

Discussion of:  
Auer, Burstein, and Lein  
Exchange Rates and Prices

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## The paper

- ▶ Anatomy of price adjustments following a large exchange rate change

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    - ▶ Novel: identifies imported goods in scanner data

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    - ▶ Novel: IPI + scanner in the same paper, matched
    - ▶ Novel: identifies imported goods in scanner data
  - ▶ Currency invoicing used as an instrument for the price change “at the dock”
  - ▶ Extensive range of exercises: all the facts you might want to know

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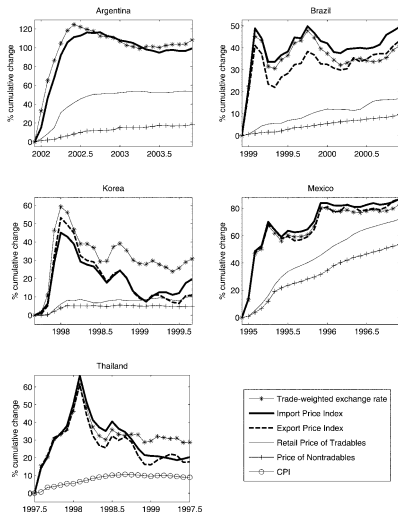
$$\Delta p^{dock} \approx \beta \Delta \mathcal{E}^e + (1 - \beta) \Delta P^{consum}$$

- ▶ Price stickiness:

$$\Delta p^{dock} \approx \theta \Delta \mathcal{E}^e + (1 - \theta) \times 0$$

# Large devaluations

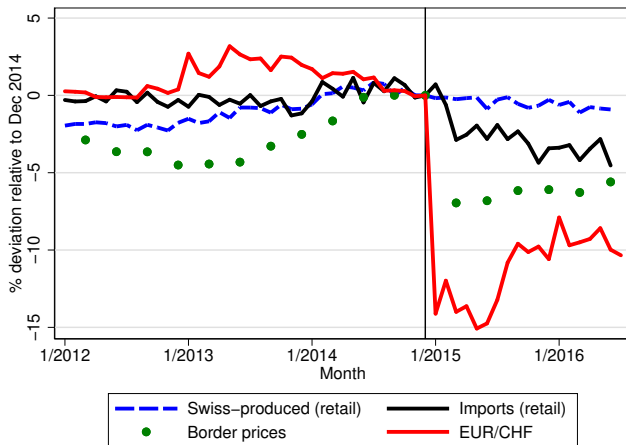
$$\Delta p^{dock} \approx \Delta \mathcal{E} \Rightarrow \beta \approx 0, \theta \approx 0$$



Source: Burstein, Eichenbaum, and Rebelo (2005)

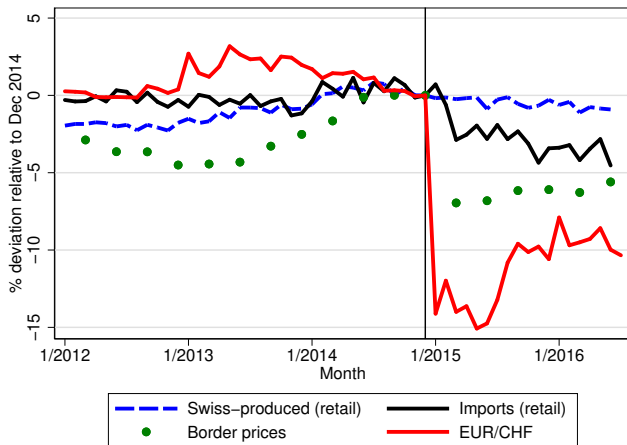
But, actually...

$$\Delta p^{dock} \approx 0.5 \times \Delta \mathcal{E} \Rightarrow \beta > 0, \theta > 0$$



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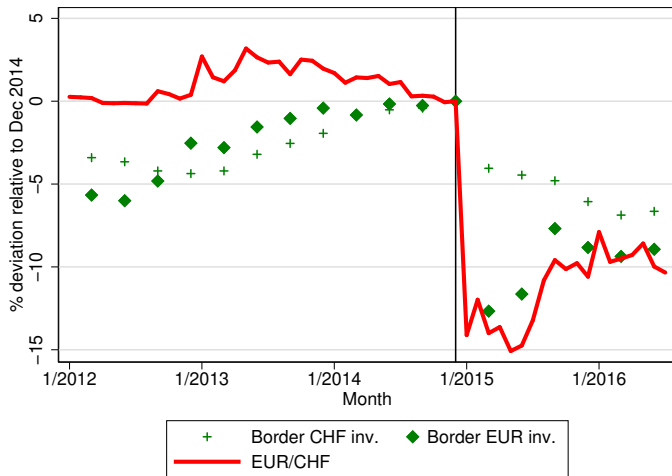
$$\Delta p^{dock} \approx \theta \beta \Delta \mathcal{E} + \theta(1 - \beta) \Delta P^{consum} + (1 - \theta) \times 0$$

# Invoicing: evidence of stickiness or flexibility?

- Pass-through by invoicing:

$$\Delta p_{EUR}^{dock} \approx 1 \times \Delta \mathcal{E}$$

$$\Delta p_{CHF}^{dock} \approx 0.3 \times \Delta \mathcal{E}$$



## Invoicing: evidence of stickiness or flexibility?

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- ▶ Can't be: marginal cost/constant markup pricing with flexible prices
- ▶ Can't be: same pricing-to-market for all exporters with flexible prices
- ▶ Either:
  - ▶ quite a bit of stickiness
  - ▶ CHF-invoiced goods are systematically different from EUR-invoiced goods in market structure (i.e.,  $\beta_{CHF} < \beta_{EUR}$ )

## IV

- ▶ Exclusion restriction: across industries, CHF invoicing share is uncorrelated with the error term for:
  - ▶ retail prices of imports
  - ▶ retail price of domestic goods
  - ▶ expenditure shares on imports
  - ▶ fraction and size of price changes
- ▶ Sellers invoice in CHF if they have a higher markup elasticity with respect to the exchange rate
  - ▶ could it be that these goods also have a different markup elasticity on the part of the retailers?



## Taking stock

- ▶ A master class in dissecting price adjustments following an exchange rate change
- ▶ Invoicing heterogeneity seems to tell us a lot about why border prices adjust less than 1-1
  - ▶ At the moment, not sure exactly what
- ▶ In the long run it should say more about this heterogeneity, if only to buttress the instrument