)
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egulations\b.)(?<!\b[Rr]ate\b.)(?<!\b[Rr]ates\b.)(?<!\b[Ee]scalator\b.))(\b[Tt]ariffs
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ransportation\b|.\b[Aa]djustments?\b|.\b[Rr]egulat(es?|ed|ions?)\b|.\b[Rr]ates?\b|.\b
[Ee]scalators?\b))|\bimport dut(ies|y)\b|\bimport barriers?\b|\btrade treat(ies|y)\b
|\btrade agreements?\b|\btrade polic(ies|y)\b|\btrade acts?\b|\btrade relations(hips
?)?\b|\b(anti-?)dumping\b|\bGATT\b|\bWTO\b|\b[Ww]orld [Tt]rade [Oo]rganization\b|\b[
Ff]reer? [Tt]rade\b|((\b[Ii]mports?\b|\b[Ee]xports?\b|\b[Bb]orders?\b)\W+(?:\w+\W+)
{0,3}?(\b[Bb]ans?\b|\b[Tt]ax(es)?|\b[Ss]ubsid(y|ies)\b)|(\b[Bb]ans?\b|\b[Tt]ax(es)?|\
b[Ss]ubsid(y|ies)\b)\W+(?:\w+\W+){0,3}?(\b[Ii]mports?\b|\b[Ee]xports?\b|\b[Bb]orders
?\b))))\b
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C Stochastic Volatility Model: Robustness

In our bechmark empirical specification, we posit that tariffs follow an autoregressive process with (auturegressive) stochastic volatility. Table 1A compares our benchmark estimates to those obtained from two alternative models. Model 1 includes feedback from lagged values of detrended output and U.S. federal public debt. This approach follows closely the fiscal volatility rule adopted in Fernandez-Villaverde et al. (2015) and is meant to capture the idea that the state of the business cycle and the level of debt may influence behavior of government instruments, including tariffs. Model 2 allows for feedback from lagged values of detrended output and the U.S. net foreign asset position. This rule incorporates the idea that developments in the external position of the United States, approximated by the net foreign asset position, may also affect the setting of tariffs.

Table 1A. Tariff Rule: Robustness

	Benchmark	Model 1	Model 2
ρ_τ	0.99 [0.99; 0.99]	0.99 [0.99; 0.99]	0.98 [0.97; 0.99]
σ	-6.14 [-6.73; -5.47]	-6.35 [-6.84; -5.76]	-6.05 [-6.32; -5.78]
ρ_σ	0.96 [0.87; 0.99]	0.93 [0.85; 0.97]	0.85 [0.72; 0.92]
η	0.37 [0.29; 0.47]	0.39 [0.32; 0.49]	0.37 [0.29; 0.47]

Note. Estimates refer to posterior medians. Numbers in brackets are the 90 percent probability interval.

Overall, we find that the inclusion of macroeconomic feedbacks does not greatly affect the estimation of the tariff rule parameters. The average standard deviation of tariffs varies from 100*exp(-6.14) = 0.24 percentage point in the bechmark model to 0.18 (Model 1) and 0.24 (Model 2). Model 2 also seems to have a slightly lower volatility persistence than our benchmark model (0.85 vs 0.96). A one-standard deviation shock to tariff volatility increases the volatility by about 10 basis points in all models.

D Validation of Tariff Volatility Shocks

We conduct the VAR analysis on historical data from 1960 through 2018. While we argue that the TPU shocks we identify are exogenous—validating our identification by controlling for some alternative drivers of the business cycle in the VAR, it is possible that our TPU shocks are contaminated by other sources of macroeconomic instability. To attenuate these concerns, we perform two exercises. First, we look at the correlation between TPU shocks and other traditional macroeconomic shocks, which are external to our VAR model. Second, we look at whether these external shocks Granger-cause the TPU shocks.

We consider four sources of macroeconomic fluctuations that could be relevant for our application: oil shocks, monetary policy shocks, technology shocks, and (non-tariff) fiscal shocks. The oil shocks are from Hamilton (2003) and are based on a nonlinear transformation of the nominal price of crude oil. The monetary policy shocks are from Romer and Romer (2004) where we take the quarterly sum of their monthly variable. Technology shocks (TFP) are the residual from an AR(1) model of the utilization-adjusted total factor productivity (Fernald, 2012). The fiscal shocks include the news shocks about military spending from Ramey (2011) and the capital tax volatility series of Fernandez-Villaverde et al. (2015).

Table A.1 reports the pairwise correlations between these external shocks and the TPU shock identified in the bivariate model, as well as results from the Granger causality tests. These results support the lack of systematic contemporaneous and lagged association between the identified TPU shocks and other types of macroeconomic shocks. All correlations and Granger tests are not statistically different from zero and small in economic terms, except for some predictability from changes in TFP, which disappears when shocks are extracted from the multivariate model.

Table A.1: Orthogonality Between Tariff Volatility Shocks and Other External Shocks

External Shocks	Correlation	(p-value)	Granger F-test	(p-value)
Oil shocks[a]	−0.05	(0.58)	0.84	(0.43)
Monetary policy shocks[b]	−0.05	(0.70)	0.78	(0.46)
TFP growth shocks[c]	−0.12	(0.11)	2.71	(0.07)
Defense spending shocks[e]	−0.01	(0.80)	0.51	(0.60)
Capital tax vol. shocks[f]	−0.15	(0.05)	0.62	(0.54)

NOTE: The entries in the table denote the pairwise correlations and Granger-causality tests between the trade policy uncertainty shock identified under the bivariate VAR with the news-based TPU index and a set of external instruments. The regressions underlying the pairwise Granger causality tests include a constant and two lags of each external instrument. Sample period for the TPU shocks is 1960:Q3 to 2018:Q3.

[a] Crude oil supply shock from Hamilton (2003).

[b] Monetary policy shocks from Romer and Romer (2004); (1969:Q1–1984:Q4).

[c] Residuals from a first-order autoregressive model of the log-difference in the utilization-adjusted total factor productivity; see Fernald (2012).

[e] Defense spending news shocks from Ramey (2011).

[f] Capital tax volatility shocks from Fernandez-Villaverde et al. (2015).

E Model Equations

E.1 Households

Households choose (C_t), $(l_{j,t})$ and $(w_{j,t}$ for $j \in HH)$, (B_t^H) and (B_t^F), that are one period bonds denominated in domestic and foreign currency, to maximize expected lifetime utility

$$E_s \sum_{t \geq s} \beta^{t-s} U\left(C_t, \{l_{j,t}\}_{j \in H}\right), \tag{A.1}$$

subject to the budget constraint

$$P_t^C C_t + B_t^H + \varepsilon_t B_t^F + \int AC_{j,t}^w dj = \int l_{j,t} W_{j,t} dj + B_{t-1}^H R_{t-1} + \varepsilon_t B_{t-1}^F R_{t-1}^* \left(1 - \frac{\chi}{2} B_{t-1}^F\right) + \Pi_t^{HH} + T_t, \tag{A.2}$$

the wage adjustment cost function:

$$AC_{j,t}^w = \frac{\rho_w}{2}\left(\frac{W_{jt}}{W_{jt-1}} - 1\right)^2 L_t. \tag{A.3}$$

and a demand schedule for labor specific variety:

$$l_{j,t} = \left(\frac{W_{jt}}{W_t}\right)^{-\varepsilon_w} L_t. \tag{A.4}$$

Optimality conditions are:

$$1 = \beta E_t \left[\Lambda_{t,t+1} \frac{R_t}{\pi_{t+1}}\right] \tag{A.5}$$

$$1 = \beta E_t \left[\Lambda_{t,t+1} \frac{R_t^*(1 - \chi B_F t)}{\pi_{t+1}^*} \frac{Q_{t+1}}{Q_t}\right] \tag{A.6}$$

$$\left(\pi_t^w - 1\right) \pi_t^w = \frac{\varepsilon_w}{\rho_w}\left[-\frac{U_{l_{j,t}}}{U_{C,t}} - \frac{(\varepsilon_w - 1)}{\varepsilon_w} w_t\right] + \beta E_t \Lambda_{t,t+1} \left(\pi_{t+1}^w - 1\right) \pi_{t+1}^w \frac{L_{t+1}}{L_t}. \tag{A.7}$$

where $\beta \Lambda_{t,t+1} = \beta \frac{U_{C,t+1}}{U_{C,t}}$ is the real stochastic discount factor for the household in the home country.

E.2 Labor Packers

Competitive labor packers use individual labor varieties supplied by household members to produce an aggregate labor input L_t using a CES production technology. The undifferentiated input L_t is then supplied to intermediate goods producers. The choice of a representative labor packer is to choose L_t and $l_{j,t}$ to solve:

$$\max w_t L_t - \int w_{j,t} l_{j,t} dj, \tag{A.8}$$

s.t.

$$L_t \leq \left[\int l_{j,t}^{\frac{\varepsilon_w - 1}{\varepsilon_w}} dj\right]^{\frac{\varepsilon_w}{\varepsilon_w - 1}}. \tag{A.9}$$

Optimality conditions are:

$$l_{j,t} = \left[\frac{w_{j,t}}{w_t}\right]^{-\varepsilon_w} L_t. \tag{A.10}$$

and

$$w_t = \left[\int w_{j,t}^{1-\varepsilon_w} dj\right]^{\frac{1}{1-\varepsilon_w}}. \tag{A.11}$$

E.3 Retailers

Competitive retailers choose Y_t and $Y_t(i)$ to solve:

$$\max P_t Y_t - \int P_t(i)\, Y_t(i)\, di, \tag{A.12}$$

s.t.

$$Y_t \leq \left[\int Y_t(i)^{\frac{\varepsilon_p - 1}{\varepsilon_p}} di\right]^{\frac{\varepsilon_p}{\varepsilon_p - 1}}. \tag{A.13}$$

Optimality conditions are:

$$Y_t(i) = \left[\frac{P_t(i)}{P_t}\right]^{-\varepsilon_p} Y_t. \tag{A.14}$$

and

$$P_t = \left[\int P_t(i)^{1-\varepsilon_p} di\right]^{\frac{1}{1-\varepsilon_p}}. \tag{A.15}$$

E.4 Wholesale Firms

Wholesale firms choose $Y_t(i)$, $P_t(i)$, $D_{H,t}$ and $D_{F,t}$ to maximize

$$\max E_s \sum_{t \geq s} \beta^{t-s} \Lambda_{t,s} \frac{\Pi^W_{Y,t}(i)}{P_t}. \tag{A.16}$$

subject to:

$$\Pi^W_{Y,t}(i) = P_t(i)\, Y_t(i) - P_{Ht} D_{Ht} - P_{Ft}(1 + \tau^m_t)\, D_{Ft} - AC^P_t(i) \tag{A.17}$$

$$AC^P_t(i) = \frac{\rho_p}{2}\left(\frac{P_t(i)}{P_{t-1}(i)} - 1\right)^2 Y_t. \tag{A.18}$$

$$Y_t(i) = \left[\frac{P_t(i)}{P_t}\right]^{-\varepsilon_p} Y_t. \tag{A.19}$$

$$Y_t(i) = \left[\omega^{\frac{1}{\theta}} (D_{Ht})^{\frac{\theta-1}{\theta}} + (1-\omega)^{\frac{1}{\theta}} (D_{Ft})^{\frac{\theta-1}{\theta}}\right]^{\frac{\theta}{\theta-1}} \tag{A.20}$$

Optimality conditions are:

$$D_{Ht}(i) = \omega \left[\frac{P_{Ht}}{MC_t(i)}\right]^{-\theta} Y_t(i), \tag{A.21}$$

$$D_{Ft}(i) = (1-\omega)\left[\frac{P_{Ft}(1+\tau_t^m)}{MC_t(i)}\right]^{-\theta} Y_t(i), \tag{A.22}$$

$$MC_t = \left[\omega (P_{Ht})^{1-\theta} + (1-\omega)(P_{Ft})^{1-\theta}(1+\tau_t^m)^{1-\theta}\right]^{\frac{1}{1-\theta}}. \tag{A.23}$$

$$(\pi_t - 1)\pi_t = \frac{\varepsilon_p}{\rho_p}\left[\mu_t - \frac{\varepsilon_p - 1}{\varepsilon_p}\right] + E_t \Lambda_{t,t+1}(\pi_{t+1} - 1)\pi_{t+1}\frac{Y_{t+1}}{Y_t} \tag{A.24}$$

where $\pi_t = \frac{P_t}{P_{t-1}}$ and $\mu_t = \frac{MC_t}{P_t}$.

E.5 Distributors

Distributors of the domestic intermediate bundle choose $D_{H,t}$ and $y_{H,t}(j)$ to solve:

$$\max \Pi_{Ht}^D = P_{Ht} D_{Ht} - \int P_{Ht}(j)\, y_{Ht}(j)\, dj, \tag{A.25}$$

s.t.

$$D_{Ht} = \left[\int y_{Ht}(j)^{\frac{\varepsilon_D - 1}{\varepsilon_D}} dj\right]^{\frac{\varepsilon_D}{\varepsilon_D - 1}}, \tag{A.26}$$

The optimality conditions are:

$$y_{Ht}(j) = \left[\frac{P_{Ht}(j)}{P_{Ht}}\right]^{-\varepsilon_D} D_{Ht}, \tag{A.27}$$

$$P_{Ht} = \left[\int P_{Ht}(j)^{1-\varepsilon_D} dj\right]^{\frac{1}{1-\varepsilon_D}}, \tag{A.28}$$

Distributors of the imported intermediate bundle choose $D_{F,t}$ and $y_{F,t}(j)$ as $j \in E_t^*$ to solve:

$$\max \Pi_{Ft}^D = P_{Ft} D_{Ft} - \int_{j \in E_t^*} P_{Ft}(j)\, y_{Ft}(j)\, dj. \tag{A.29}$$

$$D_{Ft} = (N_t^*)^{-\lambda \frac{\varepsilon_D}{\varepsilon_D - 1}} \left[\int_{j \in E_t^*} y_{Ft}(j)^{\frac{\varepsilon_D - 1}{\varepsilon_D}} dj\right]^{\frac{\varepsilon_D}{\varepsilon_D - 1}}, \tag{A.30}$$

Optimality conditions are:

$$y_{Ft}(j) = (N_t^*)^{-\lambda \varepsilon_D} \left[\frac{P_{Ft}^C(j)}{P_{Ft}^C}\right]^{-\varepsilon_D} D_{Ft}. \tag{A.31}$$

$$P_{Ft} = (N_t^*)^{-\lambda \frac{\varepsilon_D}{\varepsilon_D - 1}} \left[\int_{j \in E_t^*} P_{Ft}(j)^{1-\varepsilon_D} dj\right]^{\frac{1}{1-\varepsilon_D}}. \tag{A.32}$$

E.6 Capital Goods Producers

Capital Goods Producers choose I_t^k to solve:

$$\max E_s \sum_{t\geq s} \beta^{t-s}\Lambda_{s,t} I_t^k \left(p_t^k - \left[1 + \frac{\kappa}{2}\left(\frac{I_t^k}{I_{t-1}^k} - 1\right)^2 \right] \right), \tag{A.33}$$

Their optimality condition is:

$$p_t^k = 1 + \frac{\kappa}{2}\left(\frac{I_t^k}{I_{t-1}^k} - 1\right)^2 + \kappa\left(\frac{I_t^k}{I_{t-1}^k} - 1\right)\frac{I_t^k}{I_{t-1}^k} - E_t\beta\Lambda_{t,t+1}\kappa\left(\frac{I_{t+1}^k}{I_t^k} - 1\right)\left(\frac{I_{t+1}^k}{I_t^k}\right)^2. \tag{A.34}$$

E.7 Producers of Intermediate Varieties

Let $V(z_t, m_{t-1}, k_t; S_t)$ be the optimal value of a firm with individual state (z_t, m_{t-1}, k_t) when the aggregate state is S_t. $V(z_t, m_{t-1}, k_t; S_t)$ solves the following Bellman equation

$$V(z_t, m_{t-1}, k_t; S_t) = \max_{\substack{m_t(j), i_t(j), k_{t+1}(j), l_t(j), \\ p_{Ht}(j), p_{Ht}^*(j), y_{Ht}(j), y_{Ht}^*(j)}} \Pi_t^P - w_t m_t f(m_{t-1}) + E_t\Lambda_{t,t+1} V(z_{t+1}, m_t, k_{t+1}; S_{t+1}) \tag{A.35}$$

s.t.

$$\Pi_t^P(j) = p_{Ht}(j)\, y_{Ht}(j) + m_t(j)\, Q_t p_{Ht}^*(j)\, y_{Ht}^*(j) - w_t l_t(j) - p_t^k i_t(j) \tag{A.36}$$

$$y_{Ht}(j) + m_t(j)\, y_{Ht}^*(j) \leq A_t z_t(j)\, k_t(j)^\alpha\, l_t(j)^{1-\alpha}, \tag{A.37}$$

$$k_{t+1}(j) = (1-\delta)\, k_t(j) + i_t(j). \tag{A.38}$$

$$y_{Ht}(j) = \left[\frac{p_{Ht}(j)}{p_{Ht}}\right]^{-\varepsilon_D} D_{Ht} \tag{A.39}$$

$$y_{Ht}^*(j) = N_t^{-\lambda\varepsilon_D}\left[\frac{p_{Ht}^*(j)}{p_{Ht}^*}\right]^{-\varepsilon_D} D_{Ht}^*. \tag{A.40}$$

Optimality conditions are:

$$p_{Ht}(j) = Q_t p_{Ht}^*(j) = \frac{\varepsilon_D}{\varepsilon_D - 1}\frac{w_t l_t(j)}{(1-\alpha)\left[A_t z_t k_t^\alpha l_t^{1-\alpha}(j)\right]}, \tag{A.41}$$

$$l_t(j) = (k_t)^{1-v}(A_t z)^{(\varepsilon_D - 1)v}\left(\frac{w_t}{\xi}\right)^{-\varepsilon_D v}\Gamma_t(m_t(j))^v \tag{A.42}$$

$$p_t^k = E_t\Lambda_{t,t+1} V_{k,t+1}(j). \tag{A.43}$$

$$k_{t+1}(j) = (1-\delta)\, k_t(j) + i_t(j). \tag{A.44}$$

$$
\begin{aligned}
p_t^k\left(K_{t+1}^1-K_{t+1}^0\right)+w_t f\left(m\right) \;=\;& \left[z_{mt}^{(\varepsilon_D-1)v}\left(1-\xi\right)\left(\frac{w_t}{\xi}\right)^{1-\varepsilon_D v}\left(K_t^m\right)^{1-v}\right]\left[\Gamma_t\left(1\right)^v-\Gamma_t\left(0\right)^v\right] \\
&+E_t\Lambda_{t,t+1}\left[V\left(z',1,K_{t+1}^1;S_{t+1}\right)-V\left(z',0,K_{t+1}^0;S_{t+1}\right)\right]. \quad \text{(A.45)}
\end{aligned}
$$

where $\Gamma_t\left(m_t\right)$, v and ξ are defined in the paper.

Aggregation of equations (A.41)-(A.45) follows Alessandria and Choi (2007) and the definition of equilibrium is standard.

F Construction of the Model's Impulse Response Functions

Let $\mathcal{M}_{t-1}$ be a vector containing the state of the economy at time $t-1$ and $\mathbf{T}(\mathcal{M}_{t-1}; \underline{\boldsymbol{\epsilon}}_t)$ the function determining the transition of the state from $t-1$ to t, given $\mathcal{M}_{t-1}$ and a vector $\underline{\boldsymbol{\epsilon}}_t$ for the realization of all shocks at t, i.e. $\mathcal{M}_t = \mathbf{T}(\mathcal{M}_{t-1}; \underline{\boldsymbol{\epsilon}}_t)$. The risk adjusted steady state is $\bar{\mathcal{M}}$ which satisfies:

$$\bar{\mathcal{M}} = \mathbf{T}\left(\bar{\mathcal{M}}; \underline{\mathbf{0}}\right)$$

We compute responses to a sequence of n shocks $\{\underline{\boldsymbol{\epsilon}}_t\}_{t=0}^{n}$ by starting the economy in the risk adjusted steady state, $\mathcal{M}_{-1} = \bar{\mathcal{M}}$, and computing the evolution of the state given the assumed shocks from time 0 to n and setting all future shocks to 0, i.e. $\underline{\boldsymbol{\epsilon}}_t = 0$ for $t \geq n+1$:

$$\mathcal{M}_{t+1} = \begin{cases} \mathbf{T}(\mathcal{M}_t; \underline{\boldsymbol{\epsilon}}_t) & \text{if } t \leq n \\ \mathbf{T}(\mathcal{M}_t; \underline{\mathbf{0}}) & \text{if } t > n \end{cases}$$

We then plot for each variable, the values of the associated policy function computed along this path for the state. Notice that, given our nonlinear policy functions, these values are different from conditional expectations given the sequence of shocks $\{\underline{\boldsymbol{\epsilon}}_t\}_{t=0}^{n}$.

The capital differential in the impulse response function is the percentage point deviation from steady state of the following variable:

$$E_0\left(\frac{k_t(i) - k_{-1}(i)}{k_{-1}(i)} |\; m_0(i) = 1\right) - E_0\left(\frac{k_t(i) - k_{-1}(i)}{k_{-1}(i)} |\; m_0(i) = 0\right)$$

where we approximate

$$\hat{K}_t^1 \approx E_0\left(k_t(i) \mid m_0(i) = 1\right)$$

as follows. Let Π_0^t denote the probability that a firm that exports at time 0 will export at time t. Then Π_0^t is given by

$$\Pi_0^0 = 1$$

$$\Pi_0^t = \Pr_0\left(m_t(i) = 1 | m_0(i) = 1\right) = \Pi_0^{t-1} \Pr_0\{z_t > z_{1,t}\} + \left(1 - \Pi_0^{t-1}\right) \Pr_0\{z_t > z_{0,t}\} \quad for\ t \geq 1.$$

Then we compute

$$\hat{K}_t^1 = \Pi_0^t\ K_t^1 + \left(1 - \Pi_0^t\right) K_t^0$$

and similarly

$$\hat{K}_t^0 = E_0\left(k_t(i) \mid m_0(i) = 0\right) = \Pi_{n,0}^t\ K_t^0 + \left(1 - \Pi_{n,0}^t\right) K_t^1$$

$$\Pi_{n,0}^0 = 1$$

$$\Pi_{n,0}^t = \Pr_0\left(m_t(i) = 0 | m_0(i) = 0\right) = \Pi_{n,0}^{t-1} \Pr_0\{z_t > z_{1,t}\} + \left(1 - \Pi_{n,0}^{t-1}\right) \Pr_0\{z_t > z_{0,t}\} \quad for\ t \geq 1.$$

G Additional Tables

Table A.2: Episodes of High Aggregate Trade Policy Uncertainty

U.S. Administration	*Policy Action*	*Quarter*	*Quotes or Additional Narrative Material*
President Kennedy	Trade Negotiations	1960q1	"This is the year to decide. The Reciprocal Trade Act is expiring. We need a new law—a wholly new approach—a bold new instrument of American trade policy. Our decision could well affect the economic growth of our Nation for a generation to come. "
President Nixon	Tariff Increase	1971q4	"I am taking one further step to protect the dollar, to improve our balance of payments, and to increase jobs for Americans. As a temporary measure, I am today imposing an additional tax of 10 percent on goods imported into the United States. This is a better solution for international trade than direct controls on the amount of imports. This import tax is a temporary action...When the unfair treatment is ended, the import tax will end as well."
President Ford	Tariff Increase	1975q2	"...we need immediate action to cut imports. ...Therefore, I am using Presidential powers to raise the fee on all imported crude oil and petroleum products...To that end, I am requesting the Congress to act within 90 days on a more comprehensive energy tax program. It includes: excise taxes and import fees totaling $2 per barrel on product imports and on all crude oil; deregulation of new natural gas and enactment of a natural gas excise tax...I am prepared to use Presidential authority to limit imports, as necessary, to guarantee success...To provide the critical stability for our domestic energy production in the face of world price uncertainty, I will request legislation to authorize and require tariffs, import quotas, or price floors to protect our energy prices at levels which will achieve energy independence."

NOTE: Narrative analysis of major increases in aggregate trade policy uncertainty.

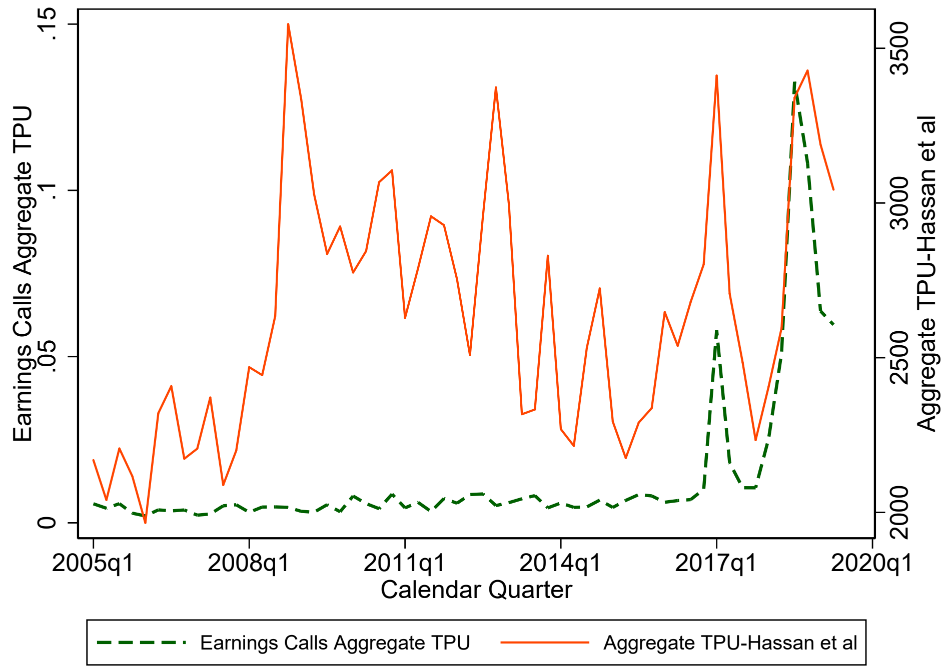
Table A.3: Selected Quotes from Earnings Call Transcripts Mentioning Trade Policy Uncertainty

Company Name	*Sector*	*Quarter*	ΔK_{t+2}	*TPU*	*Selected Quotes Mentioning Trade Policy Uncertainty*
INTL PAPER	Business Supplies	2015q2	-1.8	1	Q: ... Just turning to Brazil. [...] Potentially, higher taxes and tariffs on energy usage. A: I mean, the Brazil packaging business is in the same market, experiencing the same dynamics as our paper business. So, demand has been a challenge.
CABOT CORP	Chemicals	2016q2	-2.9	1	There is some concern about [inventories] – with anti-dumping duties against truck tires out of China that, that could cause the same phenomenon to happen again. But I think we are probably closer to natural inventory levels than certainly we were over the last 18 months or so as those passenger car duties were implemented.
FORD MOTOR CO	Automobiles and Trucks	2016q3	-.8	1	This is probably the best place to talk about the ongoing effect of Brexit. [...] We are not going beyond that in terms of what happens once they actually leave, because there's just too much uncertainty, particularly around what will happen with tariff barriers.
TREEHOUSE FOODS INC	Food Products	2017q1	-5	1	At this point it's really unclear what is going to change. Some of the things that have been talked about include a lower corporate tax rate, potential elimination of interest deductibility, and increases in import tariffs. [...] We also import a great deal of our inputs by necessity like other food companies. As such any potential benefits to us of a lower tax rate may be more muted than one might initially think.
SUNPOWER	Electronic Equipment	2017q3	-13.1	3	In September, the ITC is scheduled to decide whether to recommend the imposition of import tariffs or quotas on solar panels and to subsequently propose specific remedies in November. [...] the requested remedies could significantly impact the U.S. solar market, imposing a direct burden on manufacturers
RENEWABLE ENERGY GROUP	Petroleum and Natural Gas	2017q3	-3.3	2	Q: I wanted to ask thoughts around the postponed EU vote last week around Argentina's challenge to the EU antidumping duties there and if there is the potential for gallons to potentially flow back into the EU from Argentina and Indonesia. A: Well, we were certainly watching that as it affects our European operation margins...
BROADWIND ENERGY	Machinery	2017q3	-6.6	1	Q: Have you done any type of quantitative impact or assessment on [...] the towers business, but potentially all of your segments, if such a [steel] tariff was put into place? A: It's not – would not be a good thing, because of the steel that we consume in our businesses.
HARLEY-DAVIDSON INC	Consumer Goods	2018q2	-1.4	3	So looking at the impact of tariffs, every information that we have now, highly volatile situation, who is in, who is out, what's happening to the market prices, but we would expect an additional $15 million to $20 million on top of already rising raw materials that we expected at the start of the year. So that's going to provide quite a headwind for the company over the next several quarters.
AMERICAN WOODMARK CORP	Chemicals	2018q3	-2.3	5	So the tariffs are really more of a – I'll say more of a negative impact on American companies just because of the fact that they're importing a Chinese product. And by taxing or by tariffing the component side, it hurts American companies as well.
DECKERS OUTDOOR CORP	Apparel	2018q3	-1.7	2	Q: [...] you guys talked about how part of your cost of sales improvement would come from moving production out of China. Can you just kind of update us on where you are in that process? I know you talked about supply chain already, but is that part of that? And is there still more to be done there? A: Yes, it's a great question, and particularly as these tariff conversations continue to loom. We've been working over the last 18 months.
MYERS INDUSTRIES INC	Rubber and Plastic Products	2018q3	-2.4	2	[...] we have put in a fairly conservative view for the second half for our ag business, and that's primarily because of the activity around trade tariffs.

NOTE: Selected mentions of firm-level trade policy uncertainty extracted from the earnings call which are followed by a decline in firm-level investment two calendar quarters ahead. The sectors are grouped according to the Fama-French 49 industries. The ΔK_{t+2} column indicates the percent change in the firm's capital stock two calendar quarters subsequent to the mention. The TPU column lists the total number of mentions of trade policy uncertainty in the transcript of the earnings call.

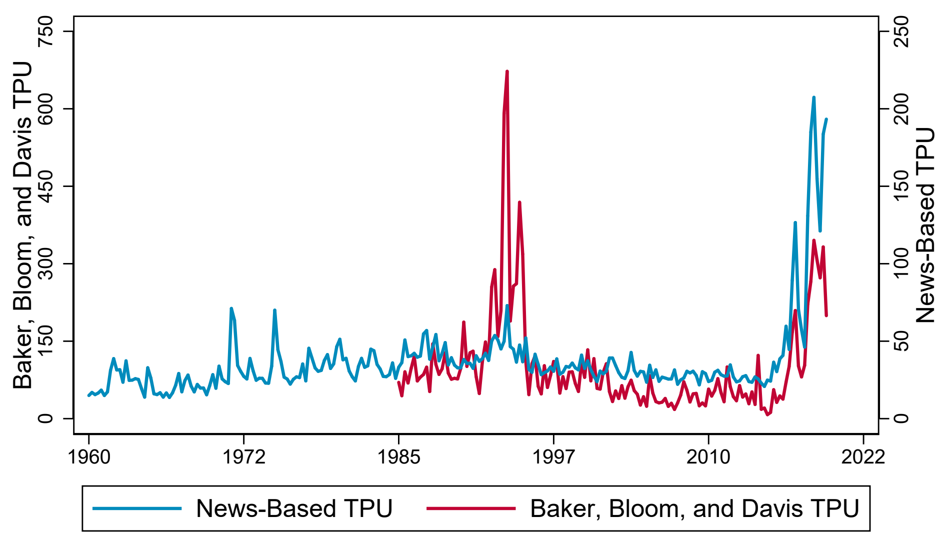
H Additional Figures

Figure A.1: Comparison with Hassan et al. (2019)



Note: Aggregate TPU from earnings calls in this paper and in Hassan et al. (2019)

Figure A.2: Comparison with Baker et al. (2016)



Note: News-based TPU in this paper and in Baker et al. (2016).

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