Tariffs and Monetary Policy: New Evidence*

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Abstract

We estimate the macroeconomic effects of U.S. import tariff shocks and their dependence on the monetary policy response. The identified tariff shock reduces real activity but increases consumer prices. Monetary policy partly accommodates this shock with a transitory policy easing. To quantify the dependence on monetary policy, we consider monetary counterfactuals that are identified by leveraging monetary policy shocks instead of using a fully-specified structural model. Strict inflation stabilization yields a more pronounced real GDP contraction, with a trough effect that is more than 40% larger. Conversely, strict output stabilization amplifies the inflationary impact of tariffs by a similar magnitude.

Keywords: tariffs, trade, imports, monetary policy, counterfactuals
JEL Codes: C32, E31, E32, E52, F14

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1 Introduction

What are the macroeconomic effects of tariff shocks? How are these effects shaped by the systematic response of central banks? Motivated by the 2025 rise in tariffs by the Trump Administration, a myriad of theoretical contributions have emerged that attempt to answer the above questions. These papers focus on the business cycle effects of tariffs (e.g., Antonova, Huxel, Matvieiev, and Müller, 2025; Auclert, Rognlie, and Straub, 2025; Kalemi-Özcan, Soylu, and Yildirim, 2025; Costinot and Werning, 2025), the optimal design of tariff policies (e.g., Dávila, Rodríguez-Clare, Schaab, and Tan, 2025; Itskhoki and Mukhin, 2025; Kocherlakota, 2025), and the optimal monetary policy response to tariff shocks (e.g., Bergin and Corsetti, 2025; Bianchi and Coulibaly, 2025; Monacelli, 2025; Werning, Lorenzoni, and Guerrieri, 2025).[1]

However, there is little empirical evidence on the business cycle effects of tariffs and no evidence on how these effects are shaped by the systematic monetary policy response. This paper fills this gap by estimating the macroeconomic effects of U.S. import tariff shocks and their dependence on the monetary policy response, without relying on a fully-specified structural model. The baseline tariff shock reduces real activity, increases prices, and is partially accommodated by monetary policy. As alternatives to partial accommodation, we consider monetary policy counterfactuals featuring a central bank that aims to (i) not respond to the tariff shock, (ii) strictly stabilize prices, or (iii) strictly stabilize real activity. These counterfactuals are our primary contribution, quantifying the aggregate impact of monetary policy on the consequences of tariff shocks. Relating to optimal policy, our scenarios map into a loss function that puts a zero weight (ii) on output stabilization, or (iii) on price stabilization, and (i) an intermediate case, where monetary policy "looks through" the shock, as sometimes advocated for supply shocks.[2] As such, the results provide novel data moments

[1] An earlier contribution on the optimal monetary policy response to tariffs is Bergin and Corsetti (2023), whereas Alessandria, Ding, Khan, and Mix (2025) focus on the implications for the government budget.

[2] Since monetary policy is constrained by the Phillips curve and tariffs act as a cost-push shock (Werning et al., 2025), policymakers can either stabilize real activity, or prices, or some intermediate case. Our counterfactuals cover both extreme cases, given that tariff shocks are inefficient and do not affect the natural

to discipline structural models used to study the optimal policy response to tariffs.

We estimate the effects of import tariff shocks using a vector auto-regression (VAR) and quarterly U.S. data. The responses are identified via the timing restriction that tariff shocks affect macroeconomic outcomes with a one-period lag.[3] By ruling out contemporaneous effects of tariff shocks, our estimates possibly deliver a lower bound on the impact of tariff shocks. In turn, we can allow other macroeconomic shocks to impact the aggregate import tariff rate, customs duties divided by imports, through changes in import prices or compositional changes, e.g., in terms of imported product categories and trading partners.

A shock that raises the average U.S. import tariff rate by 1 percentage point on impact leads to a sizable contraction in real GDP. The trough of real GDP is at -0.63% and reached after 3 quarters, partly driven by lower real private investment.[4] Likewise, real imports and exports decline by similar magnitudes, while the real exchange rate is unresponsive. The inflation rate responds with a delay of 3 quarters and, subsequently, increases continuously to its peak effect at 0.47 percentage points after 13 quarters. The estimated effects align well with the theoretical findings from Auclert et al. (2025), and confirm their prediction that U.S. import tariff shocks are contractionary.

Monetary policy partially accommodates the tariff shock with a temporary easing, contributing to the inflation increase while cushioning the decline in output. Interestingly, such partial accommodation can be the optimal response to a tariff shock (e.g., Bergin and Corsetti, 2025; Bianchi and Coulibaly, 2025; Werning et al., 2025). The finding of partial accommodation raises several questions. How much of the inflationary impact is genuinely driven by the tariff hike, and how much is due to the monetary easing? And, similarly, how much output must be sacrificed to fully stabilize prices? Conversely, how much inflation must be tolerated if the central bank fully stabilizes real activity?

level of output. Consistent with tariffs being an inefficient distortion, we obtain very similar results when considering CBO output gaps instead of real GDP.

[3]Additionally, we require (partial) invertibility. This is a reasonable assumption, given that we estimate a nine-variate model and provide Granger Causality tests that corroborate the plausibility of this assumption.

[4]Consistent with the decline in real investment, we find an increase in macroeconomic uncertainty.

To study these questions, we follow McKay and Wolf (2023) and use empirically identified monetary shocks to construct policy counterfactuals. These counterfactuals are valid in a broad class of macroeconomic models, including the New Keynesian frameworks considered in the majority of theoretical contributions cited above. Following McKay and Wolf (2023), we estimate a monetary VAR and use the high-frequency identified monetary policy shock from Miranda-Agrippino and Ricco (2021) and the Taylor rule residual from Romer and Romer (2004) as two distinct shocks.[5] Using the resulting impulse responses to both monetary policy shocks, we construct three distinct counterfactuals.

First, we consider a counterfactual in which the federal funds rate is unresponsive to the tariff shock. This scenario is useful for comparison with the model-based findings from Auclert et al. (2025), who also consider such a case. Additionally, it reassembles the commonly expressed idea of "looking through" supply shocks.[6] Interest rates are higher compared to the baseline tariff shock effects, leading to moderately lower real GDP. While the trough is only slightly deeper, we find the adverse GDP effects are more persistent. Inflation is moderately lower and less persistent. The peak inflation impact is at 0.33 percentage points and, thus, 0.14 percentage points below the baseline. Hence, we can confirm that the inflationary impact from the baseline estimates is partly driven by the monetary easing.

The above counterfactual keeps monetary policy neutral in terms of the nominal policy rate. But how potent is monetary policy in fighting the inflationary pressure from the tariff shock? To answer this question, we consider a second counterfactual in which monetary policy aims to perfectly stabilize prices. In this case, instead of an initial easing, monetary policy raises interest rates by 0.49 percentage points in the short run. As a result, the tariff shock does not lead to meaningful inflation, with the peak impact only at 0.12 percentage points after 13 quarters.[7] For comparison, the baseline inflation response in the same quarter is almost

[5]We obtain similar results when replacing the Romer and Romer (2004) shock by refined versions that better capture the information set of the central bank (Aruoba and Drechsel, 2024) and account for time variation in systematic monetary policy (Hack, Istrefi, and Meier, 2024).

[6]For example, U.S. Fed Chair Jerome Powell discussed this idea on November 9, 2023 (https://www.federalreserve.gov/newsevents/speech/powell20231109a.htm?).

[7]The counterfactual does not exactly achieve full inflation stabilization since an exact counterfactual

four times larger. However, this policy sacrifices a considerable amount of real GDP, which is 0.28 percentage points lower than in the baseline. Compared to the baseline, we find that the trough output effect is 40% larger in absolute terms.

Finally, we consider the opposite counterfactual, in which monetary policy aims to strictly stabilize output. In this scenario, monetary policy cuts the federal funds rate more aggressively and more swiftly compared to the baseline. The trough interest rate impact is at -0.65 percentage points. This policy reduces the adverse output effects but does not achieve full output stabilization.[8] Yet, the easing generates a pronounced amplification of the inflationary impact, which is almost double in size after 9 quarters. Importantly, this is likely a lower bound on the inflationary impact, as achieving full output stabilization may require even stronger monetary loosening.

Overall, our results confirm that the monetary response to tariff shocks is critical for the impact of import tariffs on the U.S. economy. Pursuing extreme policies of only stabilizing output or only stabilizing prices induces considerable costs in terms of the other untargeted variable. Quantitative optimal policy analysis can be disciplined by comparing with our estimates, while actual optimal policy likely constitutes an intermediate case.

Related literature. Beyond the theoretical papers discussed above, our work is connected to three strands of literature. First, we relate to the surprisingly scant literature that identifies the macroeconomic effects of tariff shocks from aggregate time series data. Using quarterly data, Boer and Rieth (2024) impose sign restrictions to identify shocks to U.S. trade policy uncertainty and import tariffs, whereas Barattieri, Cacciatore, and Ghironi (2021) use short-run zero restrictions to study shocks to trade barriers for Canada. Further, both Barattieri et al. (2021) and Furceri, Hannan, Ostry, and Rose (2018) also use annual cross-country data to study trade barrier shocks and tariff shocks, respectively. Lastly, Ostry,

would require infinitely many distinct monetary (news) policy shocks.

[8]The counterfactuals can not implement the target of full stabilization exactly because the tariff shock triggers a rapid decline in real GDP, whereas all monetary shocks under consideration take more time to affect output, consistent with longer lags of monetary policy. For the inflation stabilization counterfactual, this is less of an issue because the impact of the tariff shock on prices is more delayed.

Lloyd, and Corsetti (2025) focus on the financial market response to tariff changes. Relative to these papers, we identify a pure tariff rate shock with zero restrictions and, importantly, provide monetary policy counterfactuals that may be readily compared with the theoretical literature. The presented counterfactuals are valid in a broad class of structural models, as shown by McKay and Wolf (2023). Furthermore, while there is a closely connected literature on trade policy uncertainty (Caldara, Iacoviello, Molligo, Prestipino, and Raffo, 2020; Poilly and Tripier, 2025), we focus on the first-order effects of tariff shocks instead.[9]

Second, we relate to the recent literature that studies the tariff announcements by the Trump Administration on the so-called "Liberation Day" using structural models (e.g., Ignatenko, Lashkaripour, Macedoni, and Simonovska, 2025; Rodríguez-Clare, Ulate, and Vasquez, 2025) or high-frequency data (e.g., Acharya and Laarits, 2025; Jiang, Krishnamurthy, Lustig, Richmond, and Xu, 2025; Pinter, Uslu, and Smets, 2025). Such event studies provide valuable insights into the economic consequences of the tariff trade war launched by the Trump Administration. However, the Liberation Day likely reflects a combination of an uncertainty shock and a tariff news shock, which complicates the comparison with the pure tariff shocks from the theoretical literature. Instead, we identify only a tariff shock, do not rely on a single event, and provide the above-mentioned counterfactuals. Further related are the complementary works by Coibion, Gorodnichenko, and Weber (2025), who surveyed U.S. Americans about the potential Trump tariffs before the 2025 inauguration, and Cavallo, Llamas, and Vazquez (2025), who track the 2025 impact of tariffs on prices in real-time.

Finally, we relate to the literature that is concerned with the impact of systematic monetary policy on the consequences of macroeconomic shocks. Using identified monetary policy shocks, Barnichon and Mesters (2023) focus on assessing the optimality of policy, whereas McKay and Wolf (2023) and Caravello, McKay, and Wolf (2024) focus on the construction of counterfactuals. Wolf (2023) uses the McKay and Wolf (2023) approach to estimate a counterfactual in which monetary policy strictly stabilizes inflation that originates from

[9]Our results are robust to including the trade policy uncertainty in the VAR.

fiscal policy shocks. Different from these approaches, Hack, Istrefi, and Meier (2023) exploit the exogenous rotation of voting rights in conjunction with time variation in the hawkishness of the Federal Open Market Committee. Instead of their non-linear framework, we use a linear model that facilitates the identification of the tariff shock.

2 Econometric Methodology

VAR model. We estimate a quarterly vector auto-regression model (VAR) with a deterministic intercept. The VAR includes the natural logarithm of real GDP, real exports, real imports, and real investment. Further, we include CPI inflation, the federal funds rate, a real exchange rate index, a macroeconomic uncertainty index from Jurado, Ludvigson, and Ng (2015), and an aggregate import tariff rate.[10] Following Caldara et al. (2020), we calculate the aggregate tariff rate as $\tau_t = CD_t/(IM_t - CD_t)$, with CD_t and IM_t being nominal customs duties and nominal imports, respectively. The VAR includes four lags and is estimated over a sample that starts after the Cold War and ends before the second term of President Trump, i.e., 1990Q1-2024Q4. This choice balances the desirability of using recent data to capture the effects of a tariff shock in today's economy and maintaining sufficient variation to estimate our nine-variate VAR reliably. To accommodate lower degrees-of-freedom, we estimate the VAR using Bayesian techniques by imposing an inverse-Wishart prior on the reduced-form VAR parameters.

Tariff shock identification. The tariff shock is identified based on two assumptions. First, we assume partial invertibility of the VAR, so that we can recover the tariff shock (Forni, Gambetti, and Sala, 2019). This is a reasonable assumption, given that our baseline VAR vector is comparatively large, as it includes nine distinct variables. Further, the Supple-

[10] All national accounts data and customs duties are from the BEA. From FRED, we take the effective federal funds rate (*DFF*) and the CPI to compute the year-over-year inflation (*CPIAUCSL*). Finally, we use 3-month ahead macroeconomic uncertainty (https://www.sydneyludvigson.com/macro-and-financial-uncertainty-indexes), and the narrow real exchange rate index from the BIS based on 26 currencies (https://data.bis.org/topics/EER). We take quarterly averages for higher-than-quarterly frequency data.

mental Appendix provides Granger Causality tests following Forni and Gambetti (2014) that buttress the plausibility of this assumption. Second, we impose the timing restriction that a tariff shock affects all macroeconomic variables only with a one-period lag, except the federal funds rate and the aggregate tariff rate. In turn, we allow other macroeconomic shocks to impact the tariff rate contemporaneously. This is important because variation in the tariff rate can result from the tariff shock, but could also result from changes in import composition or differential changes in import prices. By allowing other macroeconomic shocks to impact the tariff rate contemporaneously, we may control for this channel. Finally, we allow the federal funds rate to respond to tariff shocks contemporaneously, to remain agnostic about the monetary response to tariffs, which we perturb in the counterfactual exercises.

Counterfactual method. We construct monetary policy counterfactuals following McKay and Wolf (2023) (MW, henceforth). Their method relies on the core assumption of *instrument sufficiency*, i.e., private agents do not care about the monetary rule per se, but only about the movements of the policy instrument, which is the federal funds rate in our application. This assumption holds in a broad class of macroeconomic models, including conventional New Keynesian theory. With this assumption, MW prove that many monetary policy (news) shocks can be used to correctly identify the counterfactual response to a given macro shock that prevails under a counterfactual monetary policy rule. To conserve space, we omit a formal description of the method and refer interested readers to the original paper for more details. Instead, we focus on the empirical implementation of the counterfactual method.

Counterfactual implementation. We follow MW and estimate a separate monetary VAR model that uses the high-frequency (HF) identified monetary policy shock from Miranda-Agrippino and Ricco (2021) and the Taylor rule residuals (TR) from Romer and Romer (2004) as two distinct shocks. The VAR variables, lag specification, and estimation method are identical to the baseline tariff VAR. Following the internal instruments approach from MW, we further include both monetary shocks in the VAR vector. The HF shock is ordered

first, and the TR shock is ordered before the federal funds rate, but after all other variables, and identification is achieved via a lower-triangular Cholesky decomposition.

To obtain the counterfactuals, we denote the impulse response of variable i to shock j by vector IRF_i^j. Then, the counterfactual is constructed by choosing the size of both monetary shocks, s^{HF} and s^{TR}, which materialize simultaneously as the tariff rate shock. Formally,

$$\min_{s^{HF},s^{TR}} \| IRF_i^\tau + s^{HF} IRF_i^{HF} + s^{TR} IRF_i^{TR} \|_\omega, \tag{1}$$

where $\| \cdot \|_\omega$ denotes a weighted Euclidean norm. Our baseline weights decay at a quadratic rate, placing more weight on the short-run responses in the above minimization.[11] However, our results are similar when uniform weights are used, as shown in the Supplemental Appendix. Superscripts τ, HF, and TR indicate impulse responses to the tariff, high-frequency monetary, and Taylor rule residual monetary policy shock, respectively. Intuitively, we pick both monetary shocks, s^{HF} and s^{TR}, to take values so that variable i is as unresponsive as possible, given the impulse responses at our disposal.[12] The final counterfactual response is given by the weighted sum of all three impulse responses, i.e., the vector over which the norm in (1) is taken. Our counterfactuals consider a monetary authority that aims to (i) not respond to the tariff shock with its policy interest rate, (ii) strictly stabilize CPI inflation, or (iii) strictly stabilize real activity. These counterfactuals are implemented by solving (1), with variable i being (i) the federal funds rate, (ii) CPI inflation, and (iii) real GDP, respectively.

[11] Effectively, one can solve the minimization problem by weighted least squares in impulse response space. The baseline sequence of weights is proportional to $(H+1)^2, (H)^2, (H-1)^2, .., (1)^2$, where H is the maximium response horizon that we report.

[12] We implement the minimization for each posterior draw of the monetary VAR, accounting for the joint estimation uncertainty of both monetary shocks, as done in MW.

3 The macroeconomic effects of tariff shocks

In Figure 1, we present impulse responses to an import tariff shock that raises the average import tariff rate by 1 percentage point on impact.[13] The solid line indicates the median posterior draw, and the shaded areas are 68% and 90% credible sets.

Core outcomes. The first row of Figure 1 shows the core macroeconomic variables, i.e., real GDP, CPI inflation, and the federal funds rate. Additionally, in Panel (d), we present the response of the import tariff rate to gauge the impact of the shock. As expected, the tariff shock significantly increases the tariff rate, which reverts slowly to zero.

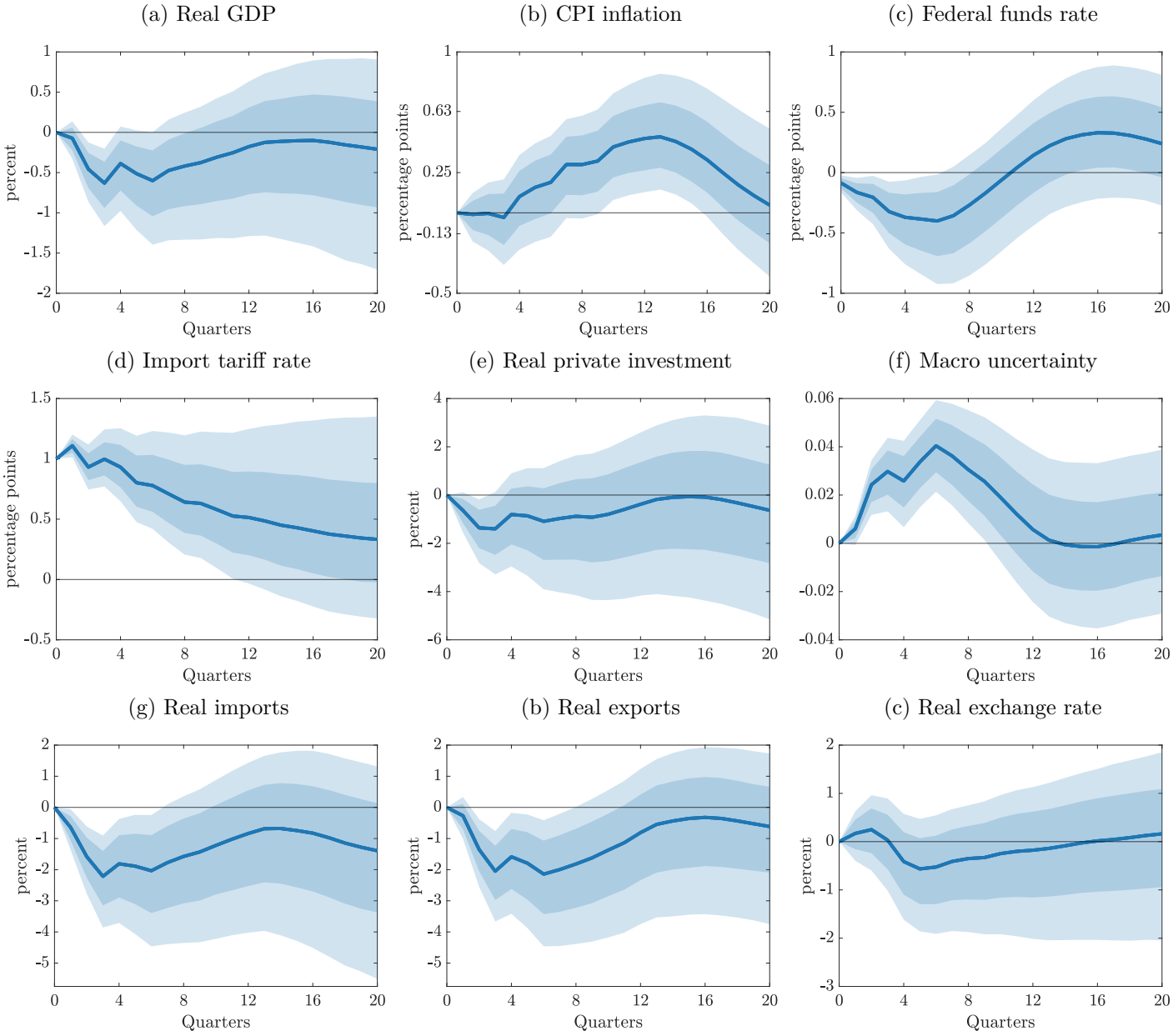
The tariff increase leads to a sizable decline in real GDP that materializes quickly. The trough is reached only 3 quarter after the shock, where output is 0.63 percent lower. This decline is transitory and vanishes after 9 quarters, where even the 68% credible sets overlap the zero line. Inflation starts increasing with a delay of around 3 quarters and a peak at 0.47 percentage points after 13 quarters. This inflation effect is somewhat persistent, and the 68% credible set includes zero only after 18 quarters. Lastly, we find partial monetary accommodation of the tariff shock. The federal funds rate responds negatively for two years. Quantitatively, at the trough, the fed funds rate is 0.40 percentage points lower after 6 quarters and starts to revert thereafter.

Additional outcomes. The responses of the remaining VAR variables are displayed in the second and third rows of Figure 1. These variables enable us to further understand the mechanism by which tariff shocks are transmitted. Real private investment contracts, although the effect is imprecisely estimated. The shape of the response is broadly similar to that of real GDP, suggesting that real private investment is a channel through which the contractionary effects on real GDP materialize. This decline is consistent with the simultaneous increase in macroeconomic uncertainty, as real option theory suggests. Finally, while

[13] For comparison, the standard deviation of the import tariff rate time series is 3.45.

the real exchange rate appears broadly unresponsive, real imports and real exports decline. The difference between the real exports and real imports responses gives the percentage change of the export-to-import ratio. Although not displayed separately, we find that this ratio increases only moderately and transitorily.

Figure 1: Responses to the import tariff rate shock



Notes: This figure shows impulse responses estimated based on a Bayesian VAR, as specified in Section 2. The solid line represents the posterior median, and the shaded areas are 68% and 90% credible sets.

Discussion. The responses align well with the theoretical literature. First, we confirm that tariff shocks are contractionary, in line with, e.g., Auclert et al. (2025).[14] Second, as a result, tariffs act as a supply shock, consistent with Werning et al. (2025). Third, we find that monetary policy partially accommodates the contractionary tariff shock to cushion its effect on real activity, albeit at the expense of higher prices. Interestingly, such partial accommodation can be the optimal response to a tariff shock (e.g., Bergin and Corsetti, 2025; Bianchi and Coulibaly, 2025; Werning et al., 2025). Fourth, while Auclert et al. (2025) focus on households, we find real investment to be important. This suggests a natural model extension, possibly in the spirit of Auclert, Rognlie, and Straub (2020). Fifth, we find that tariff shocks yield no meaningful improvement in the import-to-export ratio, suggesting that they are an impotent policy tool to improve the current account, which was the original motivation of President Trump in 2025 to impose tariffs.[15]

4 The monetary response to tariff shocks

We construct three distinct monetary policy counterfactuals using the methodology from McKay and Wolf (2023), as outlined in Section 2. We focus our discussion on the counterfactual responses of the core variables, which we present in Figure 2. The displayed 68% and 90% credibility sets account for the joint estimation uncertainty of both monetary shocks. For comparison, we also show the baseline median responses to the tariff shock as a gray dashed line.

No interest rate response. The baseline responses to the tariff shock from Section 3 suggest that U.S. monetary policy partly accommodates the impact of the tariff shock by reducing its interest rate. Such an easing is consistent with a Taylor rule that puts relatively more weight on stabilizing real activity. However, a natural benchmark is a scenario in

[14] The theory from Antonova et al. (2025) suggests that our tariff shocks mostly capture tariffs imposed on upstream sectors, since they find only upstream sector tariffs being clearly recessionary.

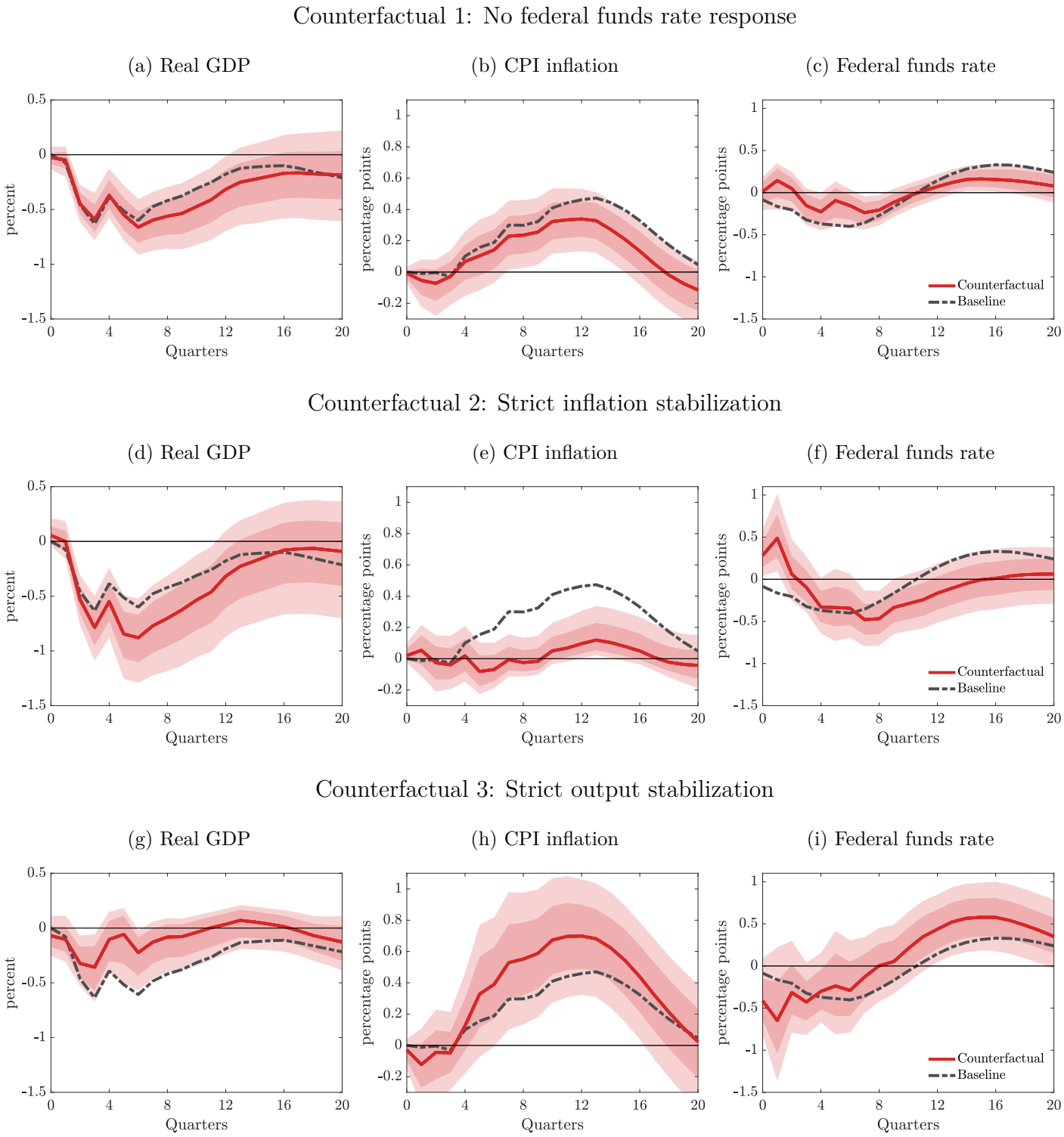
[15] We obtain the same conclusion when directly including the current account balance in the VAR.

which nominal interest rates do not respond to a temporary tariff shock, as considered by Auclert et al. (2025). Therefore, we construct a corresponding counterfactual in which the federal funds rate responds as little as possible to the tariff shock. The counterfactual is in the first row of Figure 2. Panel (c) shows that the federal funds rate is approximately unresponsive.[16] Real GDP is unaffected by this alternative monetary response for around 6 quarters. However, the adverse GDP effects are more persistent, absent the monetary easing from the baseline. In turn, this pays off via a less persistent inflation response. After 12 quarters, the baseline inflation response is above the 68% credible set of the counterfactual, and after 15 quarters, above the 90% credible set. Thus, we conclude that the monetary accommodation from the baseline is not responsible for short-term inflation, but plays a meaningful role in inflation persistence over the medium term.

Strict inflation stabilization. Since inflation is less persistent absent partial monetary accommodation, we aim to explore how potent monetary policy is in stabilizing prices and what output costs such a policy entails. To this end, we consider a counterfactual in which CPI inflation responds as little as possible and present the results in the second row of Figure 2. Implementing such a policy requires a short-lived interest rate hike that peaks at 0.49 percentage points only 1 quarter after the shock. Then, the policy rate falls quickly to a similar level as in the baseline scenario. Such a sharp and short-lived interest rate hike is sufficient to almost perfectly stabilize inflation. However, this policy amplifies the recessionary impact of the shock considerably. The counterfactual real GDP trough is 0.28 percentage points lower than the baseline. In comparison, this represents a 40% increase in the adverse output effects between the baseline and counterfactual troughs.

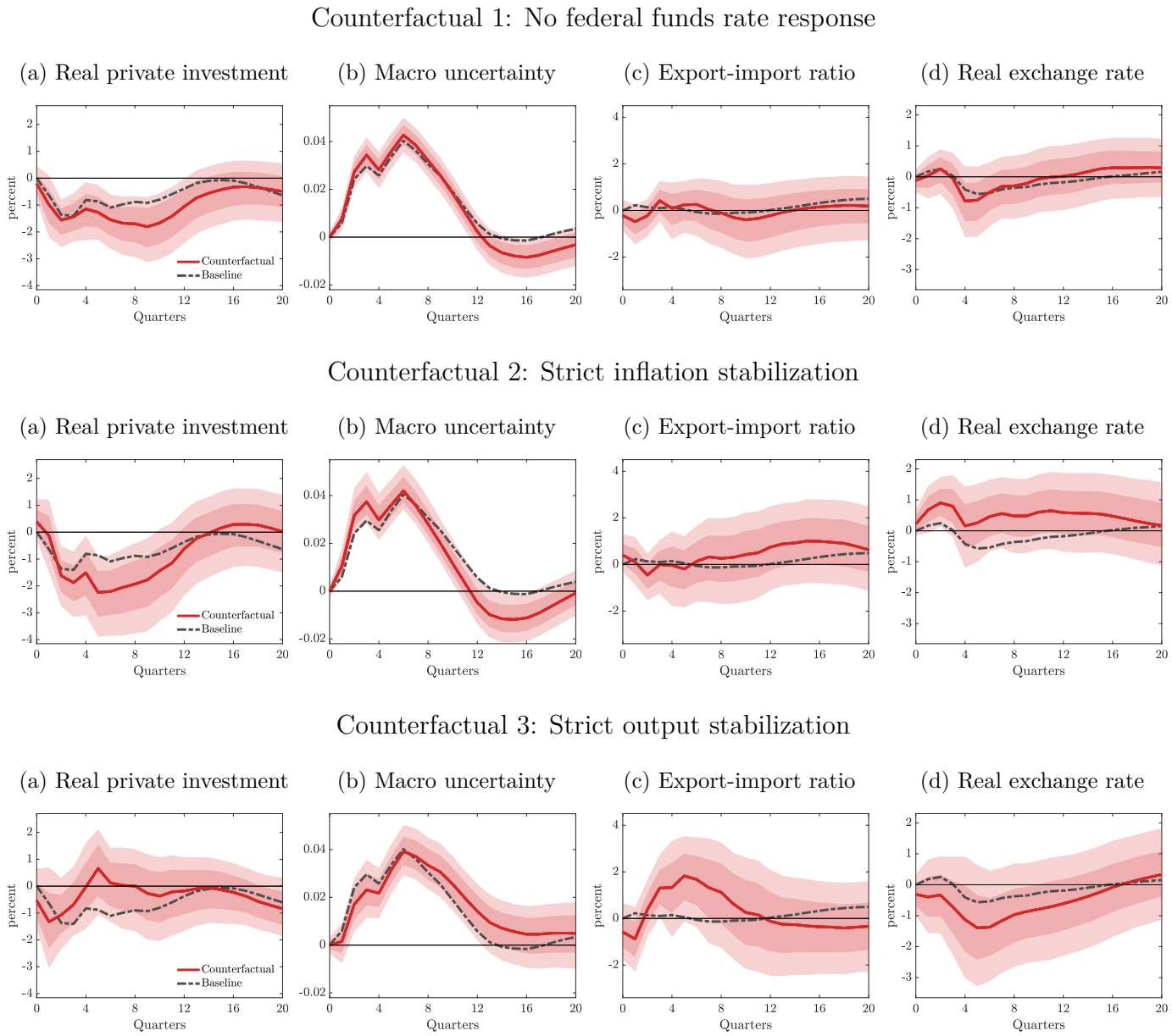
[16] A perfectly unresponsive federal funds rate would require not only two, but infinitely many distinct monetary shocks. Alternatively, one would require more structural assumptions to extrapolate from the existing empirical evidence (Caravello et al., 2024).

Figure 2: Tariff shock responses under counterfactual monetary policy, core outcomes



Notes: This figure shows counterfactual impulse responses estimated based on a Bayesian VAR, as specified in Section 2. The counterfactuals are computed using monetary policy shocks following McKay and Wolf (2023). The solid line represents the posterior median of the counterfactual, and the shaded areas are 68% and 90% credible sets. The dashed line corresponds to the baseline median response to a tariff shock, as displayed in Figure 1. For comparison, we keep the vertical axis for each variable across counterfactuals fixed.

Figure 3: Tariff shock responses under counterfactual monetary policy, additional outcomes



Notes: This figure shows counterfactual impulse responses estimated based on a Bayesian VAR, as specified in Section 2. The counterfactuals are computed using monetary policy shocks following McKay and Wolf (2023). The solid line represents the posterior median of the counterfactual, and the shaded areas are 68% and 90% credible sets. The dashed line corresponds to the baseline median response to a tariff shock, as displayed in Figure 1. For comparison, we keep the vertical axis for each variable across counterfactuals fixed.

Strict output stabilization. As the last counterfactual, we estimate the alternative policy scenario in which monetary policy aims to fully stabilize real activity but ignores inflation. This counterfactual is given in the third row of Figure 2 and is implemented with a peak interest rate cut of 0.65 percentage points reached only 1 quarter after the tariff shock. As expected, inflation increases considerably in this counterfactual scenario. Specifically, the peak inflation effect is 0.26 percentage points larger than in the baseline. This suggests a sizable sacrifice of price stability to minimize the adverse GDP impact, which is strongly dampened. However, the interest rate cut is not large enough to fully undo the adverse GDP effects, as can be seen in Panel (g). Thus, a more pronounced monetary easing would be necessary to achieve full output stabilization. This suggests the increase in inflation is likely a lower bound for the strict output stabilization counterfactual.[17]

Additional counterfactual outcomes. We present counterfactual responses of the additional outcome variables in Figure 3. The results suggest that real investment is an important channel through which counterfactual interest rate responses are transmitted. Instead, macro uncertainty is less affected by the different monetary responses. Finally, only in the strict output stabilization counterfactual, we find a moderate increase in the export-import ratio and a corresponding U.S. dollar depreciation, both consistent with the monetary easing.[18]

5 Conclusion

This paper presents impulse responses to a U.S. import tariff shock. These responses align well with economic theory and quantify the impact of tariffs without relying on a fully specified structural model. On average, we find that a tariff increase acts as a supply shock, which monetary policy partially accommodates through lowering interest rates. Our first mone-

[17]This is the best approximation of the counterfactual we can deliver, given the existing causal evidence on monetary transmission; see also the discussion in Footnote 16.

[18]The percent response of the export-import ratio is given by the response of log exports minus log imports and computed for each posterior draw.

tary policy counterfactual exercise reveals that the moderate loosening of monetary policy has a comparatively small impact on macroeconomic aggregates, compared with monetary policy being unresponsive to the shock. The remaining counterfactual exercises consider two extreme monetary policy configurations with either strict inflation or strict output stabilization. Our estimates suggest that strict inflation stabilization leads to sizable output costs, and strict output stabilization amplifies the inflationary impact of tariffs considerably. While these results are expected, we view the quantification of these scenarios without imposing a full model as a key contribution. Importantly, research that quantifies the optimal policy response to import tariff shocks should be consistent with our estimates.

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