



MALAYSIA

SELECTED ISSUES

February 2026

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February 4, 2026

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UNPACKING THE EFFECTS OF TRADE POLICY UNCERTAINTY ON ASEAN ECONOMIES¹

Trade policy uncertainty (TPU) has reached record highs in recent years. To better understand its effects, this paper develops granular TPU measures for several ASEAN economies that distinguish between protectionist and trade agreement-based uncertainty, as well as differences between 'own'-country TPU shocks and third-party TPU shocks (i.e., spillovers from TPU in trading partner economies). The results indicate that third-party protectionist TPU shocks are the most detrimental to output per capita, followed by third-party agreement TPU shocks and own protectionist TPU shocks. For third-party TPU shocks, declines in investment and private consumption disproportionately offset stronger trade balances that likely stem from reallocated trade flows to ASEAN, in line with prior literature. Own protectionist TPU shocks weigh directly on economies' trade balances while putting upward pressure on inflation over the medium term. Finally, in contrast to the other findings, own agreement TPU shocks are associated with a small boost to output per capita. This may reflect anticipatory investment effects for potential expanded economic activity once the tension is resolved; however, that potential does not appear to materialize in stronger trade balances, and the initial boost to investment and its effect on output per capita wane over time.

A. Introduction

1. Trade policy uncertainty (TPU) has recently reached historic highs, with an expansive literature suggesting it has negative implications for growth in ASEAN economies and beyond.² At a macro-level, the literature finds that higher TPU leads to poor economic outcomes including sluggish investment and low productivity growth, as well as puzzles like the disconnect between changes in real effective exchange rates (REER) and export performance (Caldara et al., 2020; Handley & Limao, 2015; Hlatshwayo & Saxegaard, 2016; Zhou & Ji, 2022). At the micro-level, firms have long cited policy uncertainty as a primary impediment to doing business, and studies show larger declines in employment and investment growth and higher stock volatility for firms exposed to policy uncertainty (Baker et al., 2016; Gulen & Ion, 2016; Smith & Hallward-Driemeier, 2005).

¹ The authors thank Masahiro Nozaki, the Malaysian authorities, and IMF colleagues for helpful comments and discussions. We also thank Douglas Foster (Northwestern University, Medill School of Journalism), Kenichi Serino (formerly at PBS NewsHour and a professor at University of Witwatersrand School of Journalism), Sam Fleming (Economics Editor at the Financial Times), and Juliana Goldman (formerly at CBS and Bloomberg News) for insights that helped the authors design the paper's measures.

² Policy uncertainty can reflect uncertainty about the economic impacts of policy actions (e.g., uncertainty about the impact of an agreed upon trade deal); uncertainty over who will make policy choices; uncertainty created by policy inaction (e.g., the choice to delay decisions on the federal budget); and uncertainty about policy responses to non-economic shocks (e.g., a natural disaster).

2. However, the existing literature may miss important variation in the effect of various types of TPU.³

Baker et al.'s (2016) 'news-chatter' trade policy uncertainty measure uses counts of articles where the term set includes phrases that relate to both uncertainty stemming from protectionism and uncertainty related to trade agreements (e.g., the WTO), as well as broader government subsidies (see Annex I for this and the below mentioned term sets). The inclusion of broader government subsidies may dilute the trade-focused aspect of their measure since subsidies are often introduced for reasons that do not relate to trade policy. Caldara et al.'s (2019) measure is similar in construction and based on a narrow set of largely U.S.-based newspapers, restricting its ability to capture TPU in other countries. Ahir et al.'s measure (2022) uses *Economist Intelligence Unit* reports instead of newspapers but also includes a broad set of trade terms that pool protectionism and trade agreements.

3. Theory suggests TPU shocks can have both positive and negative effects on economic outcomes.

Under real options theory, in an environment with rising policy uncertainty and in the presence of fixed and irreversible costs, the benefit of delaying decisions ('waiting and seeing') rises, hindering investment, hiring, and firm performance (e.g., Bernanke, 1983; Baldwin & Krugman, 1989; Rodrik, 1991; and Dixit & Pindyck, 1994).⁴ Risk premia theories highlight that higher policy uncertainty raises the cost of borrowing given that the probability of bad outcomes increases and investor confidence is negatively affected (Bloom, 2014). In contrast, the growth options literature posits that investments with bounded worst-case outcomes paired with the potential for large (or unconstrained) economic returns will induce firms to invest in the face of increasing uncertainty, if that uncertainty also increases the potential upside effects of an outcome (Bloom, 2014). The insight of the growth options literature, sometimes applied to investment decisions for new technologies, may be appropriate in the context of historical trade agreement negotiations. Historically, the 'worst case' outcome of trade deals tended to be that the negotiations fell apart, defaulting to the status quo of trading relationships being maintained (i.e., existing WTO, bilateral, and regional agreements and distribution networks). At the same time, the size of the potential prize in the event that negotiations eventually proved successful was often large (e.g., China's accession to the WTO or the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CP-TPP) negotiations), incentivizing early investments amid uncertainty in order to gain advantage should the upside outcome materialize. Given that the theoretical literature is inconclusive, empirical evidence can help shed light on the different types of TPU's effects on economic agents.

4. This paper examines variation in different types of TPU effects by improving on the measurement of TPU and exploring spillovers from other economies' TPU shocks.

There are three primary contributions to the existing literature. First, the paper distinguishes between trade

³ The advent of news aggregators has allowed for more nuanced measurement of various types of policy uncertainty over the past decade, helping build on prior measures of policy uncertainty that relied on elections, stock market volatility, strikes, and mentions of uncertainty in central banks' statements.

⁴ Bloom (2009) extended this work, constructing a quantitative real business cycle model of firms facing uncertainty and non-convex labor and capital adjustment costs. The model features a zone of inaction for investment and hiring, which increases in size as uncertainty increases. This results in pro-cyclical growth in productivity, a stylized fact of business cycles.

policy uncertainty stemming from tariffs and trade restrictions (“protectionist TPU”) and uncertainty stemming from trade agreements and frameworks (“agreement TPU”). Second, the new measures also distinguish between uncertainty stemming from trade restrictions or agreements that affect Malaysia (“own TPU”) and uncertainty stemming from trade restrictions or agreements that affect other economies (“third-party TPU”). Examples of TPU shocks across the two types and two geographies are shown in Table 1. Our analysis of third-party TPU contributes to an emerging literature: for example, Colombo (2013) finds that shocks to U.S. economic policy uncertainty generate drops in European industrial production, and Wolfers & Zitzewitz (2016) find that countries with U.S. free trade agreements saw larger exchange rate movements in response to news about the 2016 presidential election. Finally, the paper also focuses on impacts of TPU on Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam (hereafter referred to as the ASEAN6)—a set of countries that has been particularly exposed to both protectionist and trade agreement uncertainty associated with both direct tensions as well as spillovers from third-party economies’ tensions given their deep integration in global value chains (Baek et al., 2023).

B. Granular TPU Measures: Methodology & Stylized Facts

5. We construct granular TPU measures for the ASEAN6 to differentiate between protectionism and trade agreement TPU and by own vs. third-party uncertainty TPU. To do so, we develop protectionist and agreement TPU measures for the ASEAN6 at a monthly frequency from January 1995 to August 2025, as well as for their 19 trading partners for the purpose of constructing the third-party measures.⁵ The steps are as follows:

- First, for each of the 25 economies, we ran three search algorithms on Dow Jones’ Factiva news aggregator: a country-specific protectionist TPU algorithm, a country-specific agreement TPU algorithm, and a country-specific ‘normalization’ algorithm that controls for differences in Factiva’s source coverage over time and broader

Table 1. Malaysia: Examples of Malaysia’s Trade Policy Uncertainty Measures Across Type and Geography

TPU Type	Description	Example Shocks
Own Protectionist TPU	Own country TPU related to tariffs and trade restrictions like import quotas or licenses	US 2025 tariff threats and actions
Third-Party Protectionist TPU	Protectionist TPU measures of key trade partners, weighted by export shares	US-China 2018 tariff actions
Own Agreement TPU	Own country TPU related to trade agreements and frameworks like WTO negotiations or trade bloc talks	US-Malaysia 2007 free trade agreement talks
Third-Party Agreement TPU	Agreement TPU measures of key trade partners, weighted by export shares	US-China 2019 Phase 1 deal negotiations

Sources: IMF staff.

⁵ The total sample of economies includes: Australia, Brazil, Canada, the Chinese mainland, Germany, Spain, France, United Kingdom, Hong Kong SAR, Indonesia, India, Italy, Japan, Korea, Mexico, Malaysia, New Zealand, Philippines, Russia, Singapore, Thailand, Taiwan Province of China, United States, Vietnam, and South Africa.

disparities in media attention across economies. Factiva covers over 36,000 sources in multiple languages, with over 1 billion articles in English alone.⁶

- The normalization search algorithm counts the number of articles that make a generic reference to the country and are over 99 words. The search algorithms for protectionist and agreement TPU count the number of articles that meet a quadruple metric: (1) mention of a trade policy type within eight words of uncertainty and its synonyms, (2) which must also be within eight words of a country reference; (3) the article cannot contain mention of excluded terms and phrases that add noise to the measure (e.g., stock market trading); and (4) must be over 99 words to avoid ‘ticker’ articles that contain short news excerpts about several economies. Examples of the algorithms’ terms for agreement and protectionist uncertainty are listed below.
 - Protectionist: tariffs, trade restrictions, trade war, protectionism, export licenses, import licenses, local content requirements.
 - Agreement: World Trade Organization, WTO, FTA, trade deal, trade agreement, trade negotiations.
- For each country i , month t , and trade policy type (protectionist or agreement), the raw TPU measure is the count of the articles that match the criteria of the TPU type algorithm divided by a moving average of the count of articles that match the normalization search algorithm (i.e., articles that make a general reference to the country and are over 99 words).⁷ This generates 50 raw TPU measures (25 for country-specific protectionist TPU and 25 for country-specific agreement TPU). Given that the TPU search algorithms are a stricter version of the normalization search algorithms, the raw TPU values are bounded between 0 and 1 and can be interpreted as the share of country i ’s media coverage that is related to either protectionist or agreement TPU.

$$\text{Raw Protectionist TPU}_{i,t} = \frac{\# \text{ of Articles about Protectionism TPU \& Country } i_{i,t}}{\frac{1}{13} \sum_{k=-6}^6 \# \text{ Articles about Country } i_{i,t+k}}$$

$$\text{Raw Agreement TPU}_{i,t} = \frac{\# \text{ of Articles about Agreement TPU \& Country } i_{i,t}}{\frac{1}{13} \sum_{k=-6}^6 \# \text{ Articles about Country } i_{i,t+k}}$$

- To enhance the interpretation of the measures, we scale the 50 raw measures to have a mean of 100 over the period from 1995 to 2015 across both types of TPU, in line with similar approaches from the literature (e.g., Baker, Bloom, and Davis, 2016). This allows us to compare more recent spikes in the protection and agreement TPU measures to a historical benchmark of TPU, across economies and time. For example, a value of 150 for a country’s protectionist TPU in period t

⁶ These sources include almost 700 newswires (e.g., the Associated Press and Reuters) and all major newspapers. The news aggregator allows for filtering of results by language, source location, geographic coverage, company/industry, and a select group of subjects.

⁷ When policy uncertainty spikes, general coverage of the country spikes (e.g., the 2018-19 trade tensions for China), diluting the measure of policy uncertainty in periods of high policy uncertainty. In order to mitigate this attenuation bias, we use a 1-year moving average of the normalization counts centered at time t .

means that it is 50 percent higher than the 1995-2015 historical average, which can also be directly compared to that same country's agreement TPU in the same or different period, and other economies' related measures. The scaled indices represent the 'own' protectionist and agreement TPU measures.

$$\text{Own Protectionist TPU Index}_{i,t} = \frac{\text{Raw Protectionist TPU}_{i,t}}{\text{Pooled Mean (1995 – 2015)}} \times 100$$

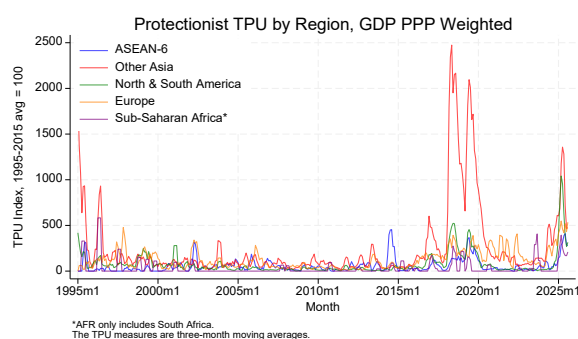
$$\text{Own Agreement TPU Index}_{i,t} = \frac{\text{Raw Agreement TPU}_{i,t}}{\text{Pooled Mean (1995 – 2015)}} \times 100$$

- The third-party protectionist TPU measure for each of ASEAN6 (Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam) is defined as the weighted average of trading partners' own protectionist TPU indices, using each ASEAN6 country i 's export shares to destination j as weights. Similarly, the third-party agreement TPU measure for each of ASEAN6 is defined as the weighted average of trading partners' own agreement TPU indices. The export shares are based on annual export data through 2024 to smooth for monthly volatility in trade volumes. Given that we only produced the own TPU measures for 25 economies, not all export destinations are covered; however, on average, the share of total average exports covered over the sample period is 85 percent.⁸ For the empirical analysis that follows, we take the simple average of the own and third-party monthly indices across quarters and annually by country. See Annex II for further details on construction of the measures.

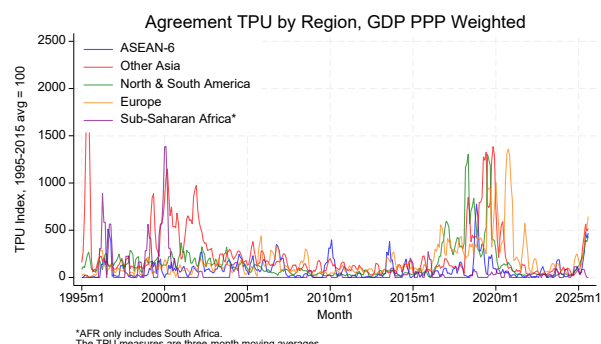
$$\begin{aligned} \text{3rd Party Protectionist TPU Index}_{i,t} &= \sum_{j \neq i} \text{Export Share}_{i,j,t} \times \text{Own Protectionist TPU Index}_{j,t} \\ \text{3rd Party Agreement TPU Index}_{i,t} &= \sum_{j \neq i} \text{Export Share}_{i,j,t} \times \text{Own Agreement TPU Index}_{j,t} \end{aligned}$$

6. Looking across regional averages, the own protectionist and own agreement TPU measures capture major global TPU shocks (Figure 1). Protectionist peaks include the threat of 1995 US-China trade tensions; 2018-19 US-China trade tensions; European multifront trade tensions during 2021-22, including post-Brexit UK disputes and steel trade tensions; and the spike in protectionism in 2025. For trade agreement TPU, major shocks include Japanese auto trade talks with the US and EU in 1995; uncertainties related to China's accession to the WTO in the early 2000s; the renegotiation of NAFTA and the formation of CP-TPP in 2018; 2019 EU-MERCOSUR negotiations; 2018-19 US-China Phase 1 trade deal; 2020 Brexit trade deal talks; and recent uncertainties around the 2025 trade negotiations between the US and its trading partners. For the results by income group, see Annex III. We now turn to ASEAN6 developments in more detail.

⁸ Across the ASEAN6, it is as follows: Indonesia (86.2 percent); Malaysia (86.6 percent); Philippines (89.5 percent); Singapore (84.6 percent); Thailand (79.0 percent); and Vietnam (83.5 percent). When computing the export shares to construct the third-party index, we use the total amount of exports from the 24 j economies as the denominator.

Figure 1. Malaysia: Own Trade Policy Uncertainty, By Type and Region: 1995 to 2025

Sources: IMF staff calculations.



Sources: IMF staff calculations.

7. ASEAN6's own protectionist and agreement average TPU is low and less volatile compared to other regions (Table 2). For both TPU measures, the average and standard deviation over 1995-2025 are lower in ASEAN6 than in Asia and the Pacific excluding ASEAN6 ("other Asia"), Europe, and North and South America. In contrast, other Asia has the highest averages and standard deviations across both types of TPU, largely driven by shocks to China and Japan.

Table 2. Malaysia: Own Trade Policy Uncertainty Sample Statistics, by Type and Region

Own Protectionist TPU Index, GDP PPP Weighted	Mean	Standard Deviation
ASEAN6	58.4	77.9
Other Asia	258.5	423.4
North & South America	79.0	123.3
Europe	124.4	108.9
Sub-Saharan Africa*	35.1	85.9

Note: The table shows the mean and standard deviations for the weighted averages of the measures over the sample period. *Sub-Saharan Africa only includes South Africa.

Sources: IMF staff calculations.

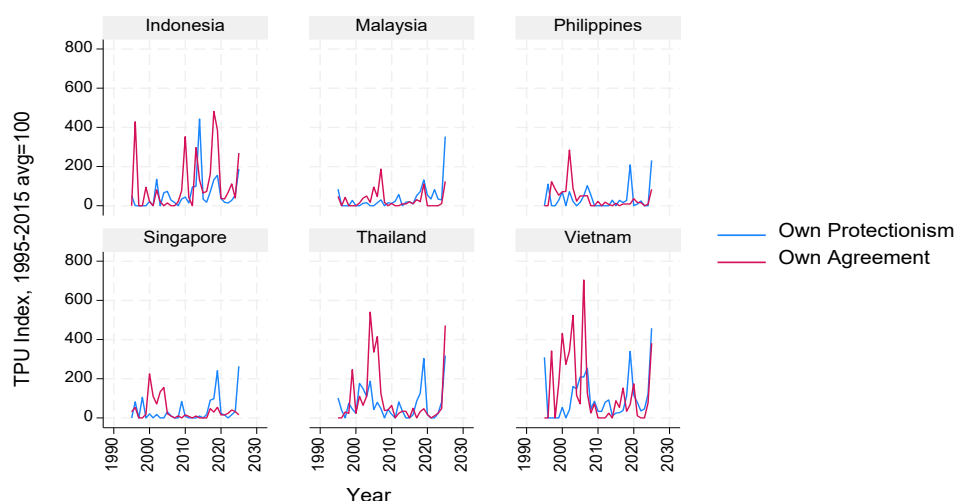
Own Agreement TPU Index, GDP PPP Weighted	Mean	Standard Deviation
ASEAN6	84.4	105.6
Other Asia	247.0	296.3
North & South America	149.4	190.7
Europe	171.4	197.4
Sub-Saharan Africa*	57.4	161.3

Note: The table shows the mean and standard deviations for the weighted averages of the measures over the sample period. *Sub-Saharan Africa only includes South Africa.

Sources: IMF staff calculations.

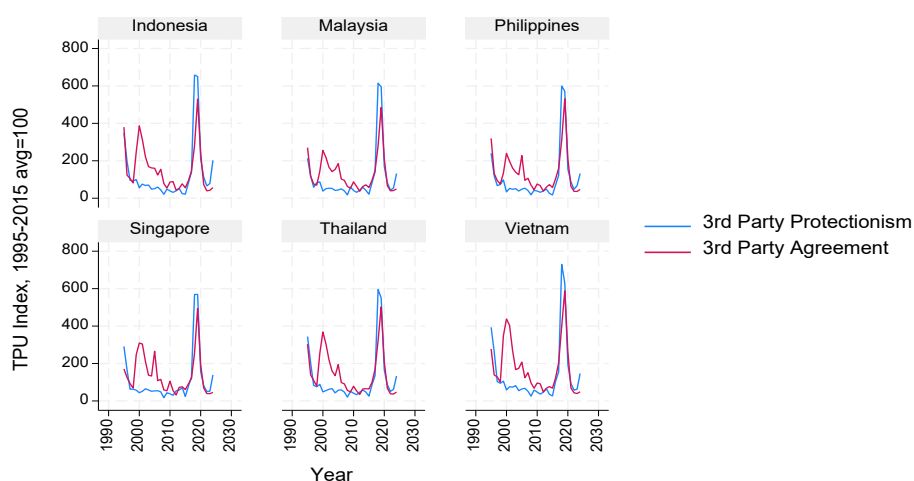
8. Amongst ASEAN6 countries, there is considerable variability across the own protectionist and agreement TPU measures, with Malaysia, Philippines, and Singapore showing lower TPU averages and volatility than their ASEAN peers (Table 2, Annex III). For almost all of the ASEAN6 economies, both own protectionist and agreement TPU spiked in 2025 following higher US tariffs and associated uncertainty with trade deals (Figure 2, which shows annual data using the average through August for 2025). For Malaysia, protectionist TPU also rose following a 2012 US anti-dumping threat on magnesium exports, uncertainties related to Malaysia's response to the 2018 US-China tensions, and a 2022 food export ban. Malaysia's agreement TPU peaked following 2007 Malaysia-US FTA talks and a threatened 2019 WTO palm oil dispute with the EU.

Figure 2. Malaysia: ASEAN6 Own Trade Policy Uncertainty, By Type: 1995 to 2025



9. The third-party protectionist and agreement TPU measures follow broadly the same pattern across ASEAN6 countries due to similarity in their export destinations (Figure 3). For all ASEAN6 countries, the protectionist third-party TPU spiked following 1995 US-China trade tensions, the 2018-19 US-China trade tensions, and 2024 trade disputes between China and some of its trading partners (US, Canada, and the EU). Their third-party agreement TPU spiked following US-Japan auto trade negotiations in 1995, China's WTO accession in the early 2000s, 2017-18 NAFTA renegotiation and the formation of CP-TPP, and the 2019 US-China Phase 1 deal. Figure 3 does not include 2025, as full-year trade data were not yet available.

Figure 3. Malaysia: ASEAN6 Third-Party Trade Policy Uncertainty, By Type: 1995 to 2024



10. Our granular TPU measures provide new information relative to the existing measures of trade policy uncertainty. Table 3 shows that the ASEAN6 own protectionist and agreement TPU measures are positively correlated with various measures of trade policy uncertainty, but not strongly so. For the ASEAN6 protectionist TPU measures, correlation coefficients are 0.24 and 0.37 with the global economic policy uncertainty (EPU) and US TPU measures by Baker, Bloom, and Davis (2016), respectively, and 0.37 with the TPU measure by the Caldara et al. (2019). The correlation between the ASEAN6's protectionist TPU and the World Trade Uncertainty Index (WTUI) by Ahir et al. (2022) is relatively high at 0.49, which may reflect WTUI's global coverage of the Economist Intelligence Unit reports that the authors run their algorithms on, compared to the selection of US-centric newspapers that other authors use. In contrast to the protectionist TPU measure, the ASEAN6 agreement TPU measures are not highly correlated with alternative uncertainty measures (with an exception for the WTUI), suggesting that the new agreement measures provide a large degree of new information not captured by alternative uncertainty measures.

Table 3. Malaysia: Correlation between Own TPU Measures and Other Uncertainty Measures

ASEAN6	Trade Protectionism	Trade Agreement
Trade Protectionism	1	0.19
Trade Agreement	0.19	1
Global EPU	0.24	-0.04
US TPU	0.37	0.10
World Trade Uncertainty Index	0.49	0.31
Caldara TPU	0.37	0.09
China TPU	0.30	0.03
Equity Market Volatility TPU	0.33	0.09

Note: All alternative uncertainty measures are sourced from policyuncertainty.com and include measures from Baker, Bloom, and Davis (2016), Caldara et al. (2019), and Ahir et al. (2022).

Sources: IMF staff calculations.

C. Empirical Methodology

11. To examine the effects of granular TPU shocks on ASEAN6 economies, we use local projection specifications. Each regression is run using annual data from 1995 to 2024 and traces the cumulative effects of TPU shocks for ASEAN6 economies at horizons up to five years ahead. Given the high correlation between the third-party TPU protectionist and agreement measures and to assess whether the extent of trade exposure affects outcomes, we interact third-party TPU shocks with each economy's average trade openness to estimate the marginal effect of third-party protectionist and agreement TPU on outcomes, conditional on trade exposure. Specifically, the four baseline regressions take the following forms:

$$\text{Own Protectionist TPU: } y_{i,t+h} - y_{i,t-1} = \alpha_h + \beta_h \text{ Own TPU Protectionist Shock}_{i,t} + \sigma_h y_{i,t-1} + \Gamma_h \mathbf{X}_{it} + \rho_h \text{First Moment}_{it} + \theta_{i,h} + \varepsilon_{i,t+h}$$

$$\text{Own Agreement TPU: } y_{i,t+h} - y_{i,t-1} = \alpha_h + \beta_h \text{ Own TPU Agreement Shock}_{i,t} + \sigma_h y_{i,t-1} + \Gamma_h \mathbf{X}_{it} + \rho_h \text{First Moment}_{it} + \theta_{i,h} + \varepsilon_{i,t+h}$$

Third-Party Protectionist TPU: $y_{i,t+h} - y_{i,t-1} = \alpha_h + \delta_h \text{Third Party Protectionist TPU Shock}_{i,t} + \lambda_h \text{Third Party Protectionist TPU Shock}_{i,t} \times \text{Openness}_i + \sigma_h y_{i,t-1} + \Gamma_h \mathbf{X}_{it} + \rho_h \text{First Moment}_{it} + \theta_{i,h} + \varepsilon_{i,t+h}$

Third-Party Agreement TPU: $y_{i,t+h} - y_{i,t-1} = \alpha_h + \delta_h \text{Third Party Agreement TPU Shock}_{i,t} + \lambda_h \text{Third Party Agreement TPU Shock}_{i,t} \times \text{Openness}_i + \sigma_h y_{i,t-1} + \Gamma_h \mathbf{X}_{it} + \rho_h \text{First Moment}_{it} + \theta_{i,h} + \varepsilon_{i,t+h}$

Where:

- i = country, which refers to each of the 6 ASEAN6 countries;
- t = year, which covers 1995 through 2024;
- h = horizon, 0 through 5;
- y is the macroeconomic outcome of interest (log real GDP per capita; inflation; external balance ratios, investment ratios, consumption ratios, and log equity market indices);
- α is a constant;
- TPU shocks are dummies that take a value of 1 if the associated TPU is at least one standard deviation above the ASEAN6 mean, with the aim of identifying exogenous and sizeable TPU spikes—similar to those seen in recent years—and in line with the literature (e.g., Bloom, 2009)⁹;
- Openness = the sample average (1995 to 2024) of trade openness, measured as the sum of exports and imports as a share of GDP;
- $y_{i,t-1}$ is the lagged dependent variable to account for persistence in the outcome variable;
- $\mathbf{X}_{it}$ is vector of controls selected using the post-double-selection, machine-learning based LASSO approach (Belloni et al., 2014) on a comprehensive set of over 150 macro-financial controls—including trade, financial, fiscal, monetary, and structural indicators and their transformations—to capture dynamic and nonlinear relationships;
- First Moment_{it} is a control for revisions to IMF growth forecasts in year t between the Spring and Fall World Economic Outlooks in year $t-1$ to help distinguish uncertainty effects from realized shocks;
- θ_i are country fixed effects to control for time invariant country factors¹⁰; and
- $\varepsilon_{i,t+h}$ is the error term.

Standard errors are computed using a wild-cluster bootstrap procedure to address small sample bias concerns. See Annex IV for more details on the methodology, data sources, and frequency.

⁹ Given that the measures do not follow a normal distribution, one cannot assign a probabilistic framing to the size of the shock, as with traditional z-scores. Some papers in the literature opt for using a continuous standard deviation as the shock, which we do as a robustness check.

¹⁰ Time fixed effects are not included in the specification because the third-party shocks are highly correlated across countries, meaning that they are econometrically conflated with time fixed effects. In addition to the global time controls like VIX and oil prices, as a robustness check, Annex V shows the results controlling for major shock periods, namely the Covid-19 pandemic, global financial crisis, and the Asian financial crisis. The results remain qualitatively robust.

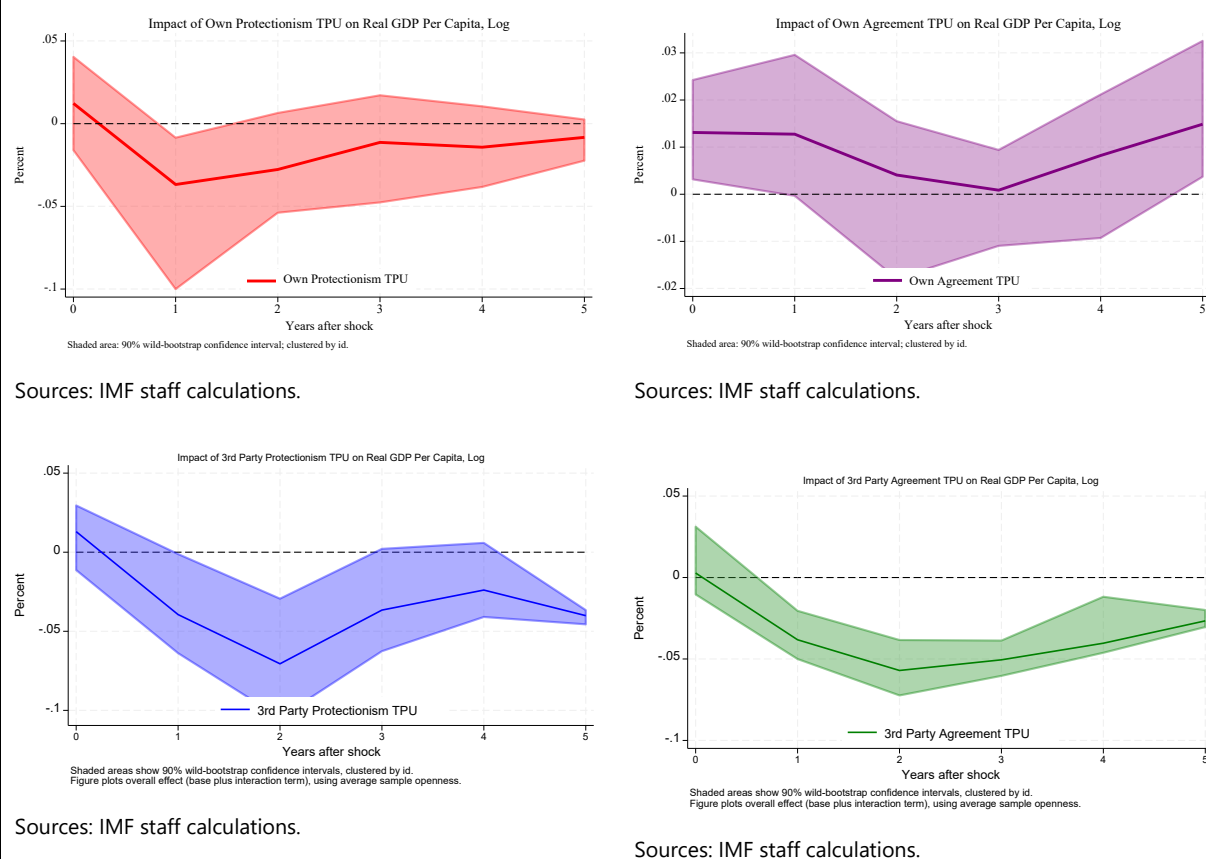
12. While the empirical design, machine-learning variable selection, and inference approach strengthen the analysis, causal interpretation remains subject to several caveats.

TPU shocks may still be correlated with omitted global or policy factors, and the assumption that spillovers scale with trade shares may break down during structural shifts. The relatively small panel implies greater uncertainty at longer horizons and limits external generalizability. Moreover, TPU indices proxy policy uncertainty and may partly capture shifts in media attention rather than underlying uncertainty. Finally, the regressions abstract from general equilibrium effects and feedback mechanisms. These limitations are common in macro-uncertainty studies and imply that the results should be interpreted as conditional dynamic patterns rather than definitive causal magnitudes.

D. Empirical Results

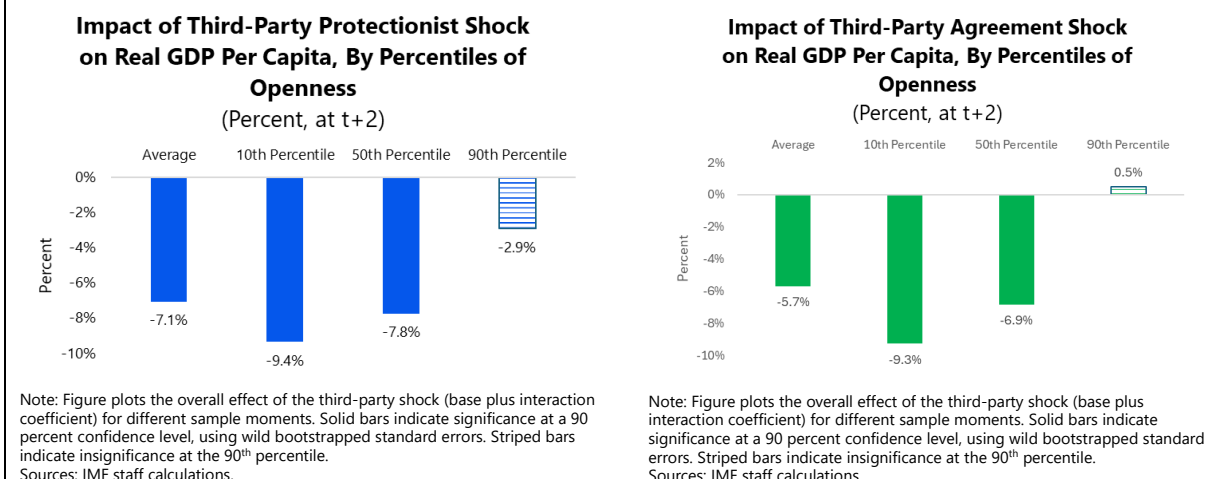
13. There is important heterogeneity in the impact of different types of TPU shocks, with third-party TPU spillovers weighing substantially on ASEAN6 output per capita over the medium term (Figure 4). Own protectionist TPU shocks (i.e., the dummy with a value of one for TPU periods one standard deviation above the ASEAN6 mean and zero otherwise) are associated with a statistically significant cumulative decline in real GDP per capita of 3.7 percent in period $t+1$ relative to the pre-shock level and compared to a counterfactual with no shock (upper left chart in Figure 4).¹¹ In contrast, own agreement TPU shocks show a positive significant average effect on real GDP per capita of 1.3 percent in the initial period (upper right chart in Figure 4). Both types of third-party TPU shocks are associated with large cumulative declines in real GDP per capita by period $t+2$. Third-party protectionist TPU shocks are associated with a 7.1 percent cumulative decline and third-party agreement TPU shocks are associated with a cumulative 5.7 percent decline (bottom left and right charts in Figure 4). The results suggest that the real options ('waiting and seeing') theoretical framing is empirically borne out by the own protectionist TPU and the third-party TPU shocks while own agreement TPU shocks can lend support for the growth options literature, where economic agents have an incentive to lean into spikes in uncertainty related to their own potential trade agreements. Also, the larger negative effect from third-party TPU shocks compared to own protectionist TPU shocks is consistent with the literature (e.g., Colombo's (2013) comparison of the effects of US vs. Euro policy uncertainty on the Euro area finds that the effect of US policy uncertainty is larger than that of Euro area policy uncertainty on industrial production). Finally, while the implied effects on output are large; such slowdowns may not practically materialize given that other positive shocks may have occurred offsetting the negative effects of the TPU shocks (e.g., an upswing in the global technology cycle); see ¶16 for additional robustness checks.

¹¹ Formally, this is the difference in the cumulative change in GDP per capita between $t-1$ and $t+1$ caused by the TPU shock at time t , relative to what the counterfactual path would have been without the TPU shock. For perspective, over the sample, average growth in real GDP per capita across the ASEAN6 is 3.1 percent per annum and median growth is 3.8 percent.

Figure 4. Malaysia: Impact of TPU Shocks on Real GDP Per Capita

14. Our results suggest that higher trade openness helps buffer ASEAN6 countries from the negative impact of third-party TPU shocks. For both the third-party protectionist and third-party agreement shock results, the coefficient on the interaction term is positive and significant in period $t+2$, highlighting that higher overall trade openness helps offset the negative effects of third-party TPU shocks. Figure 5 shows the overall effects of such shocks on GDP per capita at different percentiles of trade openness. At the 10th percentile of trade openness, third-party TPU shocks lead to declines in output per capita of around 9 percent by $t+2$. However, at the 90th percentile of openness (e.g., Singapore), the effect of third-party TPU shocks becomes insignificant. This finding fits with a broad literature that shows openness can buffer economies from crises by allowing them to rapidly reallocate and shift across different sources of demand and supply, especially for diversified economies (Caselli et al., 2020; Cavallo & Frankel, 2008; Gnangnon, 2016; Hossain et al., 2022).

Figure 5. Malaysia: Impacts of Third-Party TPU Shocks on Real GDP Per Capita Across Percentiles of Trade Openness

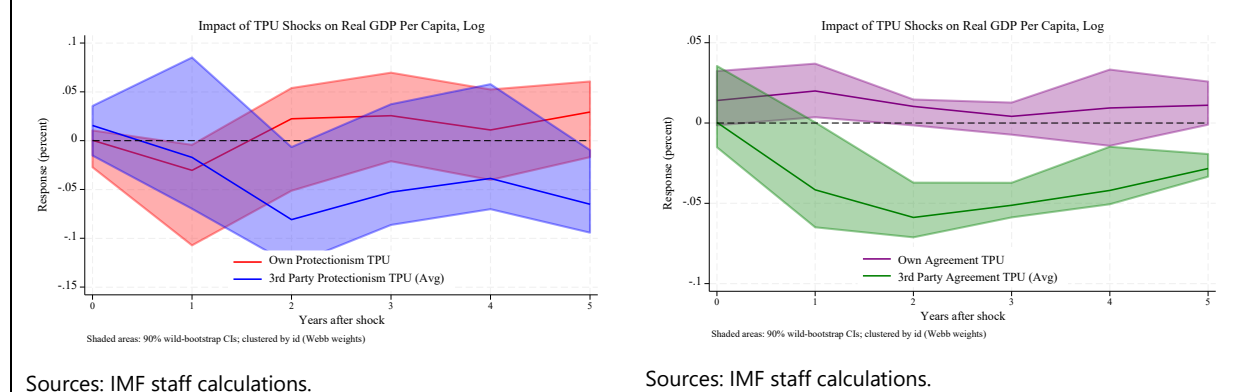


15. To directly explore the relative impact of spillovers for protectionist and agreement TPU and test the robustness of the individual shock specifications, we ran specifications with both own and third-party shocks (Figure 6). Specifically, we run the following two regressions:

Protectionist TPU: $y_{i,t+h} - y_{i,t-1} = \alpha_h + \beta_h \text{Own Protectionist TPU Shock}_{i,t} + \delta_h \text{Third Party Protectionist TPU Shock}_{i,t} + \lambda_h \text{Third Party Protectionist TPU Shock}_{i,t} \times \text{Openness}_i + \sigma_h y_{i,t-1} + \Gamma_h \mathbf{X}_{it} + \rho_h \text{First Moment}_{it} + \theta_{i,h} + \varepsilon_{i,t+h}$

Agreement TPU: $y_{i,t+h} - y_{i,t-1} = \alpha_h + \beta_h \text{Own Agreement TPU Shock}_{i,t} + \delta_h \text{Third Party Agreement TPU Shock}_{i,t} + \lambda_h \text{Third Party Agreement TPU Shock}_{i,t} \times \text{Openness}_i + \sigma_h y_{i,t-1} + \Gamma_h \mathbf{X}_{it} + \rho_h \text{First Moment}_{it} + \theta_{i,h} + \varepsilon_{i,t+h}$

While the size of the estimates change from the baseline specifications (e.g., own protectionist TPU's effect falls to a cumulative decline of 3.0 percent in period t+1 vs. 3.7 percent in the baseline regressions shown in Figure 4), the estimated impacts are qualitatively robust and significant, albeit with less precision given some correlation across the measures. More broadly, the results presented here and below should be interpreted with some caution given that the impulse responses are not statistically significant at most horizons (for additional methodological caveats, see ¶12).

Figure 6. Malaysia: Impact of TPU Shocks on Real GDP Per Capita: Dual-Shock Specifications

16. The results are also qualitatively robust to adding controls for historical crises, including all four TPU shocks in a single regression, and using a continuous version of the TPU shock variable. In Annex V, we add a dummy variable controlling for the Asian Financial Crisis, Global Financial Crisis, and Covid-19 pandemic, while Annex V also shows a specification with all four TPU shocks in the same equation. The results are qualitatively similar to the baseline results shown in Figure 4. We also run specifications using standardized continuous versions of the TPU measures, where the shocks are one standard deviation increases in the respective TPUs, following several papers in the literature (e.g., Ahir et al., 2022 and IMF, 2025). Again, the results are qualitatively similar and the implied effects when scaled to reflect recent periods of elevated uncertainty suggest similarly large magnitudes (e.g., an increase in third-party protectionist TPU of the magnitude comparable to the 2018 China-U.S. trade tensions is associated with a cumulative decline in GDP per capita of 8.7 percent at $t+2$). The results are also qualitatively robust to the inclusion of time fixed effects for the own-country TPU shocks and allowing for the potential inclusion of lags of the shock variables. In what follows, we explore potential channels using the dual-shock specifications (see ¶15).

17. Looking across potential channels of impact, own protectionist TPU shocks weigh directly on countries' trade balances while driving up inflation in the medium term (Figure 7, shown by red lines and areas). Exports to GDP fall significantly by 1.9 percentage points in the initial year of the shock; the negative effect builds over time but loses its significance. While not precisely estimated, the impact on the current account balance also is negative over time. Both investment to GDP and net FDI inflows to GDP cumulatively increase by 3.6 percentage points by year $t+2$, helping reverse the initial negative shock to output per capita and possibly reflecting policy interventions. Equity markets recover beyond $t+2$ after initially falling from the shock. Own protectionist TPU shocks appear inflationary, with inflation cumulatively increasing by 3 percentage points by year $t+3$, and suggesting that such shocks can induce stagflationary pressures as found by Redl (2018). The positive impact for private consumption does not align with our prior expectation that own protectionist TPU shocks would weigh on consumption. However, given the eventual increase in investment, the positive consumption effect could reflect early signaling by governments that large investments would be forthcoming, helping buoy private sector confidence despite the uncertainty.

18. For third-party protectionist TPU shocks, negative effects on investment and private consumption offset stronger trade balances, in line with the literature (Figure 7, shown by blue lines and areas). Exports to GDP drift upwards over the horizon, with the current account balance to GDP increasing by 2.5 percentage points by t+2. The positive effect on trade balances is in line with research documenting trade reallocation toward ASEAN third-party countries following the 2018-19 U.S.-China trade tensions (Bekkers and Schroeter, 2020; Nicita, 2019; and Xin and Schultze, 2025). Relatedly, equity markets temporarily respond positively, rising by an average of 15.6 percent in the initial year. However, over time, lower investment and private consumption ratios offset these effects, cumulatively falling by 4.2 and 1.3 percentage points by t+2 and t+1, respectively. A third-party protectionist TPU shock may prompt precautionary savings behavior (i.e., ‘waiting and seeing’) despite the positive effect on sectors benefitting from diversion. Together with the aggregate negative effect on real output per capita, these effects highlight that one should be cautious in assuming that there are “winners” from trade tensions despite stronger trade outcomes.

Figure 7. Malaysia: Protectionist TPU Shocks: Channels

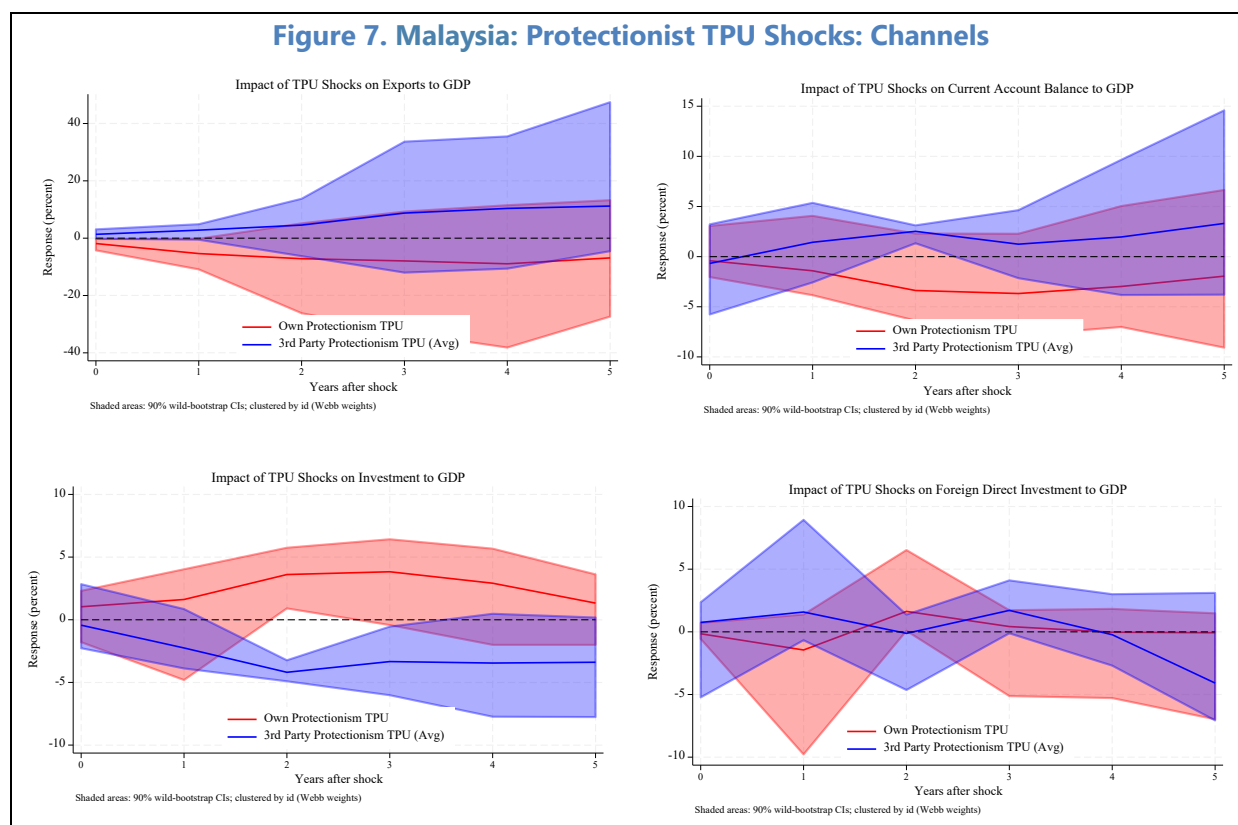
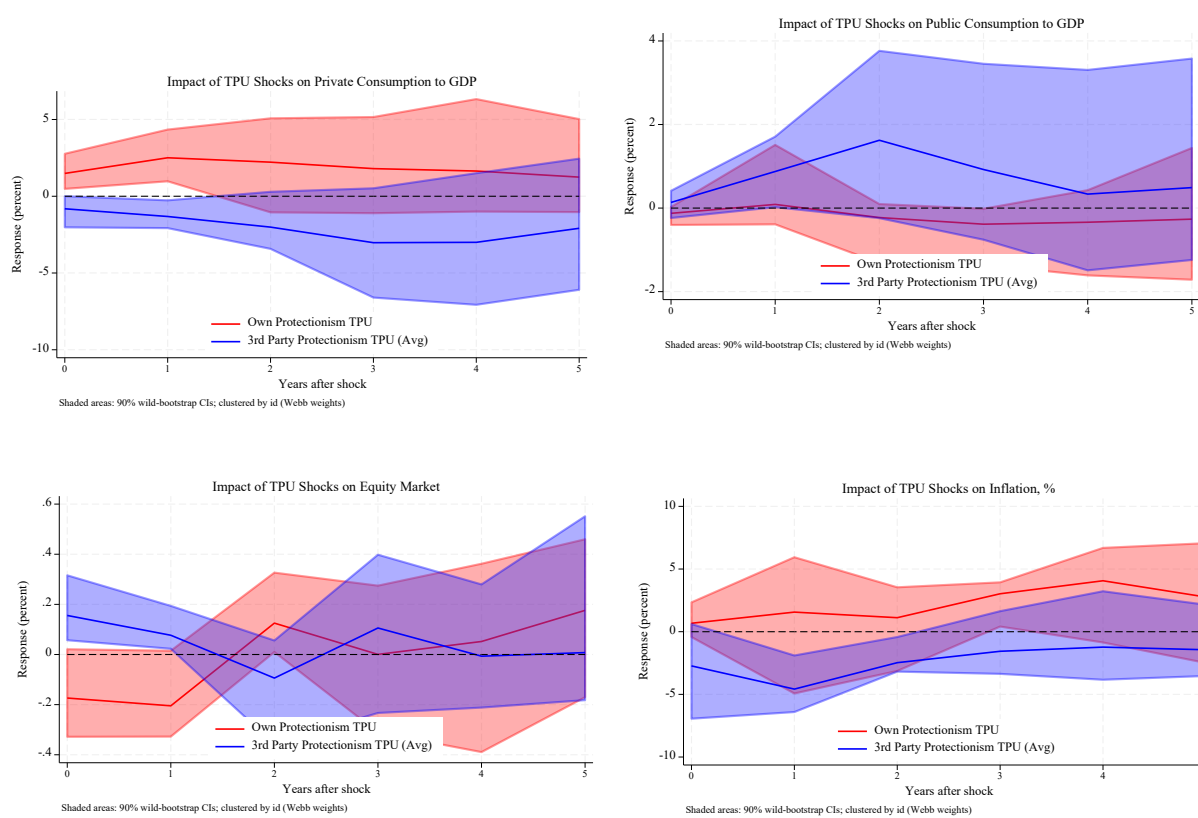
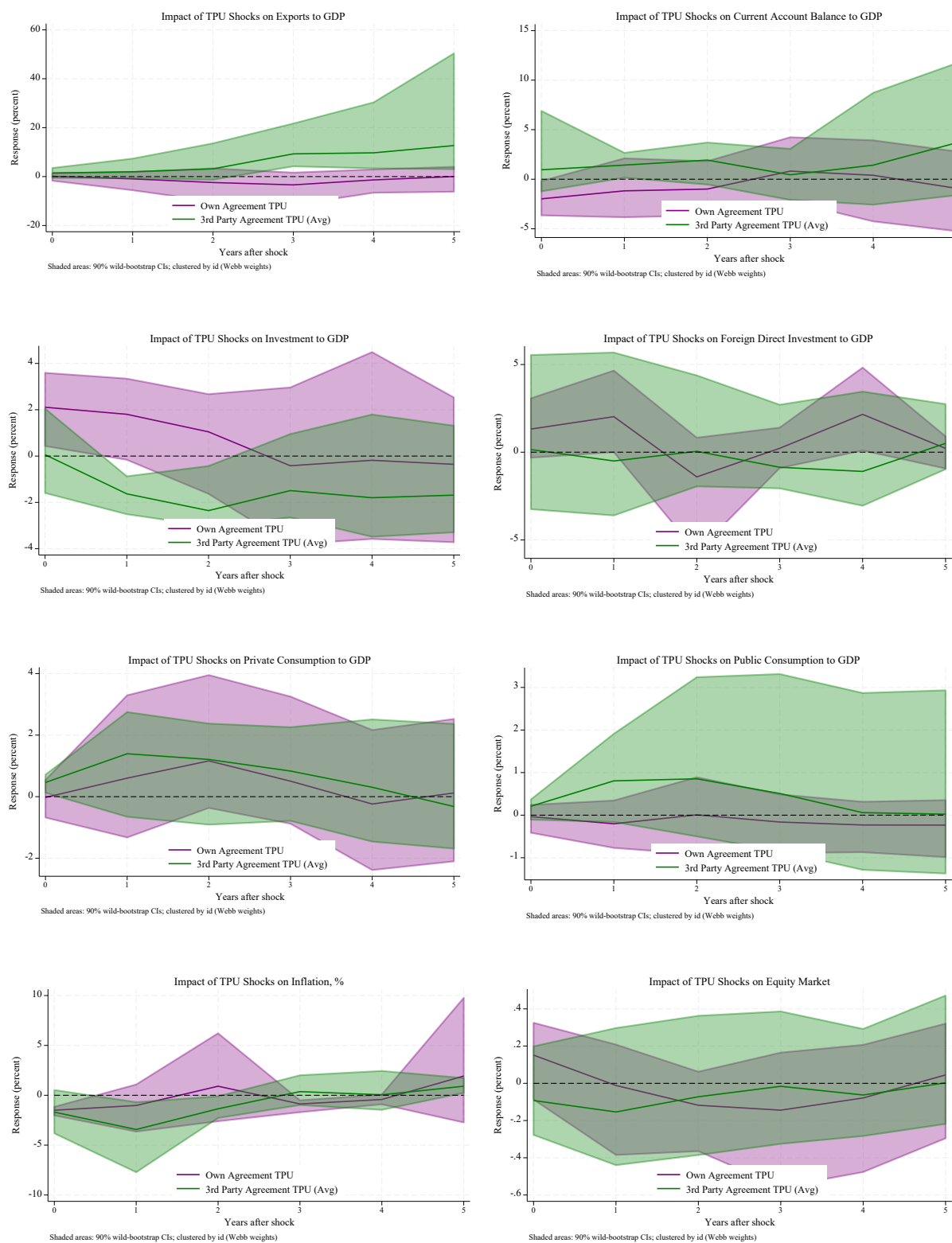


Figure 7. Malaysia: Protectionist TPU Shocks: Channels (Concluded)

Sources: IMF staff calculations.

19. Similar to third-party protectionist TPU shocks, third-party agreement TPU shocks are associated with declines in investment but boosts to trade balances over the medium term (Figure 8, shown by the green lines and areas). The investment to GDP ratio falls by 2.4 percentage points by $t+2$ following the third-party agreement TPU shock. For trade, the improvement in the current account balance of 1.4 percentage points in $t+1$ may be associated with potential reallocation as a third-party agreement TPU shock prompts third-party suppliers to seek alternative sources amongst ASEAN economies for their imports.

20. Own agreement TPU shocks have positive effects on output, although they do not lead to improvements in trade or consumption (Figure 8, shown by the purple lines and areas in purple). Following an own agreement TPU shock, both investment and FDI to GDP ratios rise early in the horizon by around 2 percentage points of GDP, in line with the growth options literature for investment. However, it does not appear that the agreement TPU shocks bear out in improving trade balances; current account balances fall an average of 2.0 percentage points in the initial year with an increase in imports to GDP outweighing a smaller increase in exports to GDP—where the increase in imports could be linked to the rise in investment. Over the horizon, the impact on the current account is not statistically significant and the temporary boost to investment in the early years wanes.

Figure 8. Malaysia: Agreement TPU Shocks: Channels

Sources: IMF staff calculations.

E. Conclusion

21. This paper offers new insights into how different types and sources of trade policy uncertainty affect economic outcomes in ASEAN economies. By distinguishing between protectionist and agreement-based trade policy uncertainty, as well as between own and third-party trade policy uncertainty shocks, the analysis reveals that the growth and external effects of TPU are highly heterogeneous. Own protectionist TPU shocks negatively affect growth via worsened trade balances, pushing up inflation over the medium term. Third-party TPU shocks, especially protectionist shocks, are more detrimental to output, driven by investment and consumption declines that outweigh improvements in trade balances. Trade openness plays a role in mitigating such shocks. On the other hand, own-agreement TPU shocks initially support output through higher investment in anticipation of stronger economic activity, consistent with the growth-options literature, though these effects fade over time. The findings highlight the importance of predictable trade policy frameworks for sustaining investment, stability, and long-term growth amid ongoing global trade tensions.

22. In addition to implementing additional robustness checks, future extensions of this work can focus on increasing both the temporal and microeconomic dimensions of the approach. To assess the robustness of the findings, future work can include further refining the TPU algorithms; trying other alternative shock magnitudes and a placebo test; and using financial openness and regional measures of trade integration or diversification as alternative interaction terms. Our work can be extended by exploring higher-frequency specifications, namely quarterly and monthly data for measures like inflation and financial market outcomes, to better capture short-term effects from TPU shocks and their transmission through the financial markets. Using higher frequency data will also provide more variation across the sample countries in shock timing. Further, adopting a firm-level framework could uncover new insights on microeconomic responses that inform the macroeconomic outcomes, while also allowing for greater statistical power and more precise identification of the underlying mechanisms driving aggregate responses.

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Annex I. Alternative Trade Policy Uncertainty Term Sets

Baker et al.'s (2016) [term set](#) includes: import tariffs, import duty, import barrier, government subsidies, government subsidy, wto, world trade organization, trade treaty, trade agreement, trade policy, trade act, doha round, uruguay round, gatt, dumping.

Caldara et al.'s (2019) [term set](#) includes: tariff*, import dut*, import barrier*, trade treat*, trade polic*, trade act*, dumping, import fee*, tax* (within ten words of foreign good*, foreign oil, or import*), and import* (within 10 words of surtax* or surcharge*).

Ahir et al.'s (2022) [term set](#) includes: protectionism, North American Free Trade Agreement (NAFTA), tariff, trade, United Nations Conference on Trade and Development (UNCTAD) and World Trade Organization (WTO).

Annex II. Trade Policy Uncertainty Algorithms – Additional Methodological Detail

1. To develop the algorithms for the 25 economies at a monthly frequency from January 1995 to August 2025, we first compiled word banks related to policy types—trade, monetary, and fiscal—using Baker et al. (2016) as a base, reading articles on economic policy via Google News, and collecting word suggestions from economists with expertise in each area. Next, we consulted with two journalists that write and report on economics-related news to ensure that the search algorithms pick up policy uncertainty in a way that journalists write about policy uncertainty, as opposed to the way economists might write about policy uncertainty.¹ Particular attention was placed on generating the set of uncertainty-related terms that are used in association with negative increases in policy uncertainty (e.g., concern, doubt, worry, anxiety, etc.). Finally, to ascertain journalistic standards around sentence length and construction, we spoke with two professors of journalism to understand how “leads” are covered and to select the number of words that might fall between core search terms.²

2. The algorithms are both more flexible and more restrictive than those used in the prior literature. On one hand, we allow many terms to vary in how they are presented (e.g., import tariffs can also be picked up as tariffs on imports). On the other hand, to ensure that type-specific uncertainty measures are not merely proxies for other types of policy uncertainty, the search algorithms reject articles that mention other types of uncertainty (e.g., fiscal policy uncertainty’s algorithm picks up articles that meet the fiscal search terms, but excludes articles that meet trade or monetary policy search terms). In an additional effort to ensure that the algorithms pick up news related to the country in question, we applied Factiva’s country-specific filters. The algorithms also exclude references to an absence of uncertainty (e.g., “without doubt” or “no uncertainty”) and references to equity market volatility, which occurs rather frequently and is often unrelated to policy uncertainty.

A. Example of Malaysia’s Search Algorithms:

Normalizer

re=MALAY and (Malaysia*) and wc>99

Trade II - (Protectionism Uncertainty)

¹ We thank Sam Fleming—former US Economics Editor at the Financial Times—and Juliana Goldman—formerly at CBS and Bloomberg News—for their time and contributions.

² We thank Douglas Foster—Northwestern University, Medill School of Journalism—and Kenichi Serino—formerly at University of Witwatersrand School of Journalism—for their time and contributions.

3. re=MALAY and (Malaysia*) **near8** (((trade) near2 (restriction or quota or tariff* or sanction or embargo or subsid* or war or barrier or red tape)) or protectionism or dumping or ((import or export) near2 (quota or license or restraint or dut* or tax* or barrier or fee)) or local content requirement or domestic content requirement or anti-trade) **near8** (uncert* or ambiguous or dubious or precarious or unpredictable or undecided or undetermined or unresolved or unsettled or fear or risk or threat* or doubt or worry) **not** (without doubt or no uncertainty or no doubt or shares or stock market or trading or ((budget or fiscal) near2 (polic* or expenditure or plan or crisis or rule or emergency or measure* or gap or discipline or surplus or deficit or plan or consolidation or balanced)) or tax* or ((government or public) near2 (spending or revenue* or debt or budget or deficit)) or monetary or interest rate or policy rate or central bank or sovereign bond or quantitative easing or money supply or overnight rate or tight money or loose money or discount rate or normalization or dot plot) and wc>99

Trade III - (Agreement Uncertainty)

4. re=MALAY and (Malaysia*) **near8** (((trade) near2 (commission or agreement or bloc* or multilateral or negotiation* or deal or talks)) or WTO or World Trade Organization or FTA) **near8** (uncert* or ambiguous or dubious or precarious or unpredictable or undecided or undetermined or unresolved or unsettled or fear or risk or threat* or doubt or worry) **not** (without doubt or no uncertainty or no doubt or shares or stock market or trading or ((budget or fiscal) near2 (polic* or expenditure or plan or crisis or rule or emergency or measure* or gap or discipline or surplus or deficit or plan or consolidation or balanced)) or tax* or ((government or public) near2 (spending or revenue* or debt or budget or deficit)) or monetary or interest rate or policy rate or central bank or sovereign bond or quantitative easing or money supply or overnight rate or tight money or loose money or discount rate or normalization or dot plot) and wc>99

Annex III. Additional Stylized Facts

Taking an income-based lens, protectionist and agreement TPU tend to be higher and more volatile in emerging markets (EMDEs) compared to advanced economies (AEs).

Figure 1. Malaysia: Trade Policy Uncertainty, By Income Group: 1995 to 2025

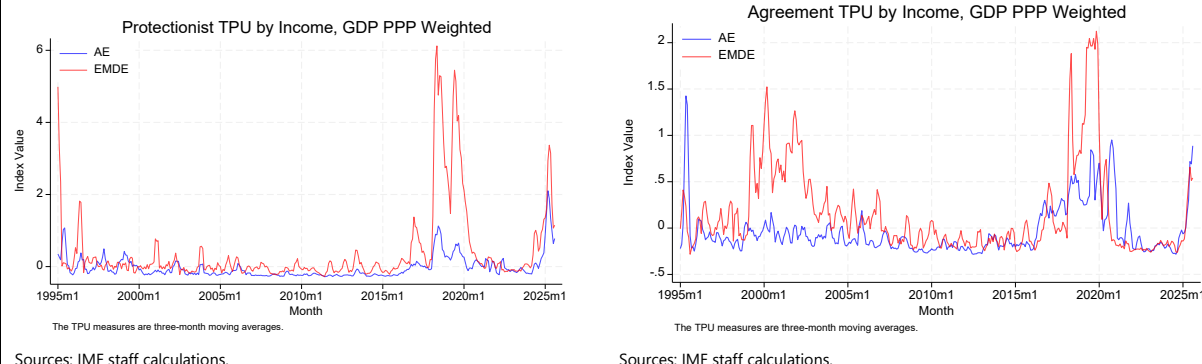


Table 1. Malaysia: Own Trade Policy Uncertainty Sample Statistics, by Type and Income Level

Own Protectionist TPU Index, GDP PPP Weighted	Advanced	EMDE	Own Agreement TPU Index, GDP PPP Weighted	Advanced	EMDE
Mean	92.6	233.4	Mean	139.7	241.1
Standard Deviation	105.7	363.4	Standard Deviation	132.2	244.5

Note: The table shows the mean and standard deviations for the weighted averages of the measures over the sample period.

Sources: IMF staff calculations.

Note: The table shows the mean and standard deviations for the weighted averages of the measures over the sample period.

Sources: IMF staff calculations.

Table 2. ASEAN6: Trade Policy Uncertainty Sample Statistics, by Type

	Own Protectionist		Own Agreement		Third-Party Protectionist		Third-Party Agreement	
	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation	Mean	Std Deviation
Indonesia	60.4	86.8	106.7	140.8	126.0	159.8	155.5	121.2
Malaysia	38.2	66.3	29.5	44.1	105.5	143.0	130.4	98.2
Philippines	35.4	58.0	38.8	56.6	102.8	139.5	134.5	107.9
Singapore	37.6	66.0	37.0	52.5	107.7	136.7	138.5	106.0
Thailand	71.9	82.7	95.4	146.3	114.3	140.3	147.4	117.1
Vietnam	102.0	112.8	137.6	179.8	133.5	167.3	177.3	138.8

Note: The table shows the mean and standard deviations for the ASEAN6 measures over the sample period.

Sources: IMF staff calculations.

Annex IV. Empirical Methodology and Data Annex

1. Jorda local projections allow flexible, horizon-specific responses without imposing strong structural assumptions (e.g., relative to the assumptions needed when using a vector autoregressive approach). In addition to the controls included across all specifications, we employed the post-double selection LASSO machine-learning approach to select all other controls (Belloni et al., 2014) given model uncertainty inherent to macro-empirical work and the small size of the panel.¹ The vector of possible controls, X_{it} , includes a broad range of macroeconomic, financial, and structural factors: real growth, inflation, trading partner real growth, exports, imports, financial development, fiscal balances, investment, population, private and public consumption, unemployment, broad money, natural resource rents, exchange rate volatility, stock market indices, the real effective exchange rate, tariff rates, government revenue and spending ratios, national saving, debt ratios, investment and FDI ratios, current account balances, oil prices, the VIX, the S&P US equity market index, and a Covid-period dummy. Transformations of each control variable are also included, namely first differences, lags, lagged differences, and squared terms, enabling the model to capture dynamic and nonlinear relationships to the extent they are relevant.² Standard errors are based on a wild-cluster bootstrap-t procedure that produces robust inference even with few clusters (Cameron, Gelbach, and Miller, 2008).

Data Sources		
Variable	Frequency	Sources
Real Growth (y-o-y percent change)	Annual, Quarterly	WEO Database
Inflation (y-o-y percent change)	Average, Quarterly	WEO Database
Exports	Annual	WEO Database
Imports	Annual	WEO Database
Current Account Balance (percent of GDP)	Annual	WEO Database
Investment (percent of GDP)	Annual	WEO Database
Foreign direct investment (percent of GDP)	Annual	World Bank
Private Consumption (percent of GDP)	Annual	WEO Database
Public Consumption (percent of GDP)	Annual	WEO Database
Unemployment	Annual	WEO Database
Stock Market Index	Annual, Monthly	CEIC

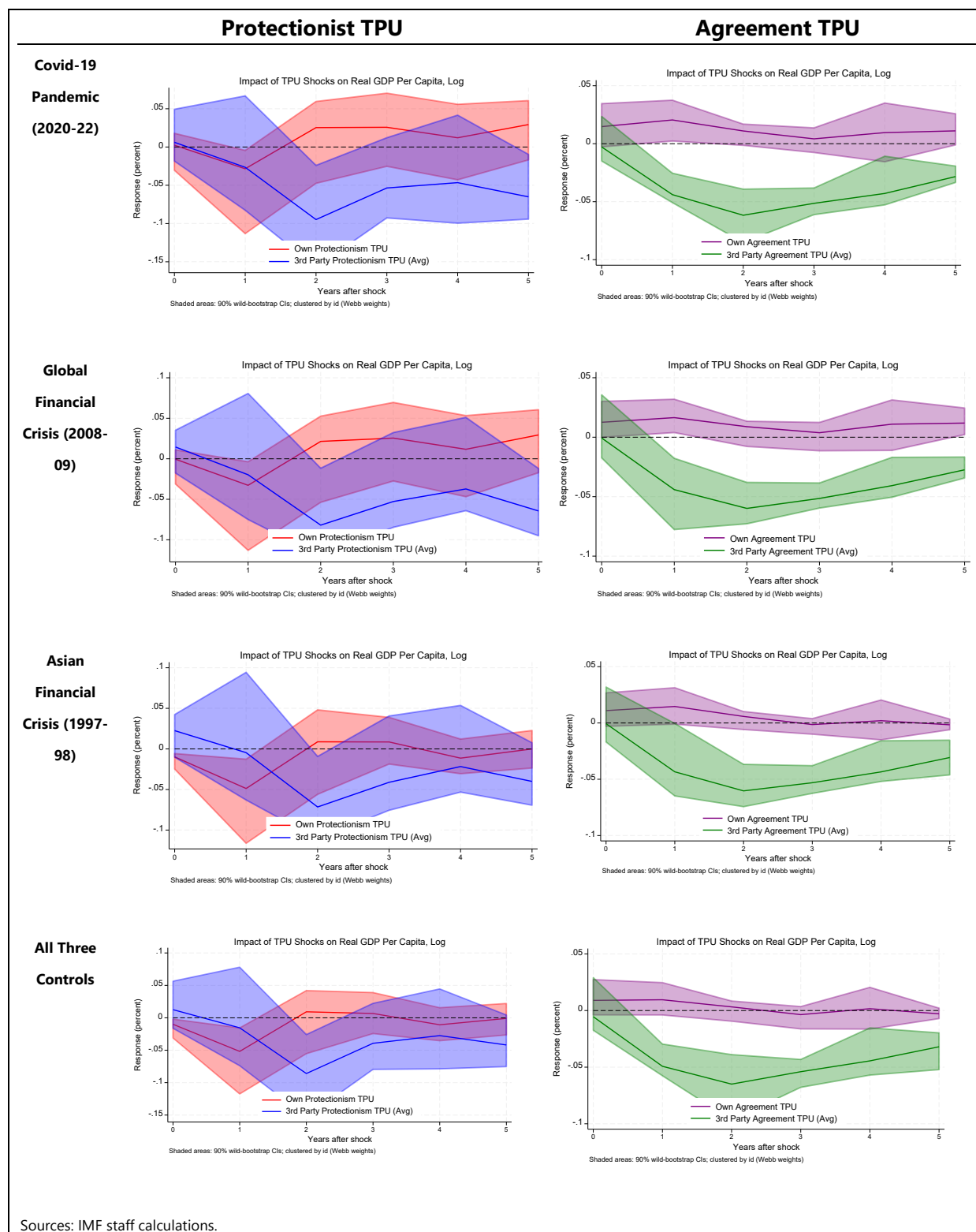
¹ For the variable selection procedure, two LASSO regressions are estimated: one of the dependent variable on all candidate controls, and another of the shock variable on the same set. The union of selected variables forms the final control set, ensuring that confounders relevant to either the outcome or the treatment are retained. To avoid mechanical correlations across related aggregates, the LASSO estimation excludes variables that are direct components or close accounting counterparts of the dependent variable. For example, when exports are the dependent variable, imports and the current account balance are excluded; when fiscal balance is the outcome, spending and revenue are removed. This ensures that estimated responses are not driven by definitional overlap but instead reflect genuine dynamic relationships between TPU and the macroeconomic outcomes.

² The list of variables selected by the procedure is broadly consistent with economic priors. For instance, in the case of real GDP per capita, the model selects variables capturing financial development (lagged, and squared terms), foreign direct investment (current and lagged), the effective tariff rate, imports, lagged private consumption, lagged national saving, and fiscal indicators such as the public debt ratio squared and lagged government spending.

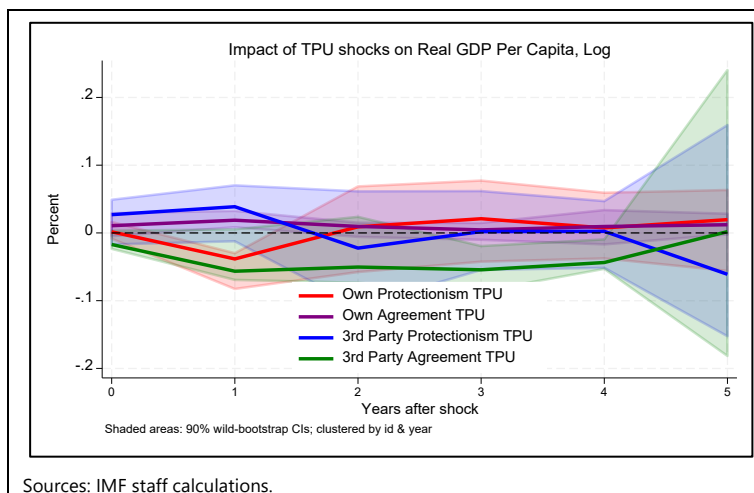
Data Sources (Concluded)		
10Y Sovereign Bond Spreads	Annual, Quarterly, Monthly	Bloomberg
Corporate Bond Spreads	Annual, Quarterly, Monthly	Bloomberg
GDP per capita	Annual	WEO Database
Education	Annual	World Bank
Population level	Annual	WEO Database
Trade Openness	Annual	World Bank
Institutional Quality	Annual	World Bank
Private Credit to GDP	Annual, Quarterly	BIS
Financial Development Index	Annual	IMF
Natural Resource Rents (percent of GDP)	Annual	World Bank
Money Supply Growth (broad money)	Annual, Monthly	CEIC
Exchange Rate (to USD)	Annual, Quarterly, Monthly	CEIC
Exchange Rate Volatility	Annual, Quarterly, Monthly	Haver
Real Effective Exchange Rate	Annual, Monthly	CEIC
Fiscal Overall Balance	Annual	WEO Database
Inflation Expectations	Annual, Monthly	Ecdatabase
Effective Tariff Rate	Annual	World Bank, World Trade Organization
Oil Prices	Annual, Quarterly, Monthly	Haver
Port Quality	Annual	CEIC
Historical WEO Vintages	Annual	IMF
Short-Term Policy Rates	Annual, Quarterly, Monthly	Haver
Short-Term Interest Rates	Annual	Haver
VIX	Annual, Quarterly, Monthly	Bloomberg
US Stock Market Index	Annual, Quarterly, Monthly	Bloomberg

Annex V. Robustness Checks

The below results are based on specifications that include dummy controls for various global shocks.



The result below is based on a specification that includes all four shocks in the same regression.



The below results are based on a specification where the shock is a continuous variable using standardized z-scores of the continuous TPU measures.

