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# **EU-India Free Trade Agreement: Do Non-Tariff Barriers in the Food and Agricultural Sector Make a Difference?**

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# EU-India Free Trade Agreement: Do Non-Tariff Barriers in the Food and Agricultural Sector Make a Difference?

## Introduction

Assessing the impacts of an EU-India FTA using a computable general equilibrium (CGE) model.

Analyzing the reduction of tariffs and non-tariff barriers (NTBs) simultaneously.

1. Estimating the effects of NTBs using the gravity border effect approach and conversion into ad-valorem tariff equivalents (AVEs) using the elasticity of substitution ( $\sigma$ ).
2. Incorporating AVEs of NTBs into the Global Trade Analysis Project (GTAP) model to derive economy-wide results.

## Border Effect Methodology

$$X_{ij} = \frac{y_i y_j}{y_w} \left( \frac{t_{ij}}{P_i P_j} \right)^{1-\sigma} \quad t_{ij} = d_{ij}^{\rho} + \dots + \sum_{l=m}^M b_{ij}^{\delta_{ij}}$$

$b_{EU/IND} + b_{IND/EU} + b_{EU/EFTA} + b_{EFTA/EU} + b_{OTHER}$

$$AVE_{b_{ij}} = \exp\left(\frac{\delta_{ij}}{1-\sigma}\right) - 1$$

(Anderson and van Wincoop, 2003)

Figure 1: AVEs of Border Barriers (%)

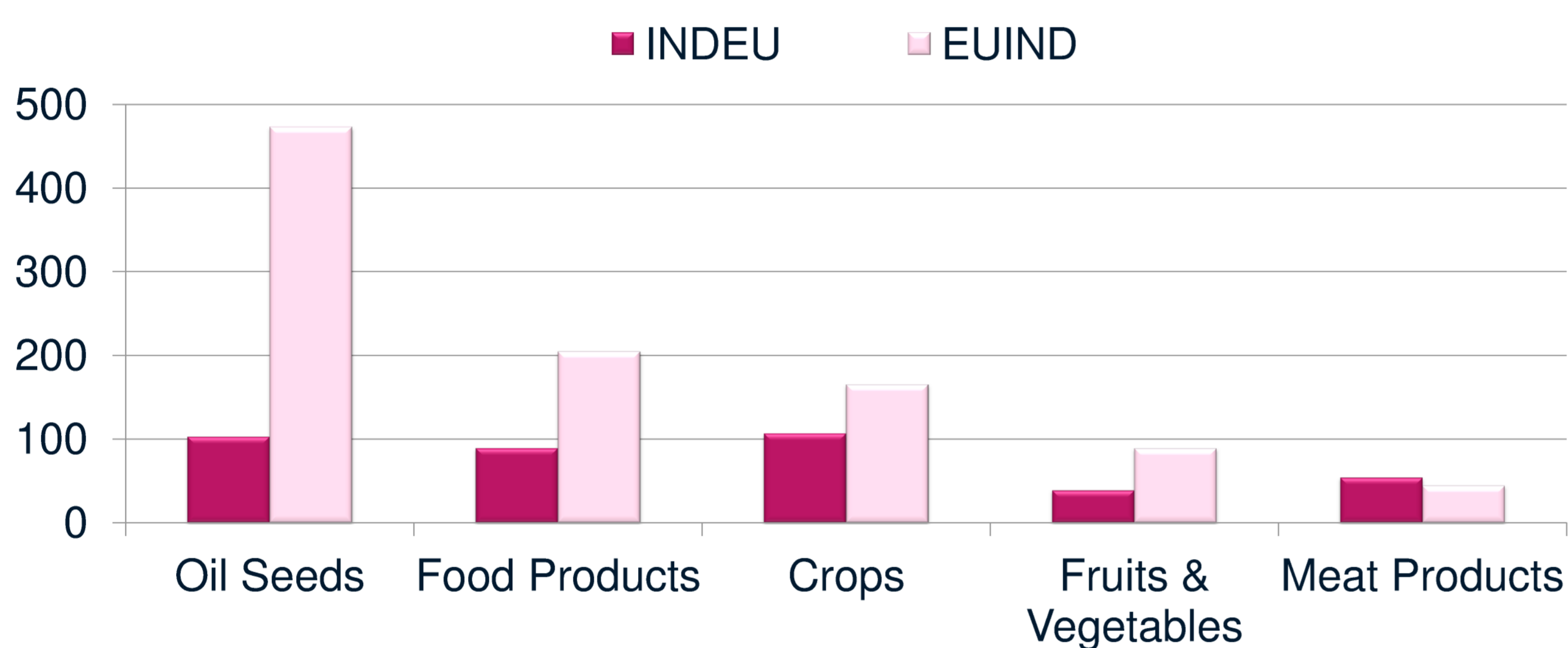
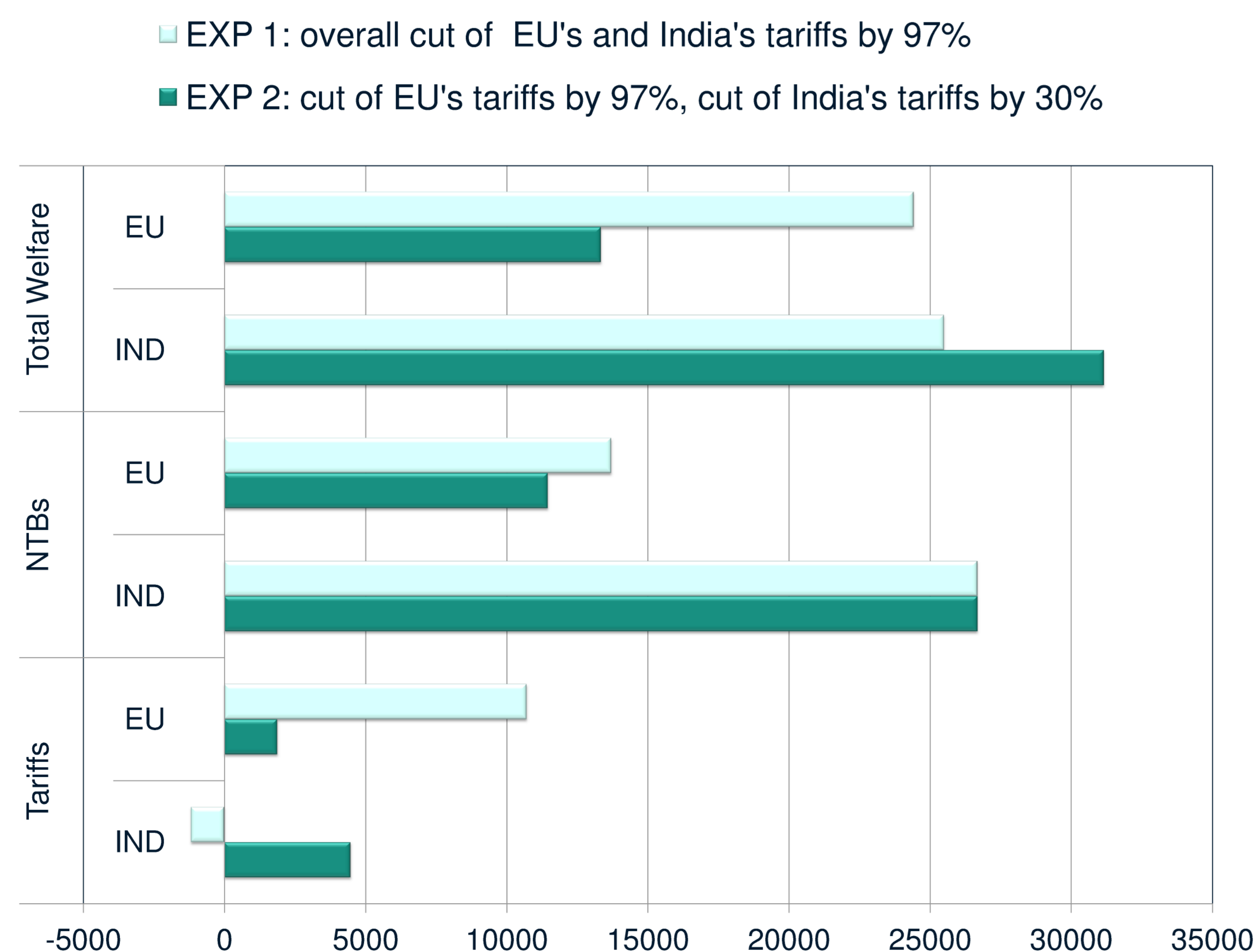


Figure 2: Simulation Results for EU and India (Billion US\$)



## Benchmarking

AVEs of NTBs between EU and EFTA = Minimum level; while everything above is assumed to be equal to NTBs between EU and India

Implementation of AVEs of NTBs is carried out using the "ams" parameter of the GTAP model. Removal of NTBs is modeled as a technological progress decreasing the observed import price.

$$pms_{irs}^* = pms_{irs} - ams_{irs}$$

Effective import price
Observed import price
Augmenting technical change

## Conclusion

- Gravity border effect approach shows high border trade costs in agriculture between the EU and India.
- GTAP simulations show that the overall level of welfare gain is higher for India than for the EU.
- India gains more from asymmetric tariff cuts, while EU's welfare is higher with symmetric tariff cuts.
- Gains stemming from NTBs elimination are much higher compared to the ones coming from tariff reduction.
- In India the reduction of NTBs in the agro-food sector accounts to the highest proportion of the welfare gains coming from own NTBs elimination.
- The study reveals high relevance of NTBs in India's agro-food trade in the future.