

Integrating Tariff-Rate Quotas into the Modeling of Trade Agreements

- a Simple Approach

Döbeling T, Pelikan J

Thünen Institute of Market Analysis

Please refer to the extended published paper on this topic:

Döbeling, Tatjana. "The access to CETA quotas: Extending CGE models with a market for quota licenses." Q Open 2.2 (2022): qoac019.

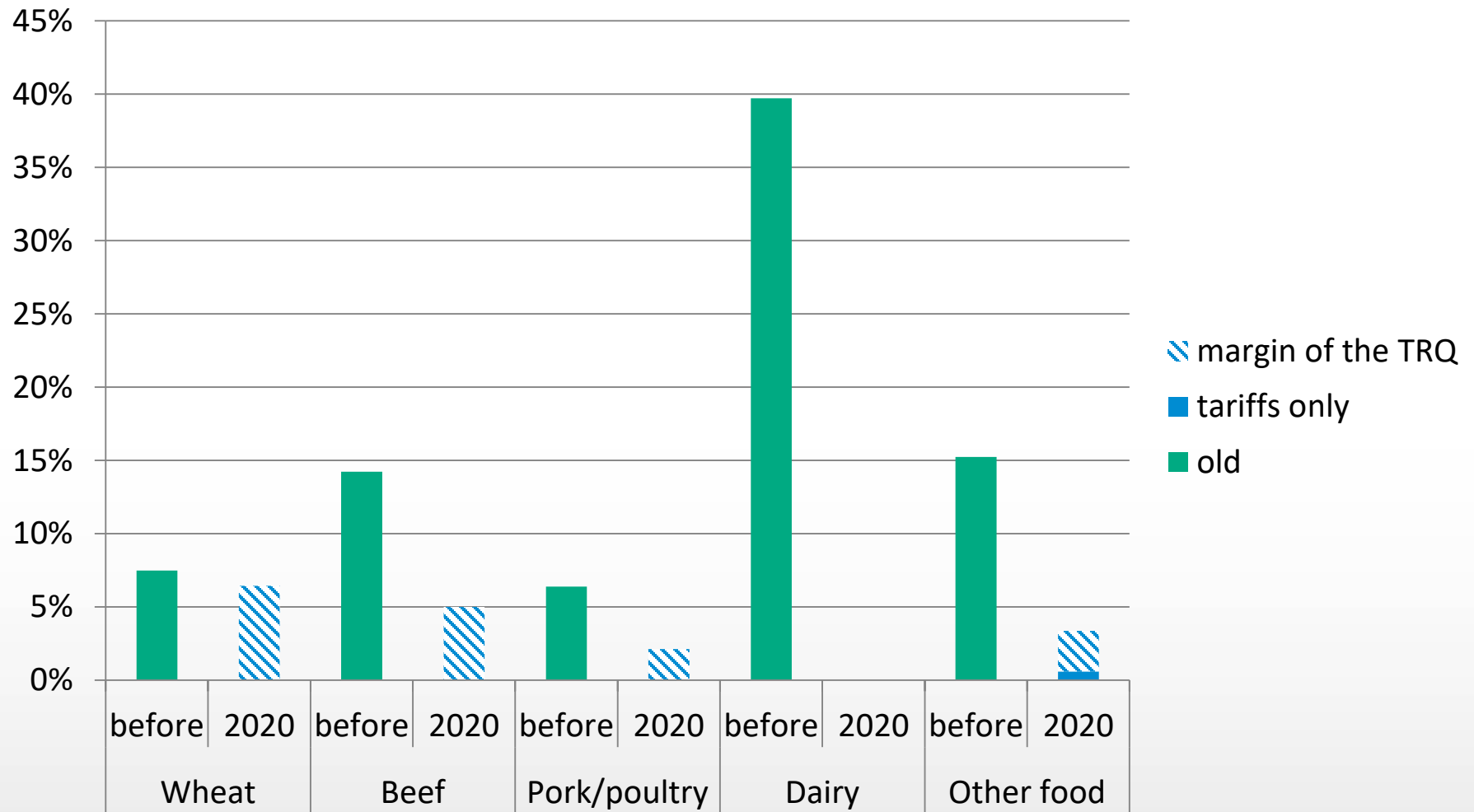
It is open access:

<https://academic.oup.com/qopen/article/2/2/qoac019/6668790>

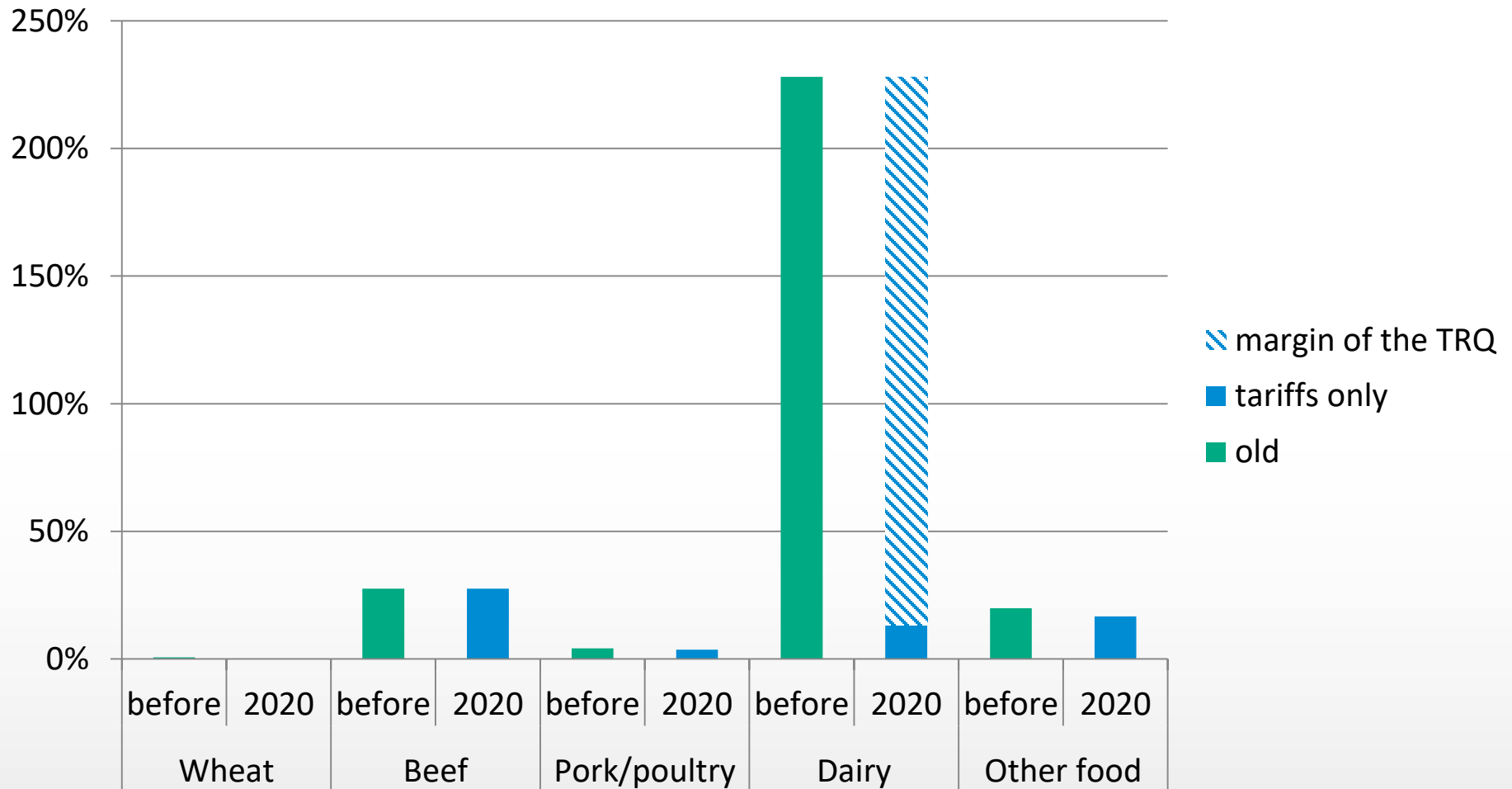
Warsaw

June 19-21, 2019

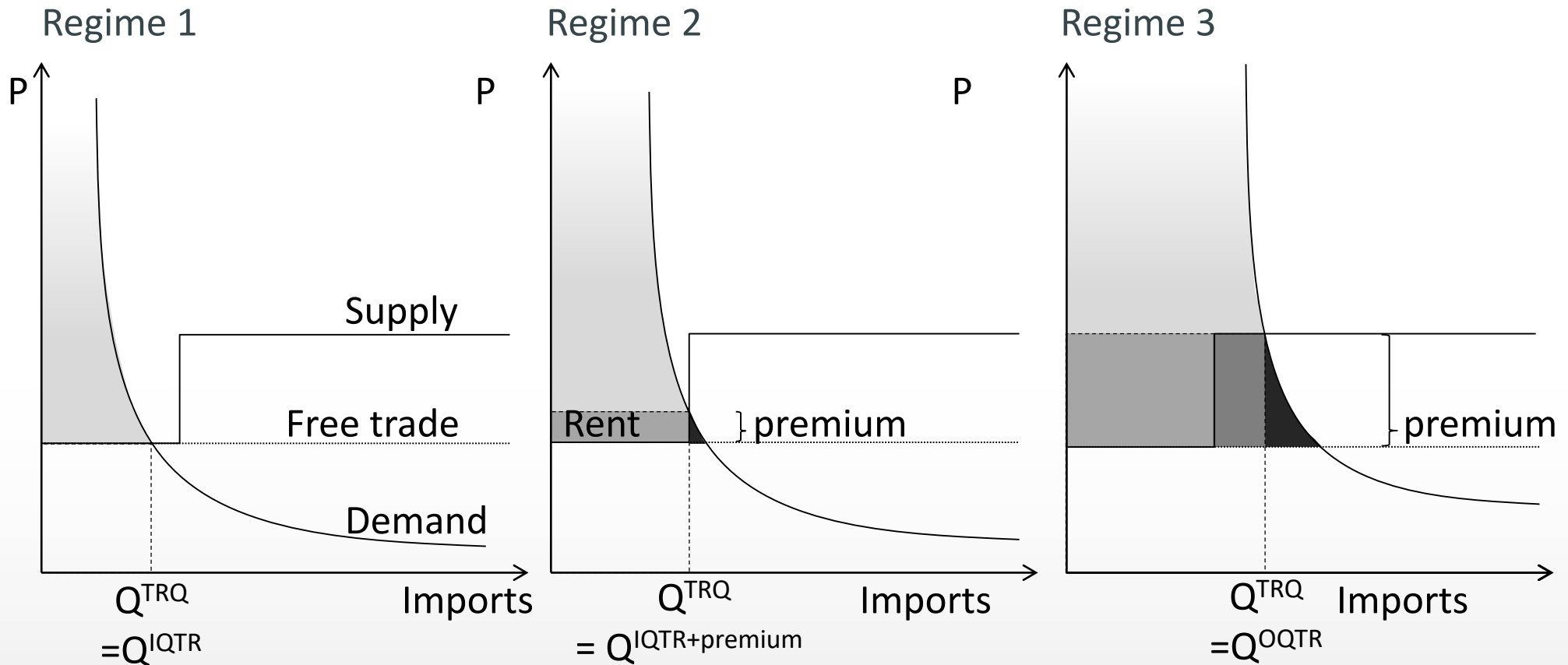
Motivation: EU-tariffs before and after CETA



Motivation: Canadian tariffs before and after CETA



Theory: Effect of TRQs



Theory: Ad valorem equivalents

Marginal tariff = IQTR + premium

MAcMap AVE = approximation of marginal tariff, based on fill rates

$$\text{MacMap marginal tariff} = \begin{cases} \text{fillrate} < 80\% \rightarrow \text{IQTR} \\ 80\% \leq \text{fillrate} \leq 98\% \rightarrow \frac{\text{IQTR} + \text{OQTR}}{2} \\ 98\% < \text{fillrate} \rightarrow \text{OQTR} \end{cases}$$

Model

GAMS

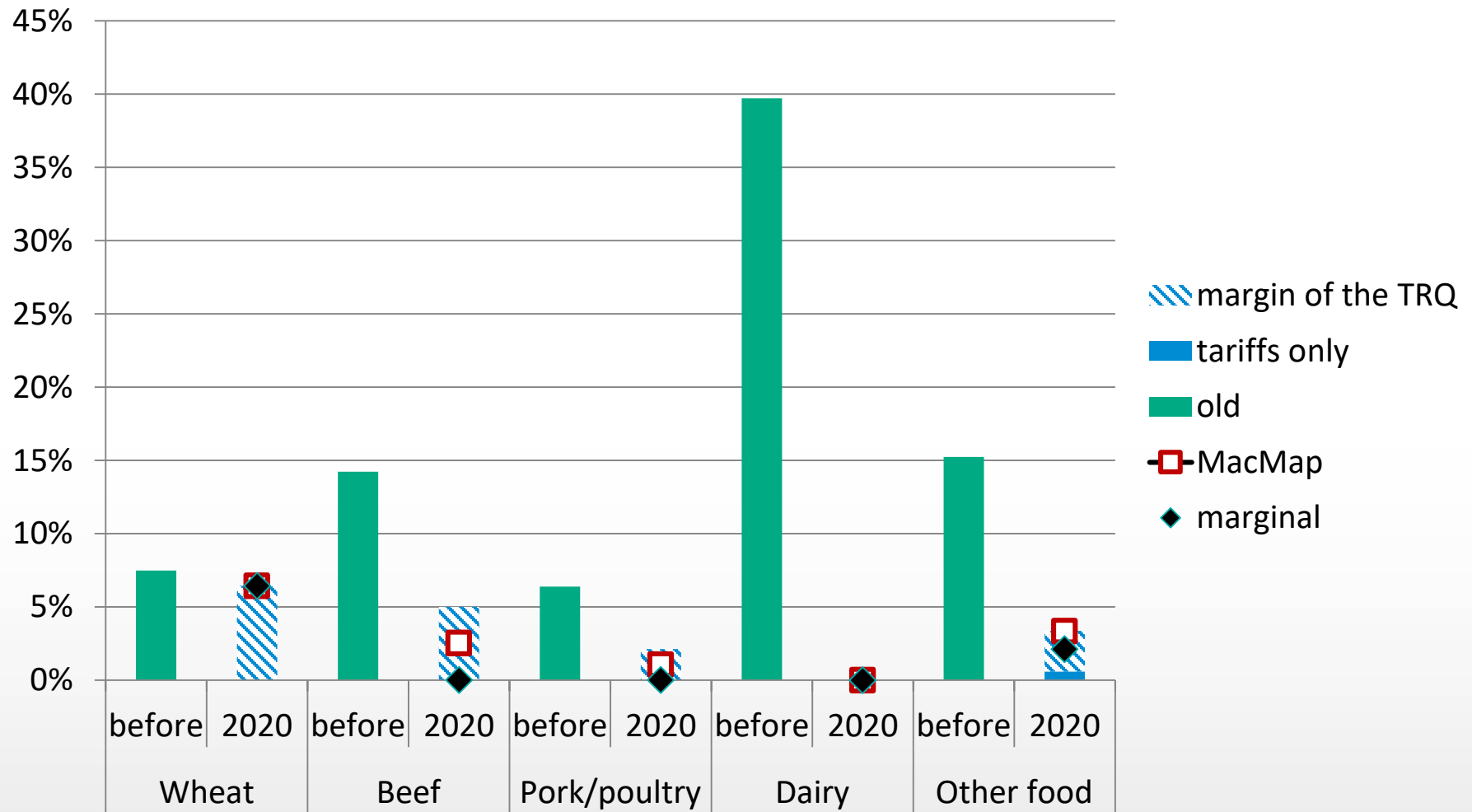
- Mixed complementary programming (MCP)
- Supply: economies of scale
- Demand: Armington
- Data: CEPII BACI, CEPII TUV, MAcMap tariffs/agreement tariffs
- Finds marginal tariff and MAcMap AVE endogenously



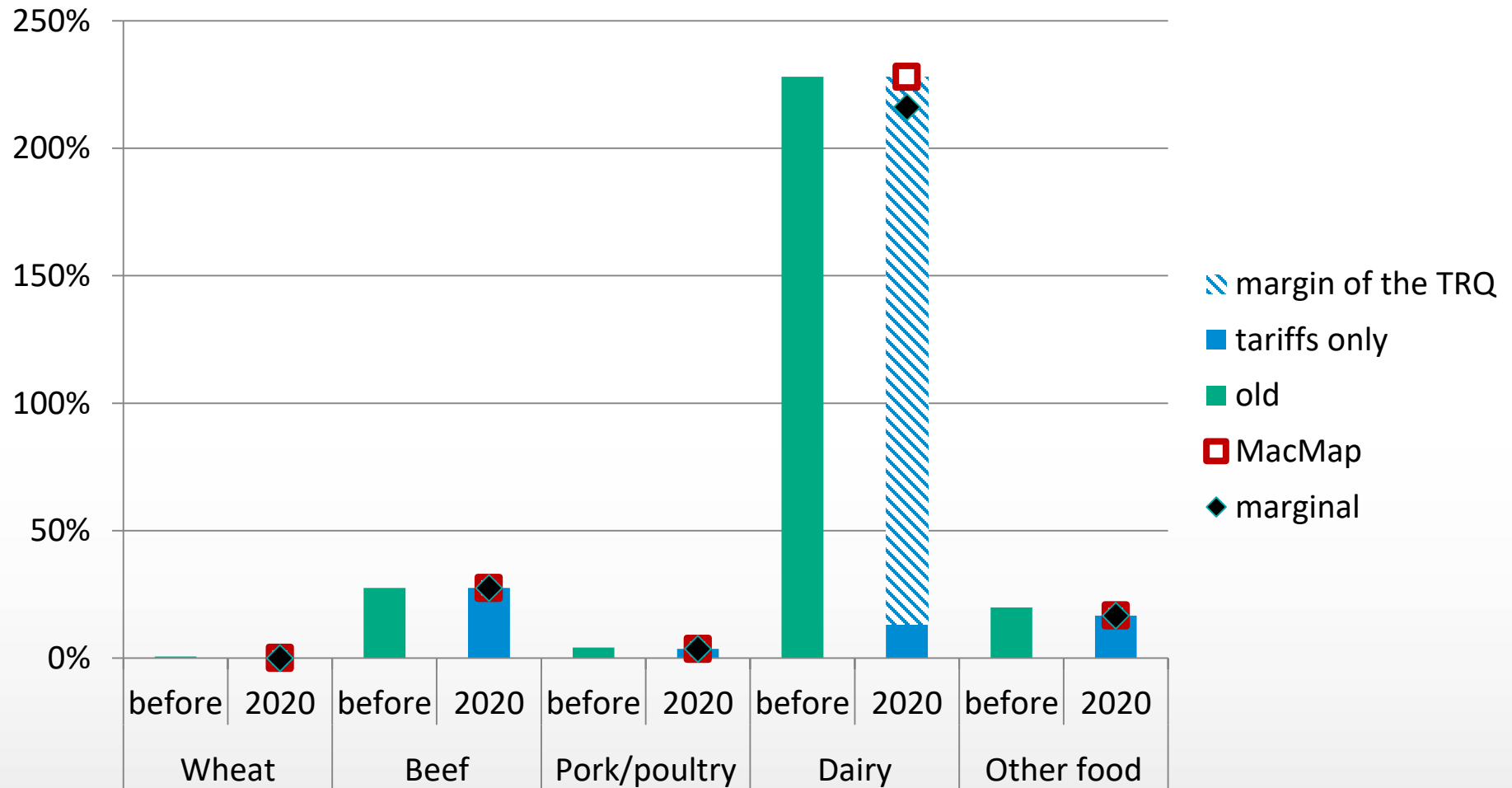
MAGNET

- Extended GTAP model (endogenous land supply, EU agricultural policy, more sectors,...)
- Baseline: 16 other trade agreements of the EU are included

Results: European tariff reductions (EU-27)

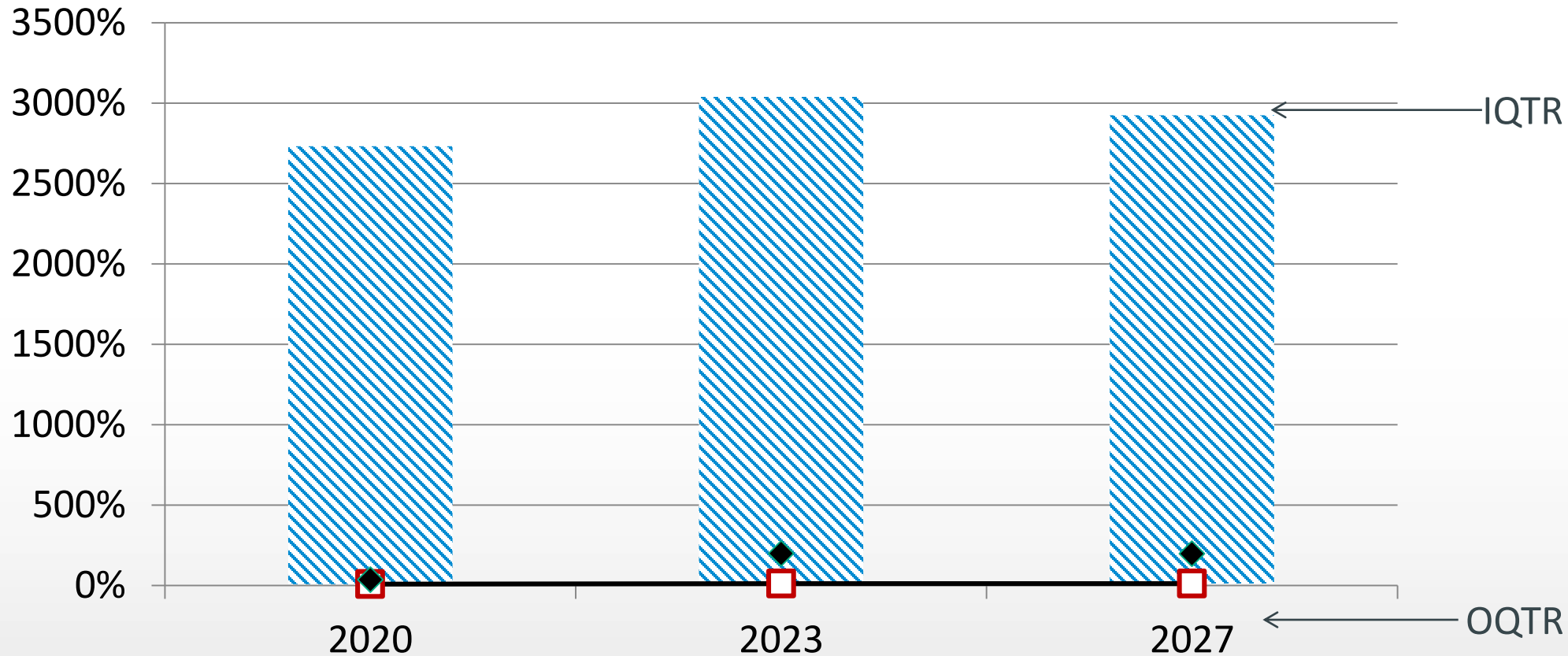


Results: Canadian tariff reductions



Results: Dairy exports EU27→Can (in % relative to baseline)

Increase of exports (in % relative to baseline)

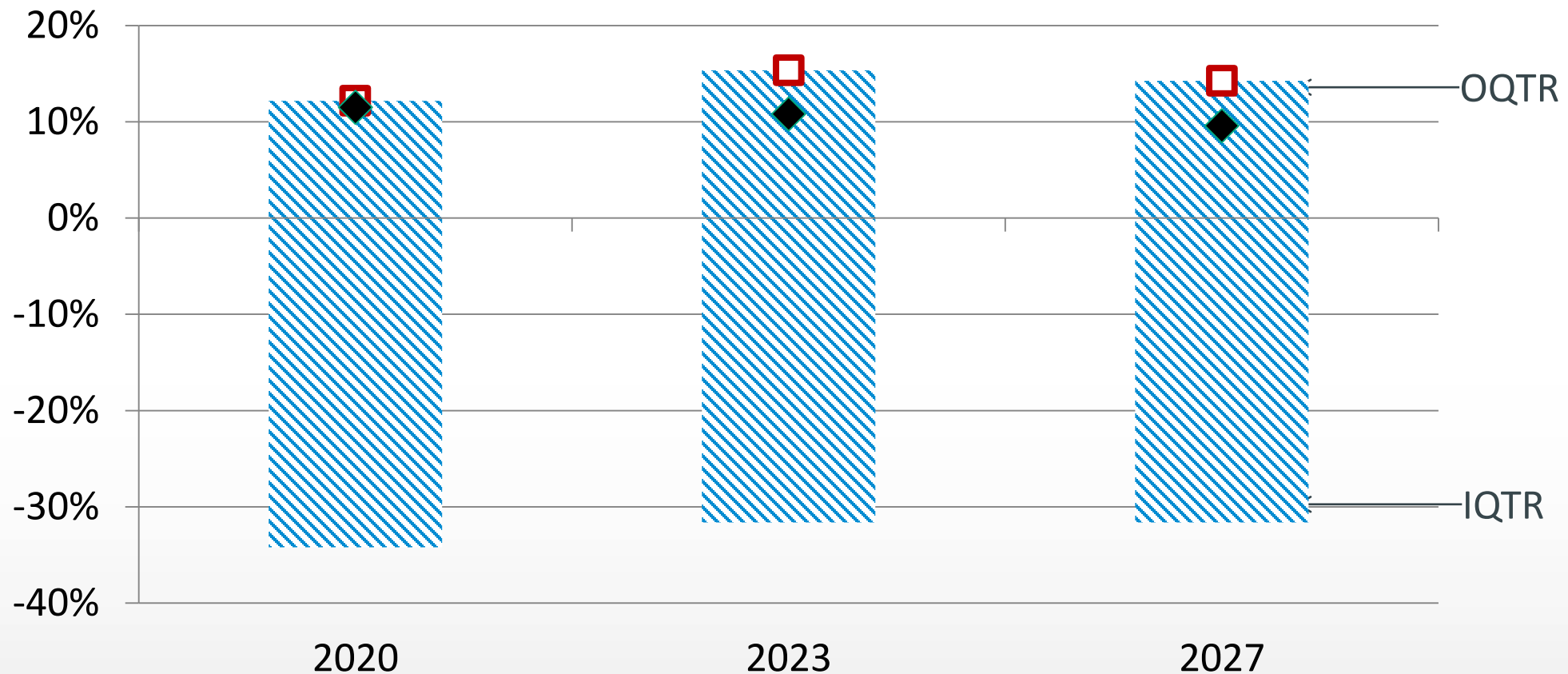


Value of dairy exports (world prices) EU27→Can

□ MACMap AVE

◆ marginal AVE

Results: Canadian dairy production value under the Canadian cheese quota (in % relative to baseline)

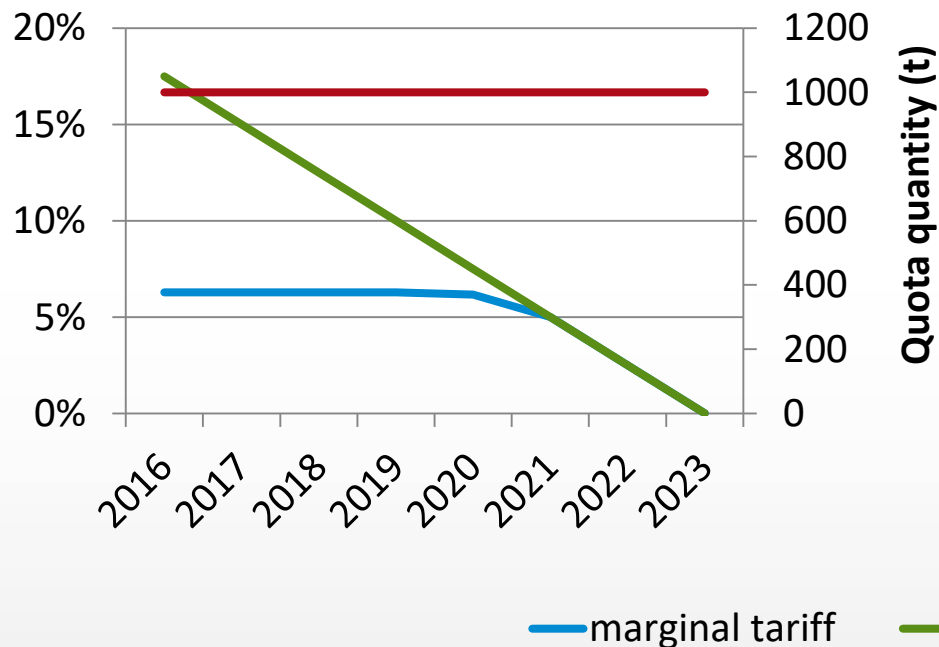


Value of dairy production (Can)

□ MAcMap AVE ◆ marginal AVE

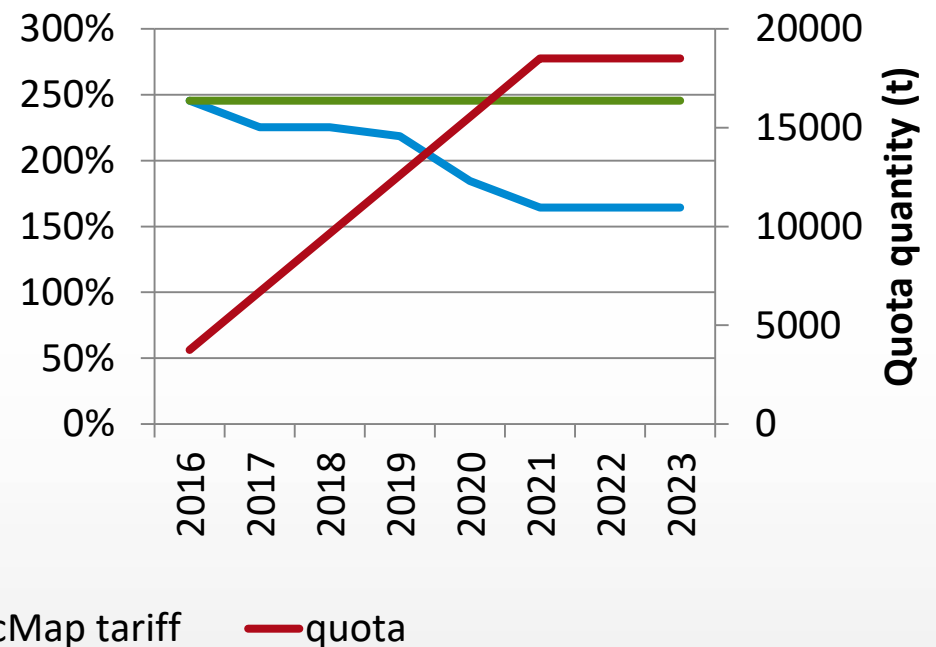
Results: Liberalization and AVEs

Non-effective liberalization



160520 from Canada to France

Hidden liberalization



040690 from France to Canada

Conclusion: Is this a useful tool?

Advantages

- + Can be implemented easily with several GTAP-based models
- + works with different aggregations, also those that mismatch the TRQ-groupings
- + makes effectiveness of liberalization visible

Disadvantages

- Data issues: lack of data can lead to underestimated fillrate
- Model design: Armington elasticities are not known
- HS 6 digit level is sometimes still not disaggregated enough

Conclusion: Marginal tariff or MAcMap tariff?

Marginal tariff

- + Import equivalent tariff
- + Shows only effective liberalization.
- Sensitive to model design (e.g. Armington elasticities)

MAcMap tariff

- + Consistent with GTAP database
- + more robust against assumptions of the model
- Misestimates effects of hidden or ineffective liberalization

Thank you.