

# The Distributional Consequences of Large Devaluations

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IMF/SNB/IMFER - Exchange Rates and External Adjustment Conference

June 25, 2016

**A really great paper!**

## What are the distributional consequences of a large devaluation?

- Prices, through the lens of 1994 Mexican devaluation
- “Anti-poor” inflationary effect:  $\pi^{poor} / \pi^{rich} \approx 1.5$   
≡ 10% bigger loss in real income, given nominal income
- Why were consumption prices of the poor more affected?  
Poor spend more on high pass-through goods
  - large tradable share
  - tradable varieties with low distribution costs

## Contribution:

- Effect of a common aggregate shock on relative prices if there are heterogeneous agents:
  - heterogeneity matters
  - different heterogeneities interact: amplification  
(highly tradable + low distribution cost vs. non-tradable + high distribution cost)
- Not only devaluation, but financial shocks, technology shocks, etc.
- Implications of interactions of heterogeneity for adjustment?
- Systematically study interaction of consumption baskets, distribution costs following a large devaluation

- Summary:
  - 2 Facts:
    - “within” and “across”
  - Mechanism
- Comments, suggestions

# Fact 1

Distributional effect “across” goods:

$$\hat{P}_{across,t}^h = \sum_{g \in G} \omega_g^h \hat{P}_{g,t}$$

- Price index for household  $h$  given common prices for goods  $\hat{P}_{g,t}$ 
  - micro prices from Bank of Mexico CPI DOF
  - weights and income from ENIGH survey
- Do the poor households consume systematically high- $\pi$  goods?

	Income Decile										
	1	2	3	4	5	6	7	8	9	10	Aggregate
Oct. 94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oct. 95	1.48	1.47	1.47	1.47	1.47	1.46	1.46	1.46	1.45	1.44	1.45
Oct. 96	1.87	1.86	1.85	1.85	1.84	1.83	1.83	1.82	1.81	1.79	1.82

## Fact 2

Distributional effect “within” goods:

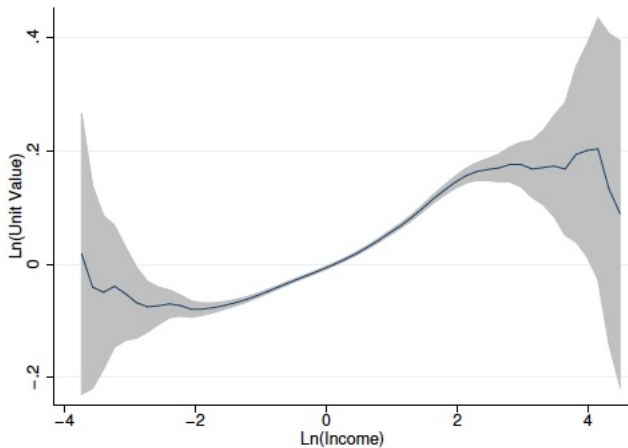
$$\hat{P}_{within,t}^h = \sum_{g \in G} \omega_g \hat{P}_{g,t}^h$$

- $\hat{P}_{g,t}^h = \sum_{v_g \in g} s_{v_g}^h \hat{P}_{v_g,t}$  : price index for household  $h$  over varieties  $v_g$
- Do the poor households consume systematically high- $\pi$  varieties?

Problem:

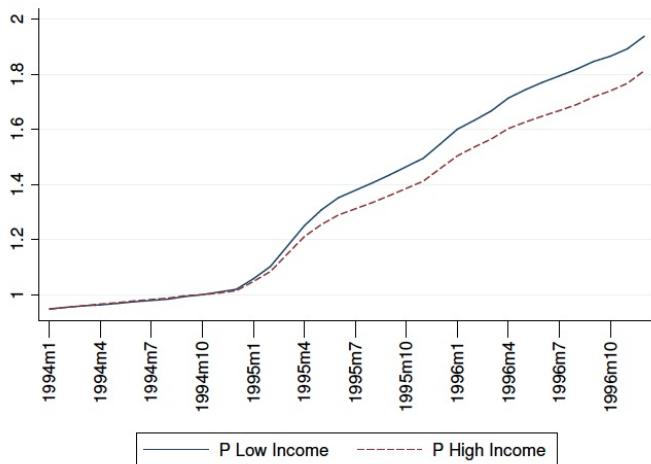
- Shares  $s_{v_g}^h$  not observable – two steps:
  - 1 Show: Income positively correlates with unit prices
  - 2 Assume: High-income households consume high-priced varieties
- Construct high-income + above-median-price index (the rich), and low-income + below-median-price index (the poor)

1.  $\text{corr}(Y, P) > 0$

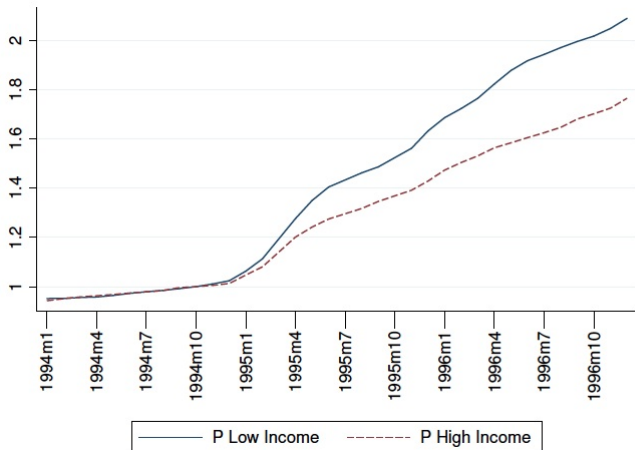




# Fact 2



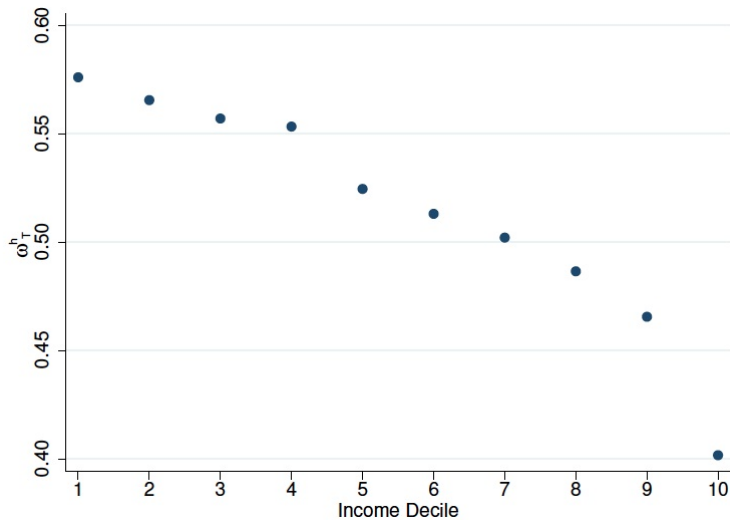
# Combined Across + Within Effects



- Burstein et al. (2005):  
Non-tradeables, distribution and local costs explain low CPI response
- Authors:  
Distribution channel  $\times$  (income, consumption heterogeneity) explain  
across and within effects

- “Across” effect:
  - Tradeables have high pass-through (PT)
  - Tradeables with low distribution and local costs have high PT
  - The poor consume more tradeables
  - The poor consume tradeables with lower distribution shares

# Mechanism: Tradeable shares by income



- “Within” effect:
  - Same as “Across” effect but at variety, not good level
  - Varieties with low distribution margin have larger relative price increases
  - The poor consume varieties with lower distribution margins
  - Empirically, authors get variety distribution margins via identical goods
  - Then, predict price changes

# Mechanism



## Why is there so little substitution?

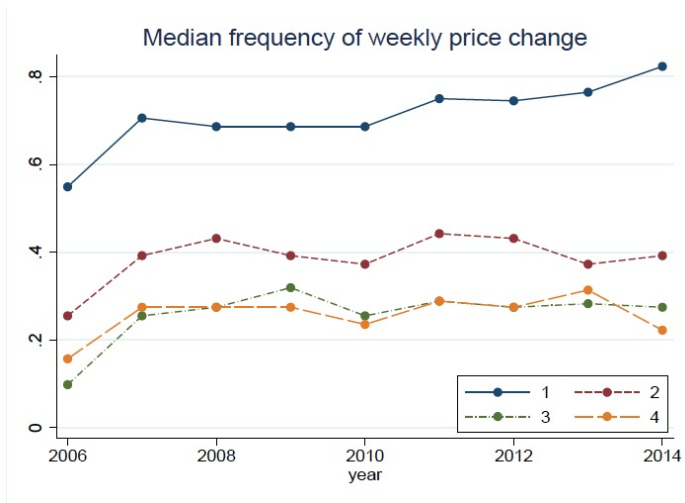
- Would expect expenditure switching:  $\sum_{g \in G} \hat{\omega}_g^h P_{g,t}$ ,  $\sum_{v_g \in g} \hat{s}_{v_g}^h P_{v_g,t}$
- Coibion et al. (AER, 2015): consumers shop around retailers
- Chevalier and Kashyap (2014): consumption incidence at “best price”
- Aren't some (reference-priced) tradeables very substitutable?
- Authors argue no effect from substitution: 96 vs 94 weights
  
- Depends on model. Perhaps not surprising?
  - (Fixed) switching costs are very high for the poor
  - Low levels of income, e.g. 1st decile ca. USD 55
  - Integer constraints?



## What is the role of price stickiness?

Notion of price stickiness consistent if there is heterogeneity in price stickiness across varieties:

- High-priced varieties are high-quality varieties
- Highly variable markups
- Observed sticky prices for high quality varieties (Kim, 2016)
- Consistent with authors' observation: if not conditioning on price changes, inflation difference between poor and rich widens. Rich consume more sticky-price goods.



1= low price goods, 4= high price goods

One additional explanation:

- Production structure of consumption of high-income tradeables may differ.
- Cost hedging: produced by large multinationals, using Mexican inputs. Low pass-through.
- Evidence in Amiti et al. (AER, 2014)

## Minor comments:

- What happens during a large appreciation?
  - Pass-through may be asymmetric.
  - Do the poor now gain disproportionately more, or less?  
Empirical question. Use Economist data?
- What happens in the years following the crisis? 1996-1998? Mean reversion?
- Break-down of the top 10%: what happens to the top 5%, the top 1%? Very steep slope in tradable share for top decile.