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No. 529, 02 / 2026

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KOF ETH Zurich

February 25, 2026

Abstract

We study how firms' expectations respond to prospective tariff shocks using a randomized survey experiment among Swiss manufacturing firms. When confronted with potential U.S. tariffs, respondents expect sizable declines in turnover and investment, yet anticipate increases in ex-tariff export prices despite falling demand. This combination of declining activity and rising prices runs counter to the standard prediction of trade models, in which tariffs reduce foreign demand and put downward pressure on exporters' prices. The observed pattern is consistent with a destination-specific cost-push mechanism, whereby tariffs raise exporters' marginal costs through compliance burdens, logistical frictions, or reduced scale. Embedding firms' stated price and sales expectations in a parsimonious structural pricing model, we quantify the implied cost changes and recover sector-level demand elasticities. The estimates indicate substantial heterogeneity across industries and are, on average, consistent with short-run trade elasticities from the recent literature. Moreover, we corroborate the experimental evidence using panel survey data on firms' expectations around an unexpected U.S. tariff announcement.

JEL Classification: F13, D22, E31, D84

Keywords: International trade, Tariffs, Firm expectations, Pricing, Cost pass-through.

*The authors thank Christian Conrad, Zeno Enders, Jan-Egbert Sturm, and Michael Weber, as well as seminar participants at Heidelberg University and participants at the KOF–SNB workshop, for insightful comments and suggestions. Authors' contact: abberger@kof.ethz.ch, bibaj@kof.ethz.ch, gersbach@kof.ethz.ch, perakis@kof.ethz.ch, rathke@kof.ethz.ch, sarferaz@kof.ethz.ch, and kwalsh@ethz.ch. The survey experiment has been pre-registered at the AEA RCT Registry under number AEARCTR-0016068, https://doi.org/10.1257/rct.16068-1.0 and received the ethics approval from ETH Zurich under number 25 ETHICS-161.

1 Introduction

Trade policy shocks are among the most salient and consequential sources of uncertainty for firms in open economies. The resurgence of protectionism has renewed debates about how tariffs shape firm decisions, pass through into prices, and ultimately affect welfare. Beyond disrupting trade flows, tariffs can generate price pressures through pass-through and cost effects, making them central to current macroeconomic policy discussions. Despite extensive empirical work on realized tariff episodes, we still lack causal evidence on how firms' expectations react to prospective tariffs and how these expectations map into the mechanisms embedded in quantitative trade models.

This paper studies how firms form expectations about tariffs before they are implemented and how these expectations shape pricing, sales, and investment decisions. We focus on a salient and unexpected policy scenario: prospective U.S. tariffs on Swiss manufacturing exports in 2025. Swiss manufacturers operate in a highly open economy, where high exposure to foreign markets implies that tariff shocks have particularly large firm-level consequences. Using a randomized survey experiment, we confront firms with alternative tariff regimes – either a uniform 10 percent tariff or a large, comprehensive tariff package raising duties on Swiss exports to as much as 31 percent – and elicit firms' expected adjustments relative to a no-tariff-increase baseline. The experimental design isolates the causal effect of prospective U.S. tariffs on firm expectations prior to any ex post adjustment in quantities, prices, or supply chains. To validate the vignette-based approach, we also show that firms' expectations respond sharply to an actual U.S. tariff announcement affecting Swiss exports in August 2025, using a difference-in-differences event-study design based on panel survey data.

The central empirical finding is a striking combination of falling demand and rising prices. Firms expect substantial declines in real turnover and investment following prospective U.S. tariffs, yet they report increases in ex-tariff prices. This coexistence of declining demand and rising export prices runs counter to the standard prediction of trade models in which tariffs reduce foreign demand and put downward pressure on exporters' prices along an upward-sloping supply curve. We propose a simple mechanism to reconcile this puzzle. We hypothesize that large and sudden tariffs raise exporters' marginal costs, for example, through compliance burdens, disruptions to logistics and sourcing, or the loss of scale economies in serving the U.S. market.[1] Under this cost-push channel, firms may rationally increase ex-

[1]Anecdotally, tariff-related compliance and logistics costs were salient for many firms in 2025. For example, the Swiss industry association Swissmem warned of additional costs related to documentation, work hours,

tariff export prices even as demand falls, in contrast to the textbook terms-of-trade mechanism emphasized in standard trade models. We also consider forward-looking behavior when future tariff relief occurs with positive probability. This affects the interpretation of our estimates but does not change our qualitative conclusions.

Quantitatively, the expected adjustments are economically meaningful. Under a uniform 10 percent tariff, firms anticipate declines in real turnover and investment on the order of 5 and 1 percent, respectively, while reporting a modest but positive increase in ex-tariff prices. Under the larger tariff package, expected declines in activity are more pronounced, and price increases are larger. Crucially, price adjustments are highly destination-specific: firms raise prices for U.S. exports, while prices for domestic sales and non-U.S. export markets move little. These patterns are strongest among firms with larger exposure to the U.S. market, consistent with heterogeneous incidence by export share.

Focusing on the U.S. destination, our results speak to evidence from recent realized U.S. tariff episodes, which document large reductions in import volumes and limited adjustment in exporters' ex-tariff prices into the U.S. (e.g., Amiti, Redding and Weinstein, 2019; Fajgelbaum et al., 2020; Cavallo et al., 2021). By examining firms' expectations prior to implementation, we find that firms anticipate increases in ex-tariff prices for U.S. exports, suggesting that anticipated trade policy shocks may affect pricing through exporter-side cost pressures and compliance frictions that are difficult to disentangle in ex post analyses of realized tariffs.

To test and quantify this cost-push explanation for tariff-related inflationary pressures, we estimate a simple structural model of Swiss exporters' pricing decisions. In the model, a representative firm in each Swiss manufacturing sector faces separate demand in the U.S., Switzerland, and the rest of the world and chooses destination-specific prices to maximize profits given destination-specific marginal costs. Firms subsequently reoptimize after the imposition of a U.S. tariff – either 10 percent or 31 percent – which is mechanically added to the ex-tariff export price, while allowing the imposition (and size) of the tariff to affect marginal costs by destination. Using survey responses on turnover and price changes across 8 manufacturing sectors and the two vignettes, we estimate the sector-specific demand elasticities and sector/destination-specific cost changes that best fit the reported moments. Under the assumption that demand in each location is isoelastic with a common sectoral elasticity

and external support for tariff compliance (SRF, April 2025, "Trumps Zölle plagen Schweizer Exportindustrie," *SRF News article*). The Thomson Reuters Institute (2025, "2026 Global Trade Report", *Reuters Report*) similarly reports that firms expect, among other concerns, higher compliance burdens, greater trade-department staffing, and overtime in response to U.S. tariffs.

parameter, the system is overidentified, which allows us to test the model's restrictions.

Estimating the model yields three main findings. First, firms' responses are consistent with rising marginal costs following U.S. tariff imposition. We find no evidence of cost reductions that would be required to rationalize falling demand alongside declining ex-tariff prices. Instead, the estimated cost changes are generally positive, particularly for supplying the U.S. market, and in some cases also for non-U.S. destinations. Second, the implied sector-specific demand elasticities lie in a range comparable to short-run trade elasticity estimates in the recent literature (see, e.g., Baqaee et al., 2024), though there is substantial heterogeneity across industries. Finally, despite the model's parsimony, it fits the reported turnover and price responses well: formal overidentification tests fail to reject the model. Taken together, these results indicate that anticipated cost pressures provide a plausible explanation for the coexistence of falling demand and rising export prices in response to prospective tariff shocks.

Our work is closely related to a growing literature that uses surveys and information experiments to study how agents form expectations about trade policy and its macroeconomic consequences. Coibion, Gorodnichenko and Weber (2025) show that U.S. households widely anticipated tariff increases and expected substantial pass-through into consumer prices. Stantcheva and Tham (2025) study the views and perceptions of U.S. respondents on trade policy along a number of dimensions such as patriotism, partisanship, and economic understanding. Atkin, Cullen and Iyoha (2025) report imperfect knowledge about tariffs and high uncertainty among U.S. small and medium-sized enterprises. Recent policy reports based on firm surveys document heterogeneous expectations about how tariffs affect costs, prices, and activity among small and medium-sized businesses (e.g., Andrade et al., 2025*a*; Bank of England, 2025; Andrade et al., 2025*b*,*c*). We complement these studies by focusing on exporters in a small open economy and by embedding firms' stated expectations in a structural pricing framework, which allows us to interpret survey responses through the lens of economic theory and to distinguish between demand-driven and cost-push mechanisms underlying expected price changes. More broadly, our findings also speak to recent work on tariff pass-through and quantitative trade models by identifying exporter-side cost pressures as a mechanism for rising prices under tariffs and by providing short-run sectoral elasticity estimates disciplined by firms' expectations. A more detailed discussion of how our analysis relates to the existing literature on tariff pass-through, exporter-side mechanisms, and expectations-based evidence is provided in Section 2.

The remainder of the paper is organized as follows. Section 2 reviews the related literature.

Section 3 describes the survey design as well as the experimental tariff scenarios, presents the effects of the tariff vignettes on firms' expectations for prices, turnover, and investment. Section 4 introduces the structural pricing framework and estimation strategy and reports the main structural results. Section 5 explores potential alternative explanations, examines robustness, and provides external validation using firms' expectation responses to a real-world tariff announcement. Section 6 concludes.

2 Related Literature

A growing theoretical literature has explored mechanisms through which tariffs may affect exporters' prices beyond standard demand reallocation. In their review article, Fajgelbaum and Khandelwal (2022) briefly consider supply-side shifts as a potential explanation for high pass-through. Fajgelbaum et al. (2024) allow for exporter scale economies, which can imply rising export prices following tariffs, although their analysis focuses primarily on trade flows rather than prices. In a search-and-renegotiation trade model, Grossman, Helpman and Redding (2024) show that perceived marginal costs from the perspective of U.S. importers can increase following tariffs, as sufficiently small tariffs improve the bargaining position of foreign suppliers; their analysis abstracts from actual production or compliance cost changes faced by exporters. Finally, Hayakawa and Ito (2015) document higher pass-through under regional trade agreements relative to most favored nation regimes and attribute this difference to rules-of-origin compliance costs borne by exporters.

A large empirical literature documents how tariffs affect prices and trade flows using realized policy shocks. Recent studies of U.S. protectionism find substantial declines in imports alongside full or near-full pass-through of tariffs into duty-inclusive prices, with little change in exporters' ex-tariff prices (Amiti, Redding and Weinstein, 2019, 2020; Fajgelbaum et al., 2020; Cavallo et al., 2021). Flaaen, Hortaçsu and Tintelnot (2020) further show that tariff-inclusive retail prices can rise by more than one-for-one in specific product markets. Earlier work based on pre-Trump episodes reports more mixed evidence and often finds incomplete pass-through consistent with upward-sloping exporter supply curves (e.g., Irwin, 2014; Ludema and Yu, 2016; Feenstra, 1989; Fitzgerald and Haller, 2018; Winkelmann and Winkelmann, 1998). The contrast between these earlier findings and more recent tariff episodes is noted in both Amiti, Redding and Weinstein (2019) and Fajgelbaum and Khandelwal (2022).

A recent macroeconomic literature also studies the aggregate effects of tariff shocks using his-

torical and structural time-series approaches. For example, den Besten and Känzig (2025) construct a narrative series of plausibly exogenous tariff changes from 1840 to 2024 and show that tariff increases are generally contractionary, with imports falling sharply and output declining persistently, alongside mixed effects on price levels across historical periods. Similarly, structural VAR analyses such as Franconi and Hack (2025) find that tariff shocks tend to reduce output and raise consumer prices, with macroeconomic responses depending on interactions with monetary policy. These aggregate analyses complement firm-level and survey-based evidence on tariff expectations and pricing behavior by documenting contractionary effects on activity alongside potential inflationary pressures at the macro level.

A smaller but growing literature uses surveys and information experiments to study how agents form expectations about trade policy and its macroeconomic effects. Coibion, Gorodnichenko and Weber (2025) elicit household beliefs in the United States and show that respondents widely anticipated tariff increases and expected substantial pass-through into consumer prices. Related evidence from firm surveys is provided in recent policy reports. Andrade et al. (2025*a*) document heterogeneous expected cost and price responses across tariff scenarios among U.S. small and medium-sized businesses, while evidence from the Bank of England's Decision Maker Panel indicates that U.K. firms anticipating U.S. tariffs expect declines in sales and investment, with limited price adjustments outside the U.S. market (Bank of England, 2025). Two recent policy reports from the Federal Reserve Bank of Boston further show that tariff uncertainty increased sharply in 2025 and that many firms expect tariff-related cost increases to be passed through into prices over extended horizons (Andrade et al., 2025*b*,*c*). More broadly, a growing literature embeds randomized information treatments in firm surveys to study expectations and behavior under policy uncertainty (e.g., Coibion, Gorodnichenko and Kumar, 2018; Coibion et al., 2021; Coibion, Gorodnichenko and Weber, 2022; Link et al., 2023; Dibiasi, Mikosch and Sarferaz, 2025).

Finally, our analysis relates to a large literature on trade elasticities and quantitative trade models. In modern global trade frameworks, sectoral trade elasticities govern substitution patterns across countries and play a central role in determining trade flow and welfare responses to policy shocks (Arkolakis, Costinot and Rodríguez-Clare, 2012; Caliendo and Parro, 2015; Baqaee and Farhi, 2024; Gersbach, Maunoir and Walsh, 2025). While there is some consensus regarding average elasticities at longer horizons (Bachmann et al., 2024), estimates of sector-specific elasticities vary widely across studies and contexts (Kehoe et al., 2024).

3 Survey Experiment

This section describes the firm survey, the information treatment, the regression specification used in the empirical part of the paper, and the empirical results.

3.1 Survey Overview

Our survey experiment was embedded into the regular business tendency survey conducted by the KOF Swiss Economic Institute at ETH Zurich. The KOF Business Tendency Survey is an established monthly survey that has been collecting information on the assessments, expectations, and plans of companies in Switzerland since the 1950s. It focuses on qualitative assessments and expectations regarding specific company-related variables that reflect the company's business activity. These variables include demand, production, sales price development and the general business situation.[2] The KOF Business Tendency Survey abides by the internationally established survey standards that form the basis for producing confidence indicators.

Survey participation is voluntary and based on a company panel. For panel maintenance, companies are randomly selected from a register, stratified by industry and size class (measured in full-time equivalent employment), and asked to join the panel. However, companies can also register for the panel themselves. While companies are not compensated for participation, they receive the aggregated results from each survey wave they participate in. For the present study, we introduced the experiment into the manufacturing sector survey (NACE Rev.2 classification letter C), as this sector is likely the most severely and directly affected by the tariffs on imports of goods into the U.S.

We carried out an experiment in May and ran an additional survey wave in July. We implemented the second survey to a) increase the number of responses[3] and b) to measure firm sensitivity to variations in question wording[4]. While we allowed for follow-up participation, our main analysis restricts our sample to first-time responses. The monthly regular survey is distributed both by mail and via personalized email invitations to high-ranking decision-makers in companies, usually owners or members of the management board. How-

[2]The regular monthly questionnaire can be found on the KOF website: https://kof.ethz.ch/en/surveys/business-tendency-surveys/konjunkturumfrage-industrie.html

[3]The July KOF Manufacturing Survey sample also includes firms that only answer on a quarterly basis, as opposed to the May sample where firms participate every month.

[4]We introduced a variant for the sales price question.

ever, the experiment was only presented to online participants, as this allows for appropriate randomization and survey experiment roll-out. Around 70% of responding companies from the regular sample typically participate online. A total of 561 and 527 firms participated in the survey experiment in May and July respectively. Our main analysis, based on first-time responses, draws on 745 firms.

3.2 Experimental Design

To estimate the causal effect of changes in U.S. tariff policy on firms' expectations and planning, we design a randomized controlled trial (RCT) using a vignette-based survey experiment. The survey participants are randomly assigned to two groups. One group is asked to assume that the U.S. will introduce a uniform tariff of 10% for all countries. The other group receives a scenario in which the U.S. imposes a 31% tariff rate on all goods imports from Switzerland, as announced on "Liberation Day". Following the vignette, participants are asked to estimate, both qualitatively and quantitatively, the effects on the firm's total turnover, fixed asset investments in Switzerland, and the sales prices by region. The complete questionnaire for the experimental part of the survey can be found in Appendix A.1. We list the two vignettes below.

Vignette 1: The USA permanently imposes a uniform tariff of 10% on goods imported from all countries - regardless of their origin. This tariff applies to all product groups, including pharmaceutical products.

Vignette 2: The USA imposes a permanent tariff of 31% on goods imports from Switzerland. Imports from other countries into the USA are subject to different tariff rates, as announced on Liberation Day. Assume that these tariffs apply to all product groups, including pharmaceutical products.

Table A.1 in Appendix A.2 displays descriptive statistics for the participating firms in each treatment arm. The balanced characteristics across vignettes provide evidence that the treatment randomization worked as intended. The experiment was pre-registered on the AEA RCT Registry and has approval from ETH Zurich's Ethics Commission.

3.3 Regression Setup

The five post-treatment quantitative response variables from the survey are *turnover*, *U.S. prices*, *non-U.S. foreign prices*, *domestic (Swiss) prices*, and *investment* (all measured in percentage changes against a no tariff increase scenario). We winsorize all quantitative outcome variables at the 90% level to limit the influence of extreme responses. All results in the main text are based on this baseline specification. Robustness checks using alternative winsorization thresholds and robust regression methods are presented in Section A.3. We then construct the *price index* variable, defined at the firm level as the weighted average of the firm's price changes in the three mutually exclusive regions (U.S., non-U.S. foreign, and Switzerland), using each region's share of total firm turnover as weights. Next, we compute the variable *real turnover*, by deflating a firm's nominal turnover change by the change in the firm's price index. This leaves us with the three key quantitative variables of interest, namely *real turnover*, *price index*, and *investment*.

In addition to intercept-only regressions for all quantitative response variables, we estimate separate linear regressions for the three key outcome variables to assess how the effects depend on U.S. exposure. All regressions use the same specification, regressing each outcome variable on a binary vignette treatment indicator, $vignette_i$ (coded 0 for Vignette 1 and 1 for Vignette 2; see Section 3.1), a firm's exposure to the U.S. market measured by the share of total turnover in the U.S., $share_i^{U.S.}$, the interaction between vignette and U.S. exposure, as well as controls, namely firm size, sector, and a wave dummy (coded 0 if the firm's first response was in May (first wave) and 1 if it was in July (second wave); see Section 3.1).

Formally, the regression setup is as follows:

$$Y_i^{(k)} = \beta_0^{(k)} + \beta_1^{(k)} vignette_i + \beta_2^{(k)} share_i^{U.S.} + \beta_3^{(k)} (vignette_i \times share_i^{U.S.}) + \boldsymbol{X}_i^\top \boldsymbol{\delta}^{(k)} + \varepsilon_i^{(k)}, \quad (1)$$

where $Y^{(k)}$ denotes the outcome variable $k \in \{real\ turnover, price\ index, investment\}$ of firm i, $\boldsymbol{X}_i$ is the vector of control variables with the associated vector of coefficients $\boldsymbol{\delta}^{(k)}$, and $\varepsilon^{(k)}$ are the residuals.

3.4 Empirical Results

First, both vignettes lead firms to expect sizable declines in real turnover and investment, yet increases in overall prices. Figure 1 presents the mean responses for *real turnover*, *price*

index, and *investment* for Vignette 1 (uniform 10% tariffs) and Vignette 2 ("Liberation Day"). Under Vignette 1, firms anticipate a 4.7% drop in real turnover, a 0.7% increase in the *price index*, and a decline of 1.2% in *investment* in 2025 relative to a scenario without these new tariffs.[5] Under Vignette 2, the corresponding expected changes are −5.0% for real turnover, +0.9% for overall prices, and −2.0% for investment. Although the effects are on average more pronounced in the "Liberation Day" scenario, the estimated differences between the two vignettes are modest for *real turnover* and the *price index*. The decline in *investment* is larger under Vignette 2.

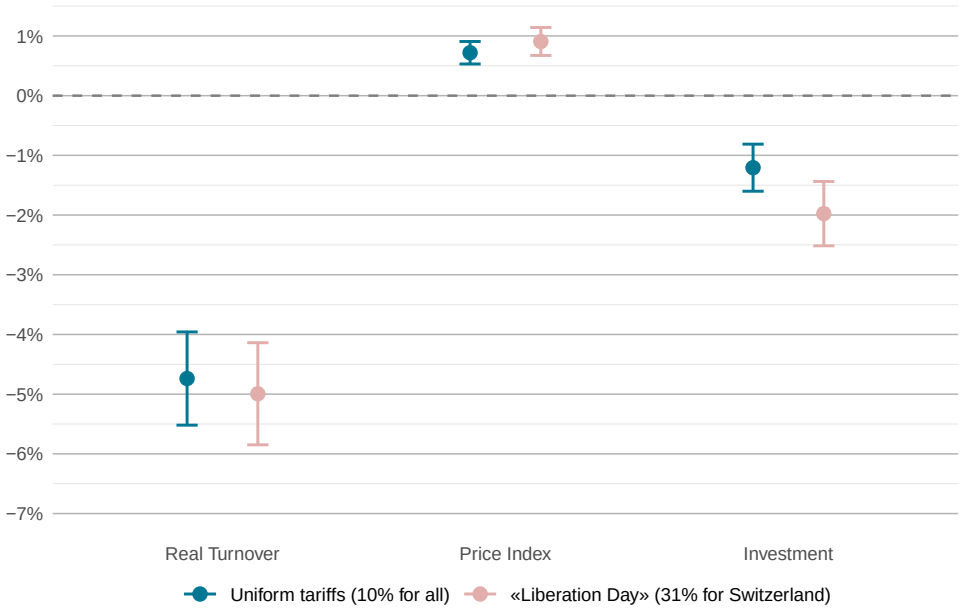


Figure 1: Means for Firm Outcomes

Notes: This figure displays the estimated means (from intercept-only regressions) and 90% confidence intervals for the self-reported quantitative firm outcomes, i.e. real turnover, price index, and investment, for each vignette. The real turnover change is computed as the change in the firm (nominal) turnover, deflated by the price index. The firm level price index corresponds to the average of a firm's price changes in the three mutually exclusive regions (U.S., non-U.S., and Switzerland), weighted by firm turnover share in the respective regions. Outcome variables are based on winsorized raw components (turnover, region-specific prices, investment) at the 90% level. See Appendix Table A.2 for the exact numerical values.

[5]For real turnover and investment, the measures reflect the change over the entirety of 2025 relative to 2024; for overall prices the measures reflect the change in level from the end of 2024 to the end of 2025, all relative to a scenario without new tariffs. See Appendix A.1 for the exact wording of the questions.

Second, the increase in overall prices is destination-specific: firms anticipate a large part of the adjustments to take place in the U.S., with small but still noticeable price increases in other foreign markets and in Switzerland. Figure 2 presents the mean expected changes in U.S., non-U.S. foreign, and domestic prices for Vignettes 1 and 2. Under Vignette 1, firms expect U.S. prices to rise by 4.0%, non-U.S. foreign prices by 0.6%, and domestic prices by 0.4%. Under Vignette 2, the corresponding expected changes are 5.3%, 0.6%, and 0.5%.

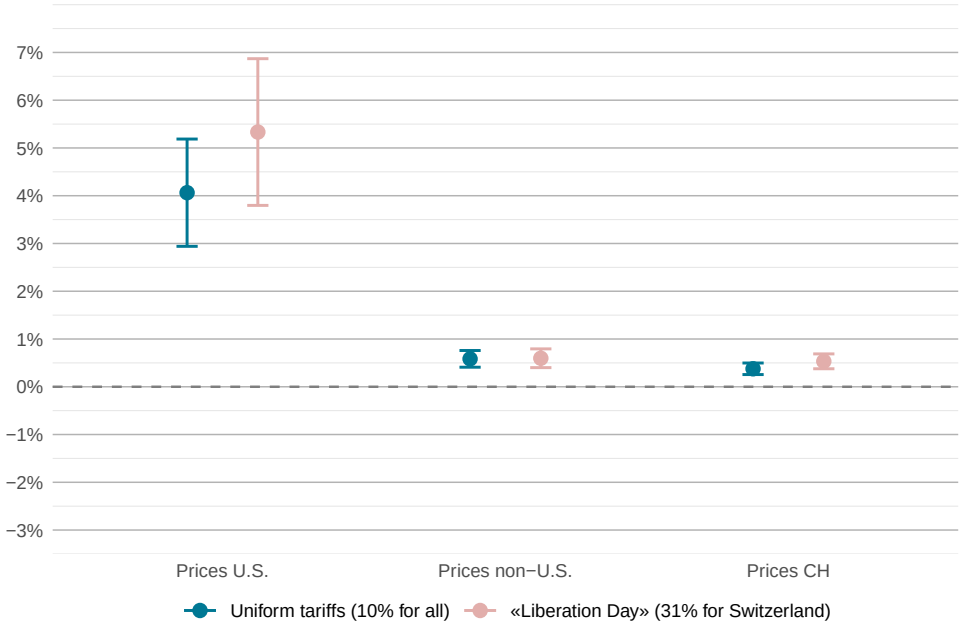


Figure 2: Means for Region-Specific Firm Prices

Notes: This figure shows the estimated means (from intercept-only regressions) and 90% confidence intervals for the firm self-reported quantitative price variable by region, for each vignette. The mutually exclusive regions are the U.S., the rest of the world (non-U.S.), and Switzerland (CH). Variables are winsorized at the 90% level. See Appendix Table A.4 for the exact numerical values.

Third, the negative real effects of the tariff scenarios are more pronounced for firms that have a larger share of total turnover generated in the U.S., with stronger effects under the "Liberation Day" scenario. Table 1 reports the regression estimates for *real turnover*, *price index*, and *investment* based on the specification described in 3.3. Under Vignette 1, firms with a larger U.S. turnover share exhibit a negative real turnover response, a slightly positive overall prices response, and a slightly positive investment response. Under Vignette 2 ("Liberation Day"), these slopes change markedly. The interaction term (between U.S. exposure and Vignette 2) shows that the marginal effects of U.S. exposure become substantially more

negative for both real turnover and investment: the slopes steepen by 0.15 percentage points for each additional percentage point of turnover derived from U.S. exports. For overall prices, the interaction effect is small and imprecisely estimated.

Table 1: Tariff and Export Share Effects on Firm Outcomes

	real turnover	*price index*	*investment*
Liberation Day	0.08	0.11	-0.30
	(0.75)	(0.18)	(0.46)
turnover share U.S.	-0.11**	0.03*	0.03***
	(0.05)	(0.01)	(0.01)
Liberation Day × *turnover share U.S.*	-0.15*	0.02	-0.15***
	(0.08)	(0.02)	(0.05)
Num. Obs.	354	371	517

Notes: This table reports the effects of Liberation Day tariffs and U.S. export shares on self-reported firm outcomes: real turnover, price index, and investment. The firm level price index corresponds to the average of a firm's price changes in the three mutually exclusive regions (U.S., non-U.S., and Switzerland), weighted by firm turnover share in the respective regions. The *Liberation Day* variable is a dummy for the 31% "Liberation Day" tariff vignette. The active control group corresponds to the 10% uniform tariff vignette. Coefficients on additional control variables are omitted for brevity. The regression setups are as described in subsection 3.3. Outcome variables are based on winsorized raw components (turnover, region-specific prices, investment) at the 90% level. Heteroskedasticity-robust (HC1) standard errors are shown in parentheses. *p<0.10; **p<0.05; ***p<0.01.

4 Structural Analysis

To rationalize why firms anticipate higher prices despite the imposition of elevated U.S. tariffs, we focus on a cost-shock mechanism. In an environment in which the U.S. imposes many different tariffs across goods and across countries, exporters often face higher costs of doing business. Compliance with new customs rules, slower logistics at the border, and the administrative burden of dealing with tariffs all add to fixed and variable trade costs. Moreover, tariffs reduce the volume of sales to the U.S., since some buyers switch to domestic or third-country suppliers. This smaller scale of sales raises average costs per unit, while trade diversion may force exporters into less efficient channels. In response, firms may rationally increase their export prices to cover these higher per-unit costs of exporting, ensuring they can still sustain operations in the U.S. market despite reduced volumes and added frictions.

We now introduce a simple framework to analyze the impact of cost shocks and to recover them from the data alongside price elasticities. Suppose a firm in sector j faces the isoelastic

demand curve

$$D_c^j(P) = \delta_c^j P^{-\theta^j} \tag{2}$$

in region $c \in C = \{US, CH, ROW\}$ (US, Switzerland, and Rest-of-World). $\theta^j > 1$ is the demand elasticity, which depends on the sector but not the destination country, and $\delta_c^j > 0$ is an arbitrary constant. The firm has constant and destination-specific marginal cost MC_c^j of meeting demand in region c. The firm maximizes profits by setting region-specific prices:

$$\max_{P_c^j} \sum_{c \in C} \left(P_c^j - MC_c^j\right) D_c^j(P_c^j), \tag{3}$$

yielding the solution

$$P_c^j = \frac{\theta^j}{\theta^j - 1} MC_c^j. \tag{4}$$

Now suppose the U.S. institutes an import tariff τ. The tariff is levied from competitive importers within the U.S., who buy from Switzerland at price P_{US}^j and sell within the U.S. at price $(1+\tau)P_{US}^j$. After the enactment of the tariff, the firm profit maximization becomes

$$\max_{P_{US}^j, P_{CH}^j, P_{ROW}^j} \left\{ \left(P_{US}^j - \widehat{MC}_{US}^j\right) D_{US}^j((1+\tau)P_{US}^j) + \sum_{c \in \{CH, ROW\}} \left(P_c^j - \widehat{MC}_c^j\right) D_c^j(P_c^j) \right\}, \tag{5}$$

where $\widehat{MC}_c^j$ denotes the new marginal cost of production and delivery after the tariff. We allow marginal costs to change from MC_c^j to $\widehat{MC}_c^j$ after the start of tariffs, representing the various potential supply chain disruptions described above. Due to isoelastic demand, post-tariff prices have the same form as in (4) (hats represent post-tariff values throughout):

$$\widehat{P}_c^j = \frac{\theta^j}{\theta^j - 1} \widehat{MC}_c^j. \tag{6}$$

It follows from (4) and (6) that percent price changes identify percent changes in marginal costs:

$$\frac{\widehat{MC}_c^j}{MC_c^j} = \frac{\widehat{P}_c^j}{P_c^j}, \tag{7}$$

for all sectors j and destinations $c \in \{US, CH, ROW\}$.

Defining sector j turnover as

$$Sales^j = \sum_{c \in C} P_c^j D_c^j(P_c^j),$$

it follows that the percent change in turnover is given by

$$\frac{\widehat{Sales}^j}{Sales^j} = \omega^j_{US}\frac{\widehat{P}^j_{US}D^j_{US}((1+\tau)\widehat{P}^j_{US})}{P^j_{US}D^j_{US}(P^j_{US})} + \omega^j_{CH}\frac{\widehat{P}^j_{CH}D^j_{CH}(\widehat{P}^j_{CH})}{P^j_{CH}D^j_{CH}(P^j_{CH})} + \omega^j_{ROW}\frac{\widehat{P}^j_{ROW}D^j_{ROW}(\widehat{P}^j_{ROW})}{P^j_{ROW}D^j_{ROW}(P^j_{ROW})}, \quad (8)$$

where

$$\omega^j_c = \frac{P^j_c D^j_c(P^j_c)}{\sum_{c' \in C} P^j_{c'} D^j_{c'}(P^j_{c'})} \quad (9)$$

is Swiss sector j's pre-tariff sales weight in region c.

Finally, plugging the profit-maximizing prices (Equations 4 and 6) into the sales equation (8) and using the isoelastic demand form, we arrive at

$$\frac{\widehat{Sales}^j}{Sales^j} = \omega^j_{US}(1+\tau)^{-\theta^j}\left(\frac{\widehat{MC}^j_{US}}{MC^j_{US}}\right)^{1-\theta^j} + \omega^j_{CH}\left(\frac{\widehat{MC}^j_{CH}}{MC^j_{CH}}\right)^{1-\theta^j} + \omega^j_{ROW}\left(\frac{\widehat{MC}^j_{ROW}}{MC^j_{ROW}}\right)^{1-\theta^j}, \quad (10)$$

which is the equation that identifies θ^j.

We use the firm survey responses from the two vignettes to estimate, via classical minimum distance estimation, the sector-specific demand elasticities and cost changes. The key equations are (7) and (10), which link the unobserved model values (demand elasticities and cost changes) with the data (turnover and price changes in the two vignettes). The key identifying assumption is isoelastic demand with industry-specific elasticities that do not vary by destination. This may seem overly restrictive, but it is consistent with the quantitative trade literature, for example Caliendo and Parro (2015), Çakmaklı et al. (2025), and the quantitative model employed in Bachmann et al. (2024). Note that provided Swiss firms assume overall foreign sectoral demand and prices (e.g., 2025 general U.S. electronics prices and demand) will not change much in the Swiss tariff vignettes, the demand elasticities we estimate correspond to trade elasticities in standard trade theory.[6] In Section 5.1, we

[6]Suppose, for each sector, the importing country consumes (and uses as a composite intermediate) a bundle of domestic and foreign products from that sector according to the production function

$$y = \left(\sum_c b_c^{\frac{1}{\theta}} y_c^{\frac{\theta-1}{\theta}}\right)^{\frac{\theta-1}{\theta}}.$$

y is the country's sectoral bundle, y_c is the input from country c (which could be the home country), b_c is an exogenous weight, and θ is the elasticity of substitution. Using the standard terminology, $\theta - 1$ is the trade elasticity. Letting p_c be source c's tariff-inclusive price and assuming the bundling technology is performed by a competitive, cost-minimizing firm, demand for imports from country c is given by $y_c = (yb_c\mathcal{P}^\theta)p_c^{-\theta}$, where $\mathcal{P}$ is the natural price index. This is the same as our demand curve in (2) with $\delta_c = yb_c\mathcal{P}^\theta$. Assuming

re-estimate the model after accounting for the possibility that Swiss firms expect overall sectoral price changes in the U.S., which yields similar results.

We assume that the individual firm survey responses are noisy estimates of the true moments – turnover and price changes – for each sector. Let $\widetilde{M}$ be the average responses for a sector across the two vignettes in our survey. $\widetilde{M}$ is 8×1, and its elements are, in order, *turnover (V1)*, *U.S. prices (V1)*, *CH prices (V1)*, *ROW prices (V1)*, *turnover (V2)*, *U.S. prices (V2)*, *CH prices (V2)*, and *ROW prices (V2)*, where *V1* and *V2* refer to the vignettes. We assume that $\sqrt{n}\left(\widetilde{M} - M\right) \to^d N(0, \Omega)$, where n is the number of firms sampled in the sector, and we assume that Ω is diagonal. Let se_m denote the standard error for moment $m \in \{1, \ldots, 8\}$, calculated from the survey, and form the 8×1 matrix $\widetilde{V}$ with $se_1^2, se_2^2, \ldots, se_8^2$ on the diagonal and zeros elsewhere. $n\widetilde{V}$ is a consistent estimate of Ω (assuming it is diagonal).

τ is either $\tau_1 = 0.10$ or $\tau_2 = 0.31$, depending on the vignette, and we calculate the ω's (pre-tariff sales weights) as the average of the mean weights from the two vignettes (the values are in Appendix Table A.8). For simplicity, we calibrate these weights, assuming the sample values are the true ones.

For each sector in the model, using Equations (7) and (10), the corresponding moments for Vignette 1 are given by

$$g\left(\theta, dMC_{\tau_1}, \tau_1\right) = \begin{pmatrix} \omega_{US}(1+\tau_1)^{-\theta}\left(\frac{\widehat{MC}_{US}}{MC_{US}}\right)^{1-\theta} + \omega_{CH}\left(\frac{\widehat{MC}_{CH}}{MC_{CH}}\right)^{1-\theta} + \omega_{ROW}\left(\frac{\widehat{MC}_{ROW}}{MC_{ROW}}\right)^{1-\theta} \\ \frac{\widehat{MC}_{US}}{MC_{US}} \\ \frac{\widehat{MC}_{CH}}{MC_{CH}} \\ \frac{\widehat{MC}_{ROW}}{MC_{ROW}} \end{pmatrix},$$

where $dMC_{\tau_1} = \left(\frac{\widehat{MC}_{US}}{MC_{US}}, \frac{\widehat{MC}_{CH}}{MC_{CH}}, \frac{\widehat{MC}_{ROW}}{MC_{ROW}}\right)^\top$ is the vector of marginal cost changes for the tariff τ_1. Let dMC_{τ_2} be the corresponding vector for tariff τ_2.

Letting $\Theta = (\theta, dMC_{\tau_1}, dMC_{\tau_2})$ be the vector of all model parameters and stacking the model moments for the two tariff values, we form

$$g(\Theta) = \left(g\left(\theta, dMC_{\tau_1}, \tau_1\right), g\left(\theta, dMC_{\tau_2}, \tau_2\right)\right)^\top$$

Swiss firms take $y\mathcal{P}^\theta$ as roughly fixed in the vignettes, our procedure recovers the trade elasticity.

and estimate, for each sector, the model parameters via:[7]

$$\widetilde{\Theta} = \arg\min_{\Theta} \left(g(\Theta) - \widetilde{M} \right)^{\top} W \left(g(\Theta) - \widetilde{M} \right). \tag{11}$$

Note that the system is overidentified since $\widetilde{M}$ is 8×1, while Θ is 7×1. We use the optimal weighting matrix $\widetilde{V}^{-1}$, with a small diagonal jitter (0.001) applied where necessary for numerical stability. We also construct a J-statistic, as described below.

Under appropriate regularity conditions, following Newey and McFadden (1994) for classical minimum distance estimation, we have

$$W = \widetilde{V}^{-1} : \ \sqrt{n} \left(\widetilde{\Theta} - \Theta_0 \right) \to^{d} N \left(0, \left(G^{\top} \Omega^{-1} G \right)^{-1} \right),$$

where $G = \nabla_{\Theta} g \left(\Theta_0 \right)$ is the 8×7 Jacobian of g evaluated at the true parameters. Plugging in estimates $\widetilde{\Omega} = n\widetilde{V}$ and $\widetilde{G} = \nabla_{\Theta} g \left(\widetilde{\Theta} \right)$, we can form parameter standard errors given by

$$W = \widetilde{V}^{-1} : \ \sqrt{\operatorname{diag} \left(\left(\widetilde{G}^{\top} \widetilde{V}^{-1} \widetilde{G} \right)^{-1} \right)},$$

where the square root is taken element-by-element. We can assess model fit by forming the J-statistic

$$\widetilde{J} = \left(g(\widetilde{\Theta}) - \widetilde{M} \right)^{\top} \widetilde{V}^{-1} \left(g(\widetilde{\Theta}) - \widetilde{M} \right).$$

Under the null hypothesis of $E \left[\widetilde{M} \right] = g(\Theta_0)$, $\widetilde{J} \to^{d} \chi^2_1$ (chi-squared with one degree of freedom, since there are 8 moments and 7 parameters).

Estimation results are shown in Table 2, from which we draw three sets of observations regarding (1) cost changes, (2) demand elasticities, and (3) model fit. We work with the most export-relevant manufacturing sectors in Switzerland excluding pharmaceuticals.[8] Beginning with costs, we see that Swiss firms from most sectors expect U.S. tariffs to increase their marginal costs. For instance, for electronics firms (ISIC code C27) we estimate 6% and 9% marginal cost increases for exporting to the U.S., in the two vignettes respectively. In chemicals (C20), the estimated cost increases are 8% and 10%. In many cases, we estimate a strong positive effect of tariffs on the cost of producing for the U.S. Only the sector other manufacturing (ISIC codes 31 to 33) displays imprecisely estimated marginal cost

[7] We solve the minimization with Matlab's fminunc.m.

[8] Pharmaceuticals are excluded due to high sectoral concentration and associated confidentiality constraints.

increases for U.S. exports. Interestingly, the point estimates in Table 2 indicate rising costs for producing for non-U.S. destinations in several of the reported sectors, which is consistent with the story that tariffs create general upward cost pressure. Overall, the estimates suggest that firms do not primarily interpret U.S. tariffs as a demand shock moving them downward along an upward-sloping supply curve, but rather as a shock that raises marginal costs. But this does not rule out upward-sloping supply curves: it could simply reflect the dominance of tariff-related cost shocks.

Second, turning to demand elasticities, the median and mean parameter estimates are 2.71 and 4.02, respectively, corresponding to trade elasticities of around 1.7 and 3.0. As firms in the survey were asked in mid-2025 about turnover and prices through the end of the year, the elasticity horizon is roughly 6 months. Baqaee et al. (2024), in calibrating their trade model to study German/China decoupling, draw upon several sources and settle on a short-run trade elasticity of 1.5 for the 6-month to one year horizon. Given the range of around 1 to 3 in their Figure 2 and given our standard errors from Table 2, we see that our survey-based structural estimates are on average consistent with the recent literature. At the same time, we find substantial heterogeneity in the point estimates, with higher elasticities in rubbers/plastics, fabricated metals, and other manufacturing (ISIC rev. 4 codes C22, C25, and C31_C33 respectively). Our lowest estimates are in food, chemicals, and electronics (C10_C12, C20, and C27), all with elasticity parameters below 2.

Third, even though the model is overidentified, the fitted turnover and price values are quite close to their survey counterparts. The last column of Table 2 shows the J-test p-values, and in each case we fail to reject the model. Appendix Table A.9 shows the survey moments and the corresponding model moments in brackets. In most cases, the fit is close, although there are a few exceptions. The model misses the plastics Vignette 1 turnover by around 1 percentage point, for example.

To summarize, our simple isoelastic demand model with destination-specific pricing and tariff-related cost changes seems to fit the survey responses quite well. Moreover, the best-fit elasticities are consistent with recent short-run estimates from the literature. This lends credence to the cost-push mechanism, since we imposed no bounds on the elasticities in estimation.

Table 2: Demand Elasticities and Cost Changes by Sector

		Vignette 1: $\widehat{MC}_c^j/MC_c^j$			Vignette 2: $\widehat{MC}_c^j/MC_c^j$			
Sector	θ^j	US	ROW	CH	US	ROW	CH	J-test p-value
Food products	1.51	8.96**	1.17**	0.51*	2.27	0.00	0.62*	0.50
	(0.38)	(3.57)	(0.54)	(0.28)	(5.94)	(0.00)	(0.33)	
Chemicals	1.83	8.49*	0.18	0.14	9.90**	0.17	0.00	0.55
	(0.98)	(4.40)	(0.17)	(0.14)	(4.74)	(0.18)	(0.00)	
Plastics	10.61	1.16	0.18	0.32**	3.90*	0.30	0.47*	0.19
	(3.95)	(0.77)	(0.14)	(0.16)	(2.32)	(0.25)	(0.28)	
Fabricated metals	6.31	2.68**	0.56**	0.46***	4.18**	0.78**	0.32*	0.37
	(1.41)	(1.31)	(0.23)	(0.17)	(1.87)	(0.32)	(0.19)	
Precision devices	3.19	6.18***	1.13***	0.53**	3.01*	0.61*	0.53	0.55
	(0.58)	(1.81)	(0.36)	(0.23)	(1.75)	(0.37)	(0.33)	
Electronics	1.97	6.19**	1.23*	0.79*	8.86***	1.18**	0.52	0.80
	(0.51)	(2.64)	(0.65)	(0.44)	(2.98)	(0.55)	(0.36)	
Machinery n.e.c.	2.23	2.88**	0.19	0.15	4.76**	0.31	0.26	0.34
	(0.39)	(1.13)	(0.13)	(0.10)	(1.99)	(0.23)	(0.19)	
Other manufacturing	4.50	9.54	0.00	0.00	5.43	0.68	1.06*	0.46
	(2.07)	(8.17)	(0.00)	(0.00)	(6.54)	(0.71)	(0.55)	

Notes: For each sector j and destination c, this table reports the estimated demand elasticity θ^j and the destination-specific marginal cost changes $\widehat{MC}_c^j/MC_c^j$ implied by the model. Marginal cost changes are reported as percent changes, for Vignette 1 and 2. Demand elasticities and cost changes are estimated by classical minimum distance (see Equation (11)), using the sector-level means and standard errors in the turnover and prices changes from the survey experiment. See Appendix Table A.7 and Table A.8 for the data from the survey experiment used in the estimation procedure. Structural standard errors are in parentheses. Stars denote tests of no marginal cost change. *p<0.10; **p<0.05; ***p<0.01.

5 Robustness and External Validation

This section examines the robustness of our empirical findings and clarifies the interpretation of our structural estimates. We first assess robustness to assumptions about overall U.S. price dynamics and to alternative treatments of outliers. We then discuss how forward-looking demand and pricing considerations affect the interpretation of our results. We also examine whether changes in strategic interaction among exporters in the U.S. market or broader general equilibrium effects could account for the observed pricing responses. Finally, we provide external validation using firms' expectation responses to a real-world tariff announcement.

5.1 Structural Estimation with Overall U.S. Price Changes

As described in Footnote 6, our structural estimation imposes that Swiss firms assume the demand shifter δ_c^j in the demand curve (2) remains constant under the vignettes. We adopt this approach to explore the extent to which the cost-push mechanism alone rationalizes the survey responses. Moreover, *some* identifying assumption is required to reduce the number of free parameters, and it seems reasonable to suppose that, from the perspective of Swiss firms, general U.S. market conditions are second-order relative to the direct effects of tariffs on Switzerland. In the CES framework of Footnote 6, δ_{US}^j is proportional to $y^j(\mathcal{P}^j)^{\theta^j}$, where y^j is overall sector j real demand in the U.S., and $\mathcal{P}^j$ is the U.S. price index in sector j. Our identifying assumption amounts to assuming that y^j and $\mathcal{P}^j$ are fixed over 2025 from the perspective of Swiss firms. For U.S. sectors with a low import share, like food products, our assumption seems plausible. But in other sectors, like electronics, imports are a higher fraction of U.S. demand. In such cases, while one could argue that short-run real demand might not change much, tariffs would be expected to put upward pressure on the overall sectoral price indexes in the U.S.

While we cannot simultaneously identify demand elasticities, Swiss firm cost expectations, and U.S. demand shifters, we can check how accounting for changes in U.S. $\mathcal{P}^j$'s affects our estimates. Suppose now that U.S. demand for Swiss products in sector j is $D_{US}^j(P) = y^j b_{CH}^j \left(P/\mathcal{P}_{US}^j\right)^{-\theta^j}$, where y^j and b_{CH}^j are overall U.S. demand and a preference parameter for Switzerland, neither of which is affected by tariffs (by assumption). The U.S. price index in sector j ($\mathcal{P}_{US}^j$), however, changes in the vignettes, as Swiss firms expect tariffs to put upward pressure on U.S. prices. Equation 10 becomes

$$\frac{\widehat{Sales}^j}{Sales^j} = \omega_{US}^j(1+\tau)^{-\theta^j}\left(\frac{\widehat{MC}_{US}^j}{MC_{US}^j}\right)^{1-\theta^j}\left(\frac{\widehat{\mathcal{P}}_{US}^j}{\mathcal{P}_{US}^j}\right)^{\theta^j} + \omega_{CH}^j\left(\frac{\widehat{MC}_{CH}^j}{MC_{CH}^j}\right)^{1-\theta^j} + \omega_{ROW}^j\left(\frac{\widehat{MC}_{ROW}^j}{MC_{ROW}^j}\right)^{1-\theta^j}. \tag{12}$$

For the new estimation, we calibrate $\widehat{\mathcal{P}}_{US}^j/\mathcal{P}_{US}^j = 1 + \alpha^j T_i$, for vignettes $i \in \{1, 2\}$, where α^j is the U.S. import share of spending in sector j, and T_i is the overall effective import tariff rate in Vignette i. We set $T_1 = 0.10$ and $T_2 = 0.20$,[9] and we calibrate each α^j according to the 2019 Inter-Country Input-Output tables (ICIO) from OECD (2023).[10]

[9]The Budget Lab at Yale estimates that the full Liberation Day package corresponded to a rise in the average tariff rate of approximately 20 percentage points, relative to March 2025: `https://budgetlab.yale.edu/research/state-us-tariffs-november-17-2025`.

[10]Specifically, for each sector, we calculate total intermediate spending by the U.S. and set α^j to be the

The resulting point estimates for demand elasticities and cost changes are shown in Appendix Table A.11, and they are very similar to the baseline results in Table 2. The median θ^j estimate of 3.28, corresponding to a trade elasticity of 2.28, is, as before, consistent with recent short-run trade elasticity estimates from the literature.

So while our baseline estimates from Section 4 imposed constant overall sectoral demand in the U.S., our findings appear robust to accounting for plausible tariff-related shifts in U.S. sectoral price indexes.

5.2 Robustness to Outliers

Our baseline results winsorize all quantitative outcome variables at the 90 percent level to limit the influence of extreme survey responses. To assess the sensitivity of our findings to this choice, we conduct robustness checks using a more aggressive 80 percent winsorization threshold and an alternative estimation method that downweighs outliers, namely Huber regression. As shown in Appendix A.3, these alternative specifications yield very similar results and do not affect our main conclusions.

5.3 Intertemporal Substitution and Pricing

While our baseline framework abstracts from intertemporal considerations, this section discusses how allowing for forward-looking behavior would affect the interpretation of our estimates. In the survey experiment, firms are instructed to assume that the tariffs are permanent. Our baseline model, therefore, interprets reported pricing responses under the assumption that the tariff regime will not be reversed. However, both exporters and their U.S. customers may attach a positive probability to tariff relief at some future date. This possibility introduces an additional mechanism that may be particularly relevant for durable goods: intertemporal substitution of purchases. If customers expect tariffs to be lower in the future, they may postpone some purchases from the tariff period to a later date.

There are several reasons why firms may expect the effective tariff burden to be reduced with positive probability. The tariff itself may be renegotiated or removed. Firms may also anticipate reorganizing distribution chains through subsidiaries or industry partners in

share of purchases from non-U.S. sources. Note that the shares for final purchases (vs. intermediates) are similar. Our values for α^j are displayed in Appendix Table A.10.

third countries with lower tariffs, thereby reducing tariff exposure, even though U.S. rules-of-origin provisions make simple relabeling ineffective. Finally, some firms may consider relocating production to the United States, although such adjustments are unlikely at very short horizons. Taken together, these considerations imply that firms may assign non-zero probability to lower expected tariff exposure in the future than during the survey horizon.

We can capture this idea in a simple two-period extension of the pricing framework. A share of U.S. buyers is "urgent" and must purchase in each period, while the remaining buyers are "flexible" and may choose when to purchase. Conditional on buying in a given period, all buyers have the same isoelastic demand schedule as in the static model, so the structural elasticity of substitution remains unchanged. What changes is that flexible buyers may postpone purchases when current prices are high relative to expected future prices.

This environment has two implications. First, observed demand during the tariff period becomes more elastic than the underlying structural elasticity. When the current export price to the U.S. rises, the resulting decline in sales reflects not only the usual intensive-margin response among buyers who continue to purchase, but also the extensive-margin decision of some flexible buyers to delay purchases. Even if the underlying elasticity is unchanged, the total demand schedule observed in the tariff period is therefore more elastic (in absolute value) than the underlying structural demand curve.

Second, intertemporal substitution may also influence firms' optimal pricing. A flexible buyer who delays a purchase is not necessarily lost, but may return at a later point in time. When current and future prices are similar, this shifting of sales mainly reallocates demand across time, so that the loss of current profits and the gain in future profits largely offset one another once discounting is taken into account. In this case, the resulting effect on the optimal current export price is likely to be small.[11]

However, if firms attach a positive probability to tariff removal, then flexible buyers who postpone purchases expect to face a lower price in the future. Under isoelastic demand, this increases the expected quantity purchased once tariffs are lifted, allowing exporters to earn positive markups on a larger sales base due to a greater quantity per deferred flexible

[11] In the two-period framework, a higher current export price raises the margin earned on urgent buyers but also induces some flexible buyers to postpone their purchases. The firm, therefore, loses current profits on these buyers but expects to recover similar per-unit markups when they return in the future. When future and current markups and sales volume are similar and profits are discounted, the loss of current profits and the gain in future profits largely offset each other in a first-order approximation. As a result, the net effect of intertemporal substitution on the optimal current export price is likely to be small relative to the primary cost and demand forces studied in the paper.

buyer. In such a setting, shifting flexible demand into the future can raise expected profits, creating an additional incentive to raise current export prices even when marginal costs remain unchanged. The strength and sign of the overall price effect, therefore, depend on the degree of discounting, the probability of tariff relief, the difference between current and future prices, and the share of flexible buyers.

These considerations may be important for interpreting our structural estimates when the conditions necessary for the intertemporal channel to operate, as outlined above, are satisfied. Our empirical framework embeds pricing behavior in a static isoelastic demand model that abstracts from intertemporal reallocation motives. When firms behave dynamically, part of the observed price response to anticipated tariffs may reflect changes in dynamic pricing incentives rather than shifts in static marginal costs or structural demand elasticities. At the same time, intertemporal substitution increases the elasticity of demand observed in the tariff period, so that a static model will attribute less market power to firms than would arise in a fully dynamic environment. As a result, the elasticities we estimate from the survey data should be viewed as upper bounds on the true sectoral elasticities to the extent that intertemporal substitution may be present.

In summary, allowing for a positive probability of tariff relief introduces a forward-looking motive that interacts with exporters' pricing decisions and increases the elasticity of observed demand during the tariff period. When the probability of tariff removal is sufficiently high, it can generate additional upward pressure on current export prices.

5.4 Strategic Pricing and Competitive Interaction

Another mechanism our baseline explanation abstracts from is a change in strategic interaction among exporters competing in the U.S. market following the imposition of tariffs. A 31 percent tariff places Swiss firms at a relative disadvantage vis-à-vis suppliers from countries facing slightly lower duties. This could, in some cases, increase the perceived elasticity of residual demand faced by Swiss exporters, as U.S. buyers can more easily substitute alternative sources.

In standard pricing frameworks with imperfect competition, a higher perceived demand elasticity reduces optimal markups. Firms facing stronger competitive pressure, therefore, price more cautiously in order to defend their market share. Holding marginal costs fixed, intensified competition would thus put downward pressure on ex-tariff export prices.

Importantly, this prediction runs counter to what we observe in the data. Firms expect declining U.S. sales but increasing ex-tariff export prices. A purely demand-driven or strategic-competition channel would predict lower, not higher, exporter prices. Hence, changes in competitive interaction cannot account for the observed price increases. If anything, allowing for stronger competitive pressure would reinforce the need for a cost-push mechanism to rationalize the pricing responses.

5.5 General Equilibrium Effects

A general consideration concerns general equilibrium effects operating through aggregate income and demand adjustments in the United States. In principle, tariffs may affect overall U.S. real income, expenditure patterns, and sectoral price indices, thereby feeding back into foreign exporters' demand conditions.

In the present context, however, such aggregate effects are likely to be quantitatively very limited. Swiss exports account for only a small share of total U.S. imports – on the order of roughly 2 percent – and an even smaller share of overall U.S. absorption. As a result, tariffs targeted at Switzerland are unlikely to generate sizable aggregate real income effects in the United States. A similar conclusion applies to the aggregate demand effects arising from differences in tariffs on exports to the United States across the various vignettes for other countries.[12] From the perspective of Swiss firms, U.S. aggregate demand can therefore be treated as approximately exogenous over the horizon considered in the survey.

The more relevant general equilibrium channel operates through sectoral price-index adjustments rather than through aggregate income effects. Tariffs may raise overall U.S. prices in sectors with meaningful import exposure, thereby affecting the relative demand faced by Swiss exporters. We explicitly incorporate this mechanism in Section 5.1 by allowing for tariff-induced movements in U.S. sectoral price indices. Reassuringly, accounting for these price-index effects leaves our main structural estimates largely unchanged.

Taken together, these considerations suggest that while general equilibrium adjustments may operate at the sectoral level, broader aggregate feedback effects are expected to be negligible.

[12] Gersbach, Maunoir and Walsh (2025) examine a wide range of tariff scenarios. For the tariff levels considered for Vignette 2, the implied change in U.S. real income remains below one percentage point relative to aggregate U.S. real income in Vignette 1.

5.6 External Validation Using a Realized Tariff Announcement

As an external validation of our survey-based approach, we exploit a realized U.S. tariff shock affecting Swiss exports that was announced on August 1, 2025. The announcement generated a sudden increase in trade policy uncertainty for Swiss exporters, with exposure varying substantially across firms depending on their reliance on the U.S. market.

Using monthly firm-level panel data from the KOF Business Tendency Surveys, we implement a difference-in-differences event-study design that compares firms with high and low exposure to the U.S. market. Specifically, firms are classified based on their pre-shock export shares to the United States, with firms generating at least 20% of their turnover through exports to the U.S. forming the treatment group and firms with export shares of at most 5% serving as the control group. The outcomes of interest are firms' expectations about incoming orders, export orders, and selling prices over the subsequent three months.

We find that firms with high U.S. exposure revise expectations sharply and immediately following the announcement. Firms with little exposure exhibit no comparable change. These expectation responses mirror the patterns observed in our randomized tariff vignettes. The full difference-in-differences event-study figures are presented in Appendix Section A.4.

6 Conclusion

This paper studies how firms anticipate trade policy shocks and how these expectations shape pricing, sales, and investment decisions before tariffs are implemented. Using a randomized survey experiment among Swiss manufacturing firms, we show that prospective U.S. tariffs lead firms to expect substantial declines in turnover and investment, yet at the same time to raise ex-tariff export prices. This coexistence of falling demand and rising prices constitutes a central empirical puzzle, as it runs counter to the standard prediction of quantitative trade models in which reduced foreign demand puts downward pressure on exporters' prices.

We propose and quantify a simple cost-push mechanism to reconcile this pattern. Large and sudden tariffs raise exporters' marginal costs through compliance burdens, logistical frictions, sourcing disruptions, and the loss of scale economies in serving the U.S. market. Incorporating this channel into a parsimonious structural pricing framework allows the model to match the expectation data well. The estimated marginal-cost changes are predominantly positive, particularly for supplying the U.S. market, and help explain why firms raise prices

despite anticipating lower sales. At the same time, the framework yields sector-specific demand elasticity estimates that lie within the range of short-run estimates in the literature, while exhibiting substantial heterogeneity across industries.

Beyond the survey experiment, we provide external validation for our approach by showing that firms' expectations respond sharply to a realized Swiss tariff shock, using a difference-in-differences event-study design based on panel survey data. This evidence supports the credibility of hypothetical tariff vignettes as a tool for studying expectation formation when policy changes are anticipated but not yet realized.

Our findings have several implications. First, they suggest that anticipated trade policy shocks can generate inflationary pressures through exporter-side cost channels that are muted or difficult to detect in ex post analyses of realized tariffs. Second, they highlight the importance of explicitly modeling exporter marginal costs when assessing the price and welfare effects of trade barriers. Third, by disciplining trade elasticities with firms' expectations rather than realized outcomes alone, our approach offers a complementary way to inform the calibration of quantitative trade models, particularly at short horizons.

Moreover, the welfare implications of tariff shocks in our framework differ from those in standard small-country models. In canonical settings, tariffs act as wedges that distort prices and generate deadweight losses, but they do not directly alter production costs. Welfare effects can therefore often be summarized by sufficient-statistics formulas based on trade elasticities and import shares. In contrast, our evidence suggests that anticipated tariffs raise exporters' marginal costs through compliance burdens or logistical frictions. These cost increases represent real resource losses rather than pure transfers. As a result, the welfare costs of tariff shocks may exceed those implied by conventional analyzes that abstract from exporter-side cost adjustments. Traditional sufficient-statistics approaches may therefore understate the true welfare consequences of such trade policy shocks.

More broadly, this paper demonstrates how combining survey experiments with structural modeling can shed light on the mechanisms through which policy expectations affect firm behavior. As trade policy uncertainty remains elevated, understanding how firms anticipate and internalize prospective barriers is crucial for assessing the macroeconomic and welfare consequences of protectionism. Future work could extend this approach to other policy domains or explore longer-horizon expectation dynamics.

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A Supplemental Information on Survey Experiment

A.1 Special Questions and Vignettes

We introduced special questions to the May and July waves of the KOF Manufacturing Survey. Both waves used identical questions to elicit firm expectations, with the only difference residing in the question on sales prices. The questions were the following:

Special questions on the global trade situation

1. What proportion of your company's total turnover in Switzerland in 2024 was generated by exports to the following markets? (Please estimate the shares as percentages. If a market is not relevant for your company, please enter 0).

USA: open field
China: open field
E.U.: open field
Remaining export markets: open field
Domestic sales: open field
Sum: 100%

*Two possible **vignettes** were randomly assigned to firms upon questionnaire call-up.*

Please estimate how the following tariff scenario would affect your company.

Vignette 1: The USA permanently imposes a uniform tariff of 10 % on goods imported from all countries - regardless of their origin. This tariff applies to all product groups, including pharmaceutical products.

Vignette 2: The USA imposes a permanent tariff of 31% on goods imports from Switzerland. Imports from other countries into the USA are subject to different tariff rates, as announced on Liberation Day. Assume that these tariffs apply to all product groups, including pharmaceutical products.

2. Effects on the development of total sales.
As a result of the introduction of these tariffs, we expect that the total turnover of our company in Switzerland in 2025 - compared to a scenario without these new tariffs - will likely
be higher/stay the same /be lower
In % by approximately:

3. Effects on the development of fixed asset investments in Switzerland.
As a result of the introduction of these tariffs, we expect that our (gross) fixed asset investments in Switzerland in 2025 - compared to a scenario without these new tariffs - will likely be higher/stay the same /be lower
In % by approximately:

4. Effects on sales prices.
Are your sales prices (net, so before taxes, tariffs, etc. in CHF) likely to change by the end of 2025 compared to the level at the end of 2024 due to the introduction of the above-mentioned tariffs - compared to a scenario without these new tariffs - or will they not change as a result? (Assume that the exchange rate of the Swiss franc does not change as a result of the introduction of tariffs).

Please estimate the impact on the net prices charged by your company separately by sales region. The net prices (in CHF)

in the USA are going to:
increase significantly / increase slightly / remain unchanged / decrease slightly / decrease significantly // not relevant
Expected change in % (rounded to the nearest whole percent):

on average abroad excluding the USA are going to:
increase significantly / increase slightly / remain unchanged / decrease slightly / decrease significantly // not relevant
Expected change in % (rounded to the nearest whole percent):

in Switzerland are going to:
increase significantly / increase slightly / remain unchanged / decrease slightly / decrease significantly // not relevant
Expected change in % (rounded to the nearest whole percent):

We varied the wording of the sales price question in the July survey wave, to test the robustness of our results. All other questions remained identical to the May wave. We introduce the July special survey questions in the following way:

In May, we asked you about the potential impact of US tariff policy. As this issue remains highly relevant, we are inviting everyone who answered the questionnaire in May, as well as those who are seeing it for the first time, to share their views. The questionnaire has

been revised to be relevant to both groups, and it will yield valuable insights even if you already responded in May. Please base your answers exclusively on the hypothetical scenario described below, regardless of how likely you consider it. What matters is a rough estimate of the potential effects this scenario could have on your company.

The updated sales prices question read as follows:

4. Effects on sales prices.
Are your sales prices before tariffs (in CHF) likely to change by the end of 2025 compared to the level at the end of 2024 due to the introduction of the above-mentioned tariffs - compared to a scenario without these new tariffs - or will they not change as a result? (Assume that the exchange rate of the Swiss franc does not change as a result of the introduction of tariffs). By sales prices before tariffs, we mean the price you charge customers in the United States before any tariff is applied; the tariff is then added on top of this price. For example, if the sales price remains unchanged, the tariff is added to that unchanged price; if you lower the price, the tariff is added to the reduced price; and if you raise it, the tariff is added to the higher price. Please estimate the impact on the sales prices charged by your company separately by sales region. The sales prices before tariffs (in CHF): [...]

A.2 Representativeness and Summary Statistics

Table A.1: Summary Statistics by Vignette Assignment

	Mean	Std. Dev.	N (non-missing)
Panel A: Firms Assigned to Vignette 1 (Uniform Tariffs), $N = 366$			
Share of turnover from exports to the U.S. (in %)	5.9	12.4	313
Share of turnover from exports to China (in %)	3.0	8.3	313
Share of turnover from exports to the EU (in %)	24.4	25.8	313
Share of turnover from exports to other countries (in %)	6.1	11.8	313
Share of domestic turnover (in %)	60.7	37.9	313
Sector (shares among firms, in %)			
Capital goods	36.9		130
Consumer durables	5.1		18
Consumer non-durables	15.6		55
Intermediate goods	42.3		149
Firm size (shares among firms, in %)			
Large	10.0		34
Medium	37.2		127
Small	52.8		180
Panel B: Firms Assigned to Vignette 2 (Liberation Day), $N = 379$			
Share of turnover from exports to the U.S. (in %)	4.7	10.4	298
Share of turnover from exports to China (in %)	3.7	10.2	298
Share of turnover from exports to the EU (in %)	25.3	26.6	298
Share of turnover from exports to other countries (in %)	6.1	12.2	298
Share of domestic turnover (in %)	60.2	39.2	298
Sector (shares among firms, in %)			
Capital goods	27.9		103
Consumer durables	6.0		22
Consumer non-durables	17.6		65
Intermediate goods	48.5		179
Firm size (shares among firms, in %)			
Large	9.6		35
Medium	39.5		144
Small	51.0		186

Notes: This table reports the sample means and standard deviations for firm-level covariates used in the regression setup described in 3.3, by vignette. Turnover shares correspond to the firms' self-reported shares for the year 2024. Sector and firm size variables are categorical; reported means correspond to the share of firms in each category among those with non-missing information. Firm size categories follow the Eurostat classification.

A.3 Supplemental Information on Empirical Results

Table A.2: Means for Firm Outcomes

	real turnover	*price index*	*investment*
Panel A: Firms in Vignette 1 (Uniform Tariffs)			
Intercept	-4.74***	0.72***	-1.21***
	(0.47)	(0.11)	(0.24)
Num. Obs.	197	205	300
Panel B: Firms in Vignette 2 (Liberation Day)			
Intercept	-4.99***	0.91***	-1.98***
	(0.52)	(0.14)	(0.33)
Num. Obs.	191	202	296

Notes: This table corresponds to Figure 1 and reports the estimated means (from intercept-only regressions) for the self-reported quantitative firm outcomes, i.e. real turnover, price index, and investment, by vignette. The real turnover change is computed as the change in the firm (nominal) turnover, deflated by the price index. The firm level price index corresponds to the average of a firm's price changes in the three mutually exclusive regions (U.S., non-U.S., and Switzerland), weighted by firm turnover share in the respective regions. Outcome variables are based on winsorized raw components (turnover, region-specific prices, investment) at the 90% level. Standard errors in parentheses. $^{*}p<0.10$; $^{**}p<0.05$; $^{***}p<0.01$.

Table A.3: Robustness Checks for Means for Firms Outcomes

	real turnover	*price index*	*investment*
Panel A: Winsorization at 90% (Baseline Specification)			
Vignette 1 (Uniform Tariffs)			
Intercept	-4.74***	0.72***	-1.21***
	(0.47)	(0.11)	(0.24)
Num. Obs.	197	205	300
Vignette 2 (Liberation Day)			
Intercept	-4.99***	0.91***	-1.98***
	(0.52)	(0.14)	(0.33)
Num. Obs.	191	202	296
Panel C: Winsorization at 80%			
Vignette 1 (Uniform Tariffs)			
Intercept	-4.20***	0.59***	-0.47***
	(0.40)	(0.09)	(0.08)
Num. Obs.	197	205	300
Vignette 2 (Liberation Day)			
Intercept	-4.22***	0.62***	-0.64***
	(0.43)	(0.10)	(0.10)
Num. Obs.	191	202	296
Panel D: Huber Regression			
Vignette 1 (Uniform Tariffs)			
Intercept	-4.05***	0.51***	-0.29***
	(0.48)	(0.11)	(0.06)
Num. Obs.	197	205	300
Vignette 2 (Liberation Day)			
Intercept	-4.76***	0.75***	-1.07***
	(0.54)	(0.15)	(0.22)
Num. Obs.	191	202	296

Notes: This table corresponds to Figure 1 and reports the estimated means (from intercept-only regressions) for the self-reported quantitative firm outcomes, i.e. real turnover, price index, and investment, under different robustness specifications – an alternative winsorization level and a Huber regression (without winsorization). The real turnover change is computed as the change in the firm (nominal) turnover, deflated by the price index. The firm-level price index corresponds to the average of a firm's price changes in the three mutually exclusive regions (U.S., non-U.S., and Switzerland), weighted by firm turnover share in the respective regions. Outcome variables are based on winsorized raw components (turnover, region-specific prices, investment) at the level indicated in each panel. Standard errors in parentheses. *p<0.10; **p<0.05; ***p<0.01.

Table A.4: Means for Region-Specific Prices

	U.S. prices	*non-U.S. foreign prices*	*domestic prices*
Panel A: Firms in Vignette 1 (Uniform Tariffs)			
Intercept	4.06***	0.58***	0.38***
	(0.68)	(0.11)	(0.07)
Num. Obs.	110	190	239
Panel B: Firms in Vignette 2 (Liberation Day)			
Intercept	5.33***	0.60***	0.53***
	(0.93)	(0.12)	(0.09)
Num. Obs.	99	165	231

Notes: This table corresponds to Figure 2 and reports the estimated means (from intercept-only regressions) for the firm self-reported quantitative price variable by region, for each vignette. The mutually exclusive regions are the U.S., the rest of the world (non-U.S.), and Switzerland (CH). Variables are winsorized at the 90% level. Standard errors in parentheses. $^{*}p<0.10$; $^{**}p<0.05$; $^{***}p<0.01$.

Table A.5: Robustness Checks for Means for Region-Specific Prices

	U.S.	*non-U.S.*	*domestic*
Panel A: Winsorization at 90% (Baseline Specification)			
Vignette 1 (Uniform Tariffs)			
Intercept	4.06***	0.58***	0.38***
	(0.68)	(0.11)	(0.07)
Num. Obs.	110	190	239
Vignette 2 (Liberation Day)			
Intercept	5.33***	0.60***	0.53***
	(0.93)	(0.12)	(0.09)
Num. Obs.	99	165	231
Panel C: Winsorization at 80%			
Vignette 1 (Uniform Tariffs)			
Intercept	4.25***	0.43***	0.22***
	(0.60)	(0.07)	(0.04)
Num. Obs.	110	190	239
Vignette 2 (Liberation Day)			
Intercept	5.28***	0.40***	0.26***
	(0.77)	(0.08)	(0.04)
Num. Obs.	99	165	231
Panel D: Huber Regression			
Vignette 1 (Uniform Tariffs)			
Intercept	3.51***	0.43***	0.23***
	(0.67)	(0.13)	(0.06)
Num. Obs.	110	190	239
Vignette 2 (Liberation Day)			
Intercept	5.11***	0.50***	0.39***
	(1.09)	(0.15)	(0.11)
Num. Obs.	99	165	231

Notes: This table corresponds to Figure 2 and reports the estimated means (from intercept-only regressions) for the firm self-reported quantitative price variables by mutually exclusive regions (U.S., the rest of the world (non-U.S.), and Switzerland (domestic)), under different robustness specifications – an alternative winsorization level and a Huber regression (without winsorization). Variables are winsorized at the level indicated in each panel. Standard errors in parentheses. *p<0.10; **p<0.05; ***p<0.01.

Table A.6: Robustness Checks for Tariff and U.S. Export Share Effects on Firm Outcomes

	real turnover	*price index*	*investment*
Panel A: Winsorization at 90% (Baseline Specification)			
Liberation Day	0.08	0.11	-0.30
	(0.75)	(0.18)	(0.46)
Turnover share U.S.	-0.11**	0.03*	0.03***
	(0.05)	(0.01)	(0.01)
Liberation Day × Turnover share U.S.	-0.15*	0.02	-0.15***
	(0.08)	(0.02)	(0.05)
Num. Obs.	354	371	517
Panel C: Winsorization at 80%			
Liberation Day	0.30	-0.09	-0.03
	(0.63)	(0.11)	(0.15)
Turnover share U.S.	-0.09**	0.03**	0.01***
	(0.04)	(0.01)	(0.004)
Liberation Day × Turnover share U.S.	-0.14**	0.03	-0.04***
	(0.07)	(0.02)	(0.01)
Num. Obs.	354	371	517
Panel D: Huber Regression			
Liberation Day	-0.15	0.19	0.12
	(0.79)	(0.21)	(0.32)
Turnover share U.S.	-0.10	0.02*	0.02***
	(0.08)	(0.01)	(0.01)
Liberation Day × Turnover share U.S.	-0.18*	0.01	-0.11*
	(0.11)	(0.02)	(0.06)
Num. Obs.	354	371	517

Notes: This table reports the effects of Liberation Day tariffs and U.S. export shares on self-reported firm outcomes: real turnover, price index, and investment, under different robustness specifications – an alternative winsorization level and a Huber regression (without winsorization). The firm level price index corresponds to the average of a firm's price changes in the three mutually exclusive regions (U.S., non-U.S., and Switzerland), weighted by firm turnover share in the respective regions. The *Liberation Day* variable is a dummy for the 31% "Liberation Day" tariff vignette. The active control group corresponds to the 10% uniform tariff vignette. Coefficients on additional control variables are omitted for brevity. The regression setup is as described in subsection 3.3. Outcome variables are based on winsorized raw components (turnover, region-specific prices, investment) at the level indicated in each panel. Heteroskedasticity-robust (HC1) standard errors are shown in parentheses. *p<0.10; **p<0.05; ***p<0.01.

Table A.7: Turnover and Region-Specific Price Changes, by Vignette and Sector

	Vignette 1				Vignette 2			
		% Price Changes				% Price Changes		
Sector	Turnover (%)	US	ROW	CH	Turnover (%)	US	ROW	CH
Food products	-0.85	8.86	1.15	0.48	-0.74	###	0.00	0.67
	(0.44)	(3.57)	(0.54)	(0.28)	(0.51)	(###)	(0.00)	(0.34)
Chemicals	-1.33	###	0.17	0.14	-1.11	10.00	0.18	0.00
	(1.11)	(###)	(0.17)	(0.14)	(0.77)	(4.74)	(0.18)	(0.00)
Plastics	-5.14	1.14	0.14	0.25	-5.28	3.92	0.42	0.68
	(1.44)	(0.77)	(0.14)	(0.17)	(1.36)	(2.32)	(0.27)	(0.32)
Fabricated metals	-4.42	2.62	0.52	0.40	-4.41	4.22	0.87	0.41
	(0.89)	(1.31)	(0.23)	(0.18)	(0.91)	(1.87)	(0.33)	(0.21)
Precision devices	-5.14	6.06	1.10	0.51	-5.96	3.08	0.65	0.57
	(1.06)	(1.82)	(0.36)	(0.23)	(1.54)	(1.75)	(0.37)	(0.34)
Electronics	-2.35	6.14	1.20	0.77	-3.17	8.89	1.20	0.53
	(1.14)	(2.65)	(0.66)	(0.44)	(1.25)	(2.98)	(0.55)	(0.36)
Machinery n.e.c.	-3.58	2.74	0.18	0.15	-5.76	4.92	0.33	0.27
	(0.82)	(1.14)	(0.13)	(0.10)	(1.19)	(2.00)	(0.23)	(0.19)
Other manufacturing	-2.13	###	0.00	0.00	-4.71	###	0.71	1.14
	(1.36)	(###)	(0.00)	(0.00)	(1.84)	(###)	(0.71)	(0.56)

Notes: This table reports the means of (post-treatment) turnover change and region-specific price changes (all in %) in the survey experiment (see Questions 2 and 4 in Appendix A.1). Means are shown for the most export-relevant manufacturing sectors in Switzerland. Pharmaceuticals are excluded due to high sectoral concentration and confidentiality constraints. Standard errors are shown in parentheses. Entries replaced by ### are suppressed to comply with microdata confidentiality requirements.

Table A.8: Total Turnover Shares across Destination Regions, by Vignette and Sector

Sector	US	Domestic	EU	CN	Remaining Markets
Panel A: Firms in Vignette 1 (Uniform Tariffs)					
Food products	2.60	82.76	8.48	0.13	6.03
Chemicals	1.80	37.42	43.96	6.32	10.49
Plastics	1.84	63.11	31.47	0.84	2.74
Fabricated metals	3.69	67.61	22.50	1.64	4.55
Precision devices	8.72	49.55	27.32	5.94	8.47
Electronics	4.48	53.71	32.60	2.08	7.13
Machinery n.e.c.	13.84	37.65	33.90	6.70	7.92
Other manufacturing	2.38	75.15	17.85	1.94	2.68
Panel B: Firms in Vignette 2 (Liberation Day)					
Food products	1.65	83.83	10.46	0.05	4.00
Chemicals	3.94	39.17	33.87	9.11	13.90
Plastics	3.26	45.57	41.86	2.96	6.35
Fabricated metals	2.25	68.29	22.51	3.59	3.36
Precision devices	9.70	51.54	18.96	6.43	13.37
Electronics	7.10	56.42	28.45	3.95	4.09
Machinery n.e.c.	11.73	31.33	39.78	6.95	10.20
Other manufacturing	2.12	84.71	11.18	0.94	1.06

Notes: This table reports the means of (pre-treatment) export shares (in %) across destination regions in the survey experiment (see Question 1 in Appendix A.1). Means are shown for the most export-relevant manufacturing sectors in Switzerland. Pharmaceuticals are excluded due to high sectoral concentration and confidentiality constraints.

Table A.9: Survey Moments and Model Moments (in Brackets)

	Vignette 1				Vignette 2			
		% Price Changes				% Price Changes		
Sector	Turnover (%)	US	ROW	CH	Turnover (%)	US	ROW	CH
Food products	-0.85	8.86	1.15	0.48	-0.74	###	0.00	0.67
	[-0.66]	[8.96]	[1.17]	[0.51]	[-0.99]	[2.27]	[0.00]	[0.62]
Chemicals	-1.33	###	0.17	0.14	-1.11	10.00	0.18	0.00
	[-0.75]	[8.49]	[0.18]	[0.14]	[-1.34]	[9.90]	[0.17]	[0.00]
Plastics	-5.14	1.14	0.14	0.25	-5.28	3.92	0.42	0.68
	[-4.11]	[1.16]	[0.18]	[0.32]	[-6.05]	[3.90]	[0.30]	[0.47]
Fabricated metals	-4.42	2.62	0.52	0.40	-4.41	4.22	0.87	0.41
	[-4.03]	[2.68]	[0.56]	[0.46]	[-4.87]	[4.18]	[0.78]	[0.32]
Precision devices	-5.14	6.06	1.10	0.51	-5.96	3.08	0.65	0.57
	[-4.81]	[6.18]	[1.13]	[0.53]	[-6.68]	[3.01]	[0.61]	[0.53]
Electronics	-2.35	6.14	1.20	0.77	-3.17	8.89	1.20	0.53
	[-2.14]	[6.19]	[1.23]	[0.79]	[-3.38]	[8.86]	[1.18]	[0.52]
Machinery n.e.c.	-3.58	2.74	0.18	0.15	-5.76	4.92	0.33	0.27
	[-2.99]	[2.88]	[0.19]	[0.15]	[-6.49]	[4.76]	[0.31]	[0.26]
Other manufacturing	-2.13	###	0.00	0.00	-4.71	###	0.71	1.14
	[-1.18]	[9.54]	[0.00]	[0.00]	[-5.02]	[5.43]	[0.68]	[1.06]

Notes: This table reports the average (post-treatment) turnover change and region-specific price changes in the survey experiment, by sector. Fitted model values from estimating Equation (11) are in brackets. All numbers are in percent. Entries replaced by ### are suppressed to comply with microdata confidentiality requirements.

Table A.10: U.S. Import Shares

ISIC (Rev. 4)	Sector	Share
C10 to C12	Food products	0.08
C20	Chemicals	0.16
C22	Plastics	0.19
C25	Fabricated metals	0.11
C26	Precision devices	0.43
C27	Electronics	0.42
C28	Machinery n.e.c.	0.30
C31 to C33	Other manufacturing	0.24

Notes: This table shows, by sector, the fraction of U.S. intermediate purchases from non-U.S. suppliers. Source: 2019 ICIO from OECD (2023) and authors' calculations.

Table A.11: Demand Elasticities and Cost Changes by Sector (Alternate Specification with U.S. Price Index Changes)

		Vignette 1: $\widehat{MC}_c^j/MC_c^j$			Vignette 2: $\widehat{MC}_c^j/MC_c^j$			
Sector	θ^j	US	ROW	CH	US	ROW	CH	J-test p-value
Food products	1.54	8.96**	1.17**	0.51*	2.26	0.00	0.62*	0.51
	(0.39)	(3.57)	(0.54)	(0.28)	(5.94)	(0.00)	(0.33)	
Chemicals	1.97	8.51*	0.18	0.14	9.88**	0.17	0.00	0.55
	(1.05)	(4.40)	(0.17)	(0.14)	(4.74)	(0.18)	(0.00)	
Plastics	11.04	1.17	0.18	0.33**	3.89*	0.29	0.45*	0.17
	(4.06)	(0.77)	(0.14)	(0.16)	(2.32)	(0.25)	(0.27)	
Fabricated metals	6.45	2.69**	0.56**	0.46***	4.17**	0.78**	0.32*	0.36
	(1.43)	(1.31)	(0.23)	(0.17)	(1.87)	(0.31)	(0.19)	
Precision devices	3.83	6.19***	1.13***	0.53**	3.00*	0.61*	0.53	0.63
	(0.70)	(1.80)	(0.35)	(0.23)	(1.74)	(0.36)	(0.33)	
Electronics	2.26	6.19**	1.23*	0.79*	8.85***	1.18**	0.52	0.83
	(0.58)	(2.64)	(0.65)	(0.43)	(2.97)	(0.54)	(0.36)	
Machinery n.e.c.	2.74	2.97***	0.20	0.16	4.66**	0.30	0.26	0.26
	(0.49)	(1.12)	(0.13)	(0.10)	(1.99)	(0.23)	(0.19)	
Other manufacturing	4.64	9.79	0.00	0.00	5.41	0.68	1.06*	0.42
	(2.12)	(8.13)	(0.00)	(0.00)	(6.54)	(0.71)	(0.55)	

Notes: For each sector j and destination c, this table reports the estimated demand elasticity θ^j and the destination-specific marginal cost changes $\widehat{MC}_c^j/MC_c^j$ implied by the model. Marginal cost changes are reported as percent changes, for Vignette 1 and 2. Estimation is performed as in our baseline (Table 2), except Equation (10) is replaced with (12) for both vignettes, accounting for possible sectoral price index changes in the U.S. See Section 5.1 for further details. Structural standard errors are in parentheses. Stars denote tests of no marginal cost change. *p<0.10; **p<0.05; ***p<0.01.

A.4 External Validation: Event-Study of the Swiss Tariff Shock

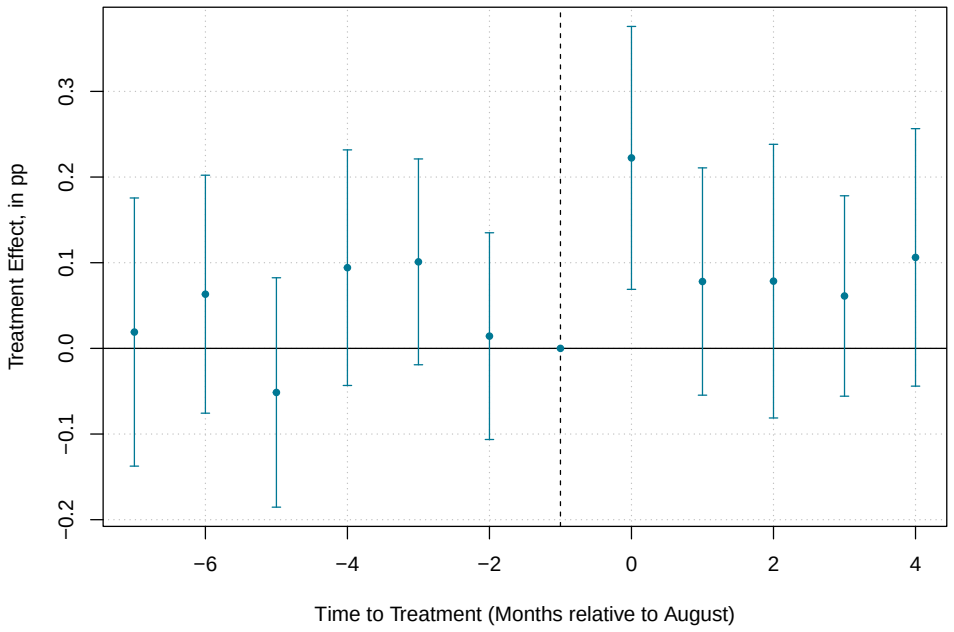


Figure A.1: Event-Study Estimate of Swiss Tariff Shock on Expected Incoming Orders

Notes: This figure shows difference-in-differences event-study estimates from a two-way fixed effects model with firm and month fixed effects. The treatment group consists of firms with a pre-shock export share to the U.S. of at least 20%, while the control group includes firms with an export share of at most 5%. The dependent variable is an indicator equal to one if the firm expects a decrease in incoming orders over the next three months, and zero otherwise. This indicator is constructed from survey responses to the question on expected changes in incoming orders over the next three months (excluding seasonal fluctuations), where firms choose among "decrease", "remain the same", or "increase". Estimates are expressed relative to July (the month prior to the Swiss tariff shock in August), with 90% confidence intervals based on standard errors clustered at the firm level.

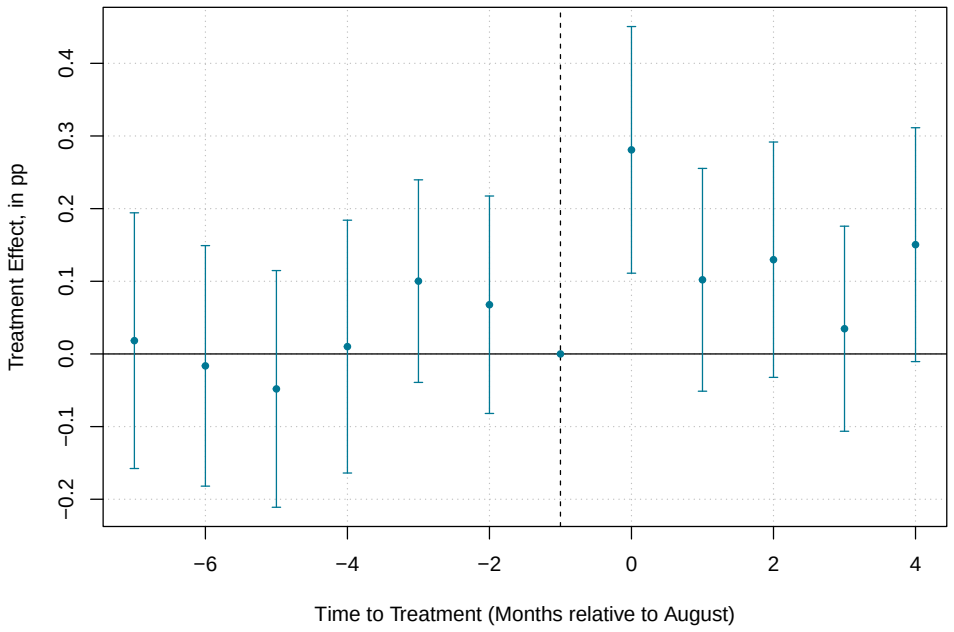


Figure A.2: Event-Study Estimate of Swiss Tariff Shock on Expected Export Orders

Notes: This figure shows difference-in-differences event-study estimates from a two-way fixed effects model with firm and month fixed effects. The treatment group consists of firms with a pre-shock export share to the U.S. of at least 20%, while the control group includes firms with an export share of at most 5%. The dependent variable is an indicator equal to one if the firm expects a decrease in export orders in the next three months, and zero otherwise. This indicator is constructed from survey responses to the question on expected changes in export orders in the next three months (excluding seasonal fluctuations), where firms choose among "decrease", "remain the same", or "increase". Estimates are expressed relative to July (the month prior to the Swiss tariff shock in August), with 90% confidence intervals based on standard errors clustered at the firm level.

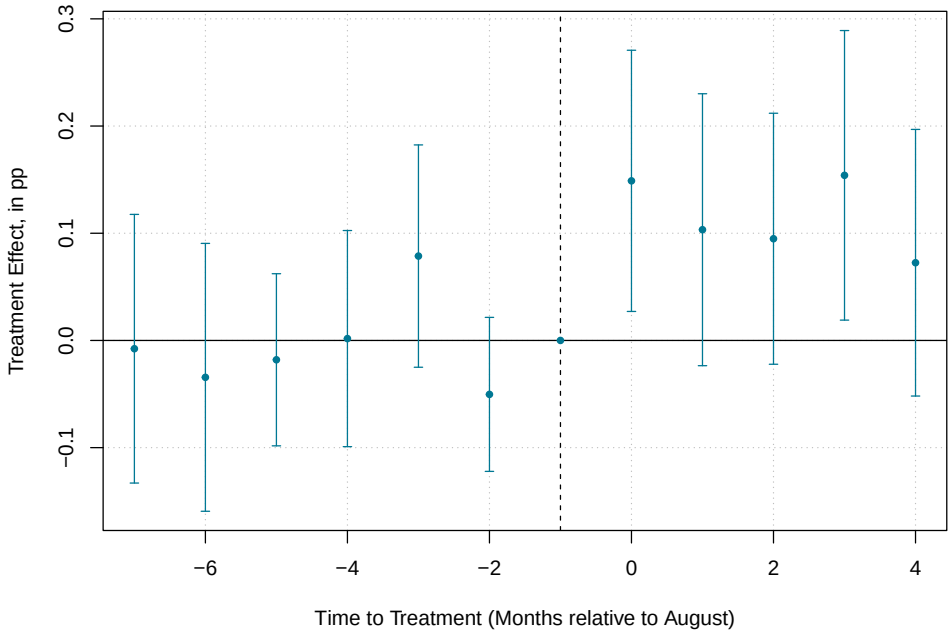


Figure A.3: Event-Study Estimate of Swiss Tariff Shock on Expected Selling Prices

Notes: This figure shows difference-in-differences event-study estimates from a two-way fixed effects model with firm and month fixed effects. The treatment group consists of firms with a pre-shock export share to the U.S. of at least 20%, while the control group includes firms with an export share of at most 5%. The dependent variable is an indicator equal to one if the firm expects an increase in selling prices in the next three months, and zero otherwise. This indicator is constructed from survey responses to the question on expected changes in selling prices in the next three months (excluding seasonal fluctuations), where firms choose among "decrease", "remain the same", or "increase". Estimates are expressed relative to July (the month prior to the Swiss tariff shock in August), with 90% confidence intervals based on standard errors clustered at the firm level.

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