

Discussion of

**Price and Consumption Responses
to Large Exchange Rate Shocks:
Evidence from the 2015 Appreciation in Switzerland**

BY RAPHAEL AUER, ARIEL BURSTEIN AND SARAH M. LEIN

OLEG ITSKHOKI
Princeton University

NBER IFM Meeting
July 2017

Introduction

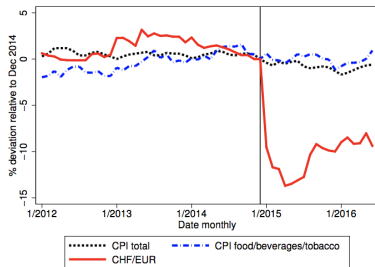
- Recent period of turbulence in world economy gave rise to great “natural experiments” for IFM research. In particular:
 - A large appreciation of the US dollar in 2008
 - A large devaluation episode in Japan in 2012
 - A large appreciation in Switzerland in 2015
- This paper uses impressively detailed data on prices and expenditure of Swiss households to document the full anatomy of the 2015 appreciation
- Unique features of the data:
 - ① Consumer price data of imported goods
 - ② Unit price data in Switzerland and in neighboring countries
 - ③ Consumption expenditure data on purchases from abroad

Key insights

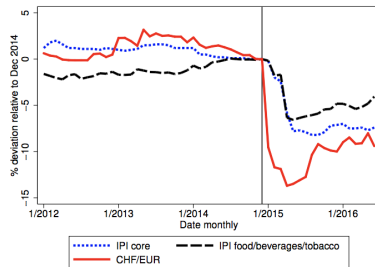
- 1 Fairly rapid and complete drop in prices at the border contrasts with a slow and small pass-through into the consumer price index, even in light of Swiss openness
- 2 Consumer prices of imported goods (in particular from EZ) decline relatively fast with a 40% ERPT after 12 months
- 3 Sharp increase in the incidence of price decreases, with a decrease in absolute average size of price declines (menu cost)
- 4 Noticeable sensitivity of Swiss domestic product prices to price declines of foreign competitors (strategic complementarities?)
- 5 Sizeable time-series demand elasticities and expenditure switching towards imports (with heterogeneity)

Import vs Consumer Prices

Figure 3: *CHF/EUR and official consumer and import price indices*



(a) Consumer prices

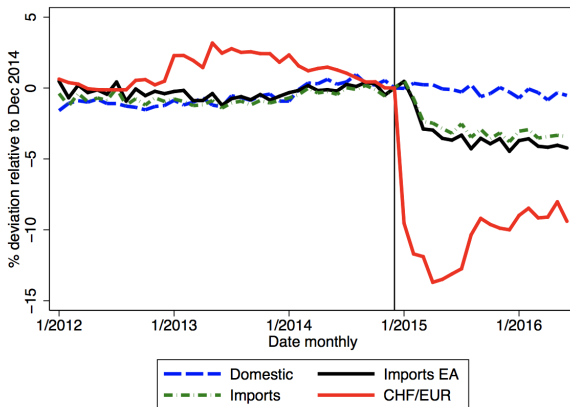


(b) Import prices

- Aggregate price indexes show rapid and nearly complete ERPT into border prices and virtually no pass-through into consumer prices
- Remarkably little pass-through into consumer prices given the degree of trade openness of Switzerland (is it a puzzle?)

Import vs Consumer Prices

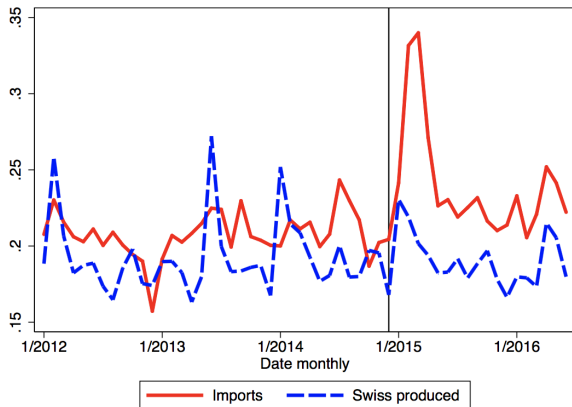
Figure 2: *CHF/EUR and homescan price indices*



- Micro price data: rapid and sizeable ($\sim 40\%$) ERPT into consumer prices of import goods (limited role of the distribution margin?)
- Nearly flexible price adjustment? Ok to ignore price stickiness?

Mechanics of Price Adjustment

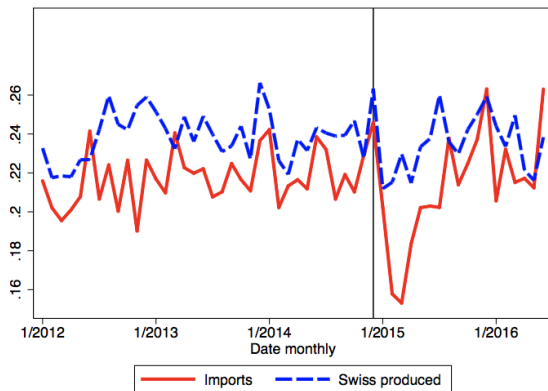
Figure 4: *Frequency of price changes*



- Two months with almost 35% probability of price adjustment (all increment due to extra price decreases)
- Indeed, akin to a flexible-price (menu cost) response to this large aggregate shock. Implications for a large border tax reform!

Mechanics of Price Adjustment

Figure: Average absolute size of price adjustment



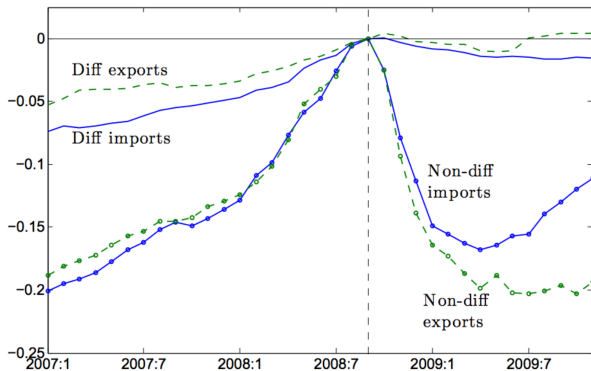
(b) Decreases

- Surprising? In light of the very high incidence of adjustment?
- Unusually high incidence and size of price adjustments

Comparison with the US 2008

Gopinath, Itskhoki and Neiman (2012)

Figure: US trade price indexes

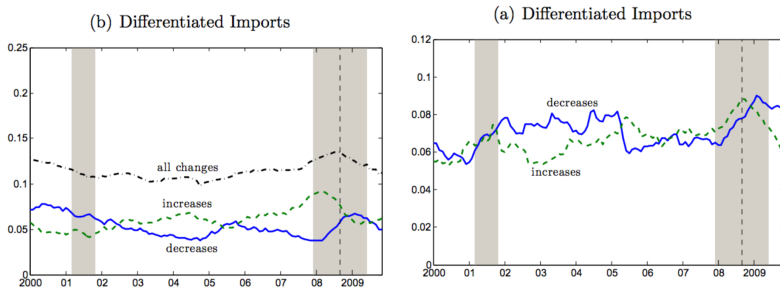


- About as large an appreciation episode (but different circumstances: global trade collapse)
- Virtually no decline in border prices for differentiated goods!

Comparison with the US 2008

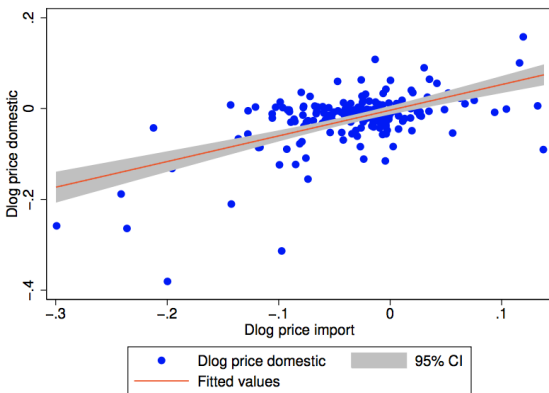
Gopinath, Itskhoki and Neiman (2012)

Figure: Frequency and Absolute Size of Price Adjustments



- Similar mechanics of adjustment, but much more muted
- Very different base magnitudes for incidence and size of adjustment
- Is US special or is Swiss data very selected by type of products?

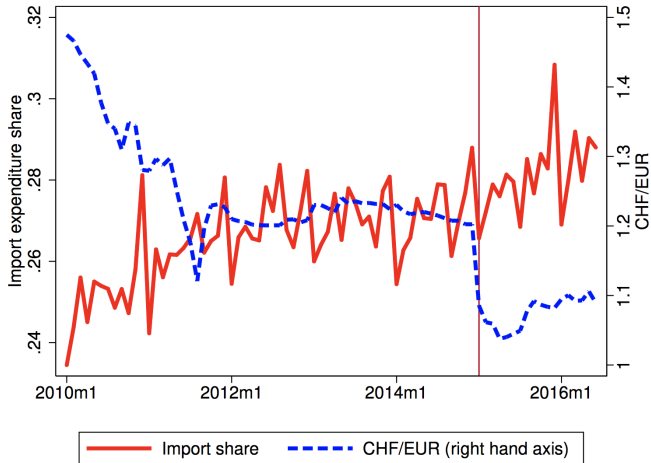
Strategic Complementarities?



- Significant comovement between home and foreign product prices within categories
- Suggestive of strategic complementarities, but difficult to exclude common cost shocks (common foreign intermediate inputs)
- Still most domestic price changes centered around zero (intercept!)

Trade Elasticity

Figure 18: Aggregate import share over time (in months)



- An apparent upward trend in the import expenditure share. A more sophisticated identification strategy is needed

Heterogeneity

- Heterogeneous response of expenditure
 - across products
 - across households by income groups (non-homotheticities?)
 - across geographical locations
- Clear evidence: trade elasticity is not a universal primitive. Decomposition of the aggregate trade elasticity to shed light on the “elasticity puzzle” under counterfactual scenarios
- Border and distance effects
 - “No arbitrage” is clearly violated (even prior to appreciation!)
 - Yet, some households take advantage of the arbitrage opportunities
 - This calls for a model of optimal price setting under heterogenous consumer arbitrage (discrete choice?)