Globalization and the Gains from Variety
The Case of a Small Open Economy

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Introduction

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– Broda and Weinstein (2006) are the first who structurally estimate these
gains: 2.6% of GDP in the U.S. between 1972 and 2001.

Literature

– Feenstra (AER 1994)

- Set up a CES-model where new varieties lower unit-costs.
- Derived a corrected price index that accounts for variety change.
- Developed a stochastic model to estimate the elasticities of substitution.
- Showed that conventional import price indices are biased upwards.

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    - Apply this to many imported product categories using disaggregated trade data.
    - Aggregating, they find a welfare gain of 2.6% of the GDP in the US between 1972 and 2001.

Contributions

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– Analyzing these gains with special attention to the particularities of a Small Open Economy (SOE).

– Proposing an alternative definition of traded variety and presenting the results for this new specification.

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The Corrected Price Index

– The Feenstra Price Index π_g for good g including varieties c:

$$\pi_g = P_g(I_g) \left(\frac{\lambda_{gt}}{\lambda_{gt-1}} \right)^{1/(\sigma_g - 1)}, \text{ where} \qquad (1)$$

$$\lambda_{gt} = \frac{\sum_{c \in I_g} p_{gct} x_{gct}}{\sum_{c \in I_{gt}} p_{gct} x_{gct}},$$

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– Since no information about the domestic structure of the economy is known, a simple Krugman-like economy is assumed.

Results: The Gains from Variety

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	Median Elasticity
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– Table 3 shows the relative differences the aggregate import price index of Switzerland relative to the US.

Table 3: Relative Differences of the Aggregate Bias Under Fixed Elasticities

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Rel. difference in bias	-72.9%	-62.9%	-65.5%	-66.2%	-66.5%

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– As a conclusion, the majority of the difference in the aggregate bias, namely about 90%, is due to the lower variety growth in Switzerland. The rest of the difference is due to the higher elasticities of substitution for Swiss import goods.

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  • another definition of a traded variety changes the GFV radically.
  • the lambda ratios are a first step towards a more general definition of traded varieties.

Proposing a Definition of Traded Varieties I

Proposition:
The lambda ratio is defined as

$$\frac{\lambda_{gt}}{\lambda_{gt-1}} = \frac{\frac{\sum_{c \in I_g} p_{gct} x_{gct}}{\sum_{c \in I_{gt}} p_{gct} x_{gct}}}{\frac{\sum_{c \in I_g} p_{gct-1} x_{gct-1}}{\sum_{c \in I_{gt-1}} p_{gct-1} x_{gct-1}}}$$

To obtain a new version of the price index bias, the set I_g contains but one artificial variety with constant expenditure. Thus, the lambda ratio simplifies to

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- + Independent of the data set used.

Results

– Table 4 presents the gains from variety for Switzerland and the U.S. using
  the new specification:

	Original		New	
	Agg. Bias	GFV	Agg. Bias	GFV
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– I propose a different and more general definition of traded variety, slightly changing Feenstra's lambda ratios. I show that the differences in the gains from variety can be substantial using another specification.

Thank you!