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An application of the export-sophistication concept to the “made in Italy” agri-food sector

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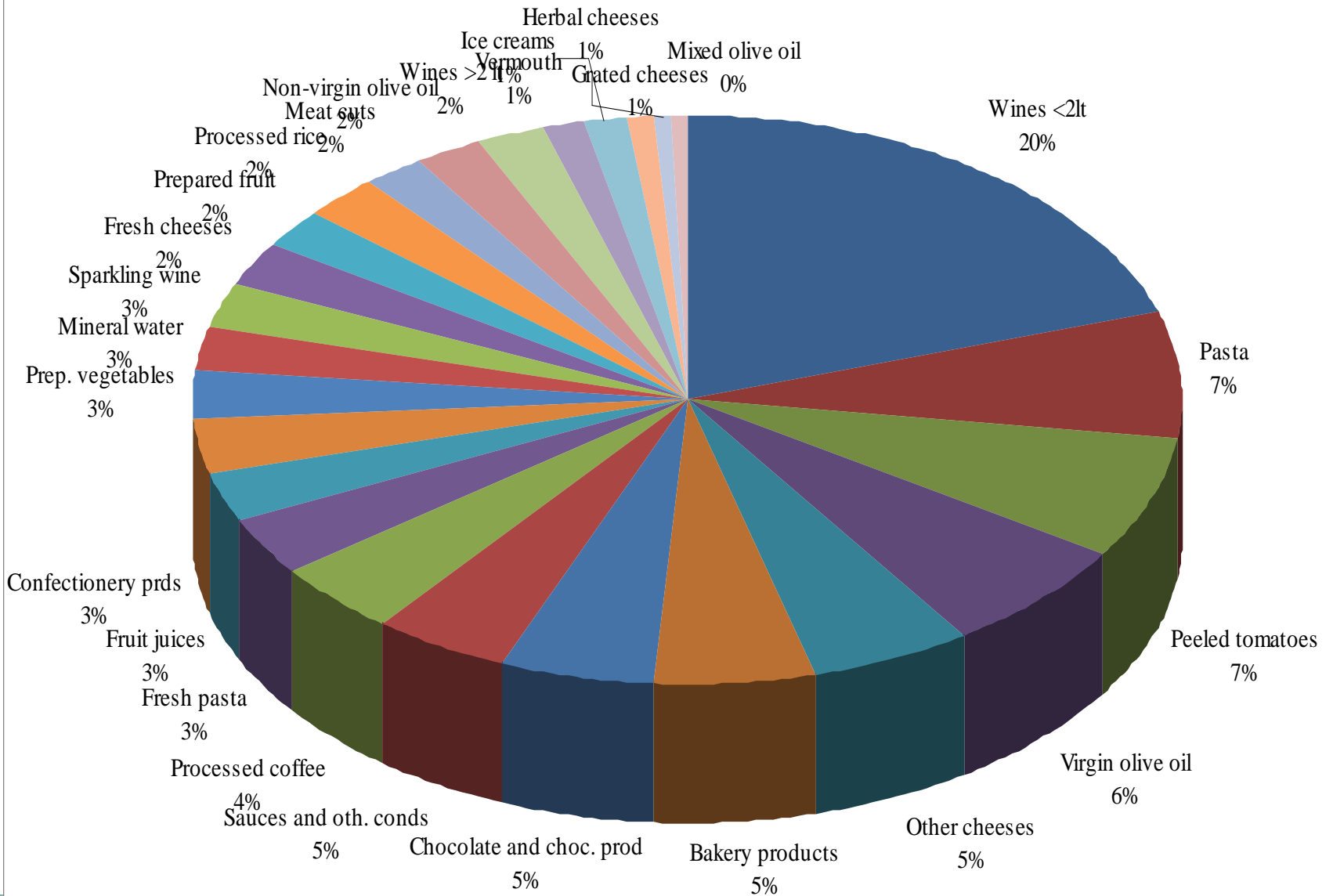
Content

- ✓ performance of the agri-food Made in Italy (MiI) exports during 1996/97-2006/07.
- ✓ traditional trade indicators plus a *Sophistication* index called PRODY

Objectives

- ✓ To assess export performance of the agri-food products commonly considered as the most competitive and reputed
- ✓ To test PRODY index to agri-food (AF) and try a modified version to better take into account quality (Minondo, 2007);

What is agri-food MiI?



Structure and dynamics of agri-food MiI

Italy accounts for 4% of world AF trade

MiI is about 2/3 of AA Italian exports

For some AF MiI items world share is very high:

- Pasta 60%
- peeled tomatoes 40%
- virgin olive oil 25%

Most dynamic component of Italian AF exp:

MiI exp +96% - Total agri-food exp +59% (Total exp +70%)

Many MiI items increased world quotas during the decade

The *sophistication* concept

(Hausman et al. 2007; Lall et al. 2006)

✓ sophistication stands for all the specific attributes of a good that increase its value (i.e. technology, skills, design, brand, quality)

✓ Hp. sophistication is related to GDP: more sophisticated goods better remunerate resources, hence contribute to increase GDP.

>>the higher GDP the higher Sophistication.

The Prody index

In formula:
$$PRODY = \sum_{i=1}^N s_{i,j} GDP_j$$

where $s_{i,j}$ is the weighting factor of the per capita GDP of each country j exporting the i product and it is given by:

Rca (*Revealed Comparative Advantage*) is the Balassa index and is given by:

$$s_{i,j} = \frac{RCA_{i,j}}{\sum_j RCA_{i,j}}$$

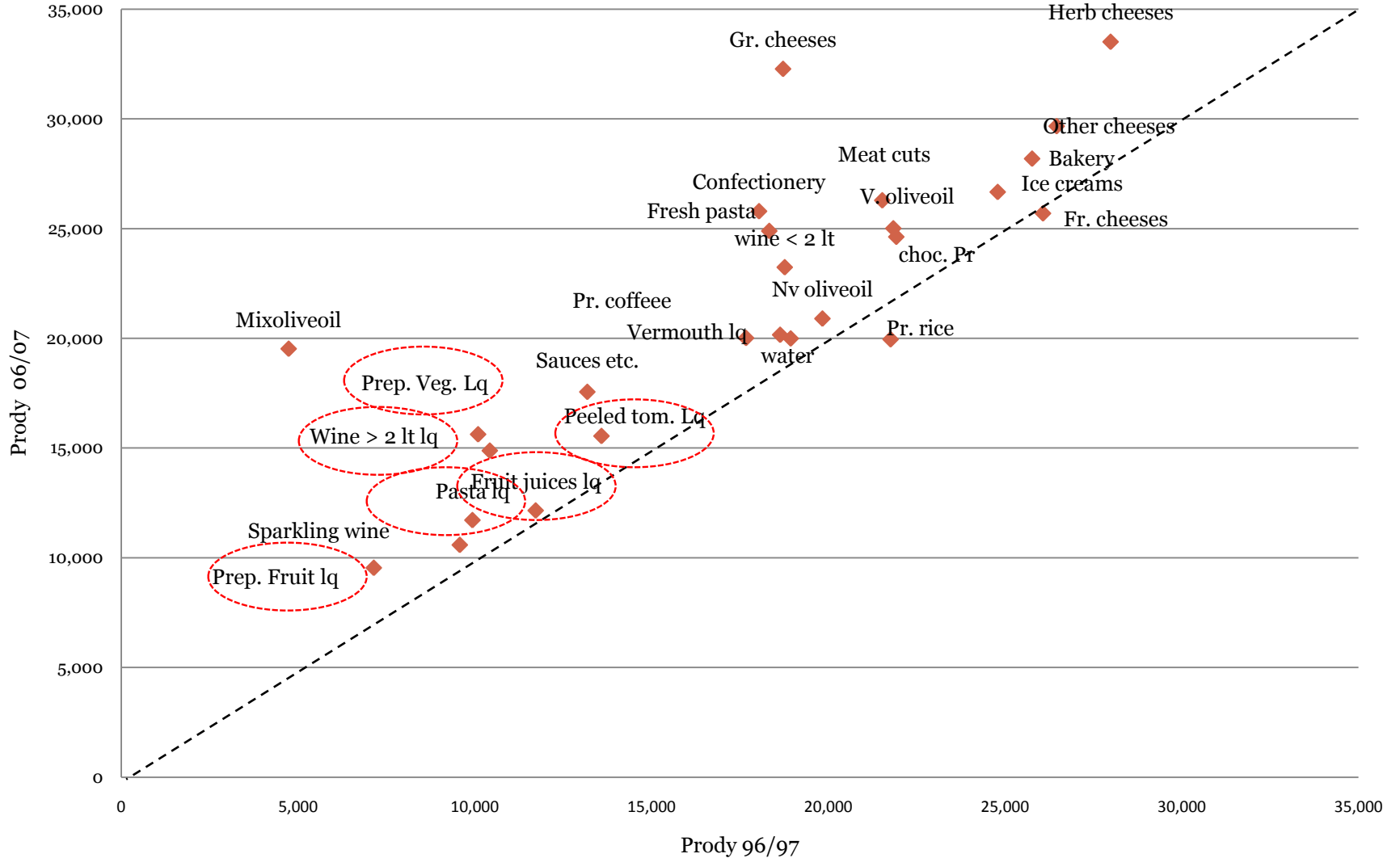
$$RCA_{i,j} = \frac{\frac{X_{i,j}}{X_j}}{\frac{X_{i,w}}{X_w}}$$

where $X_{i,j}$ is the amount of the agri-food product i exported by the country j ;
 X_j is the total agri-food exports of the country j ;
 $X_{i,w}$ is the total world exports of the agri-food product i ;
 X_w is the total agri-food world exports.

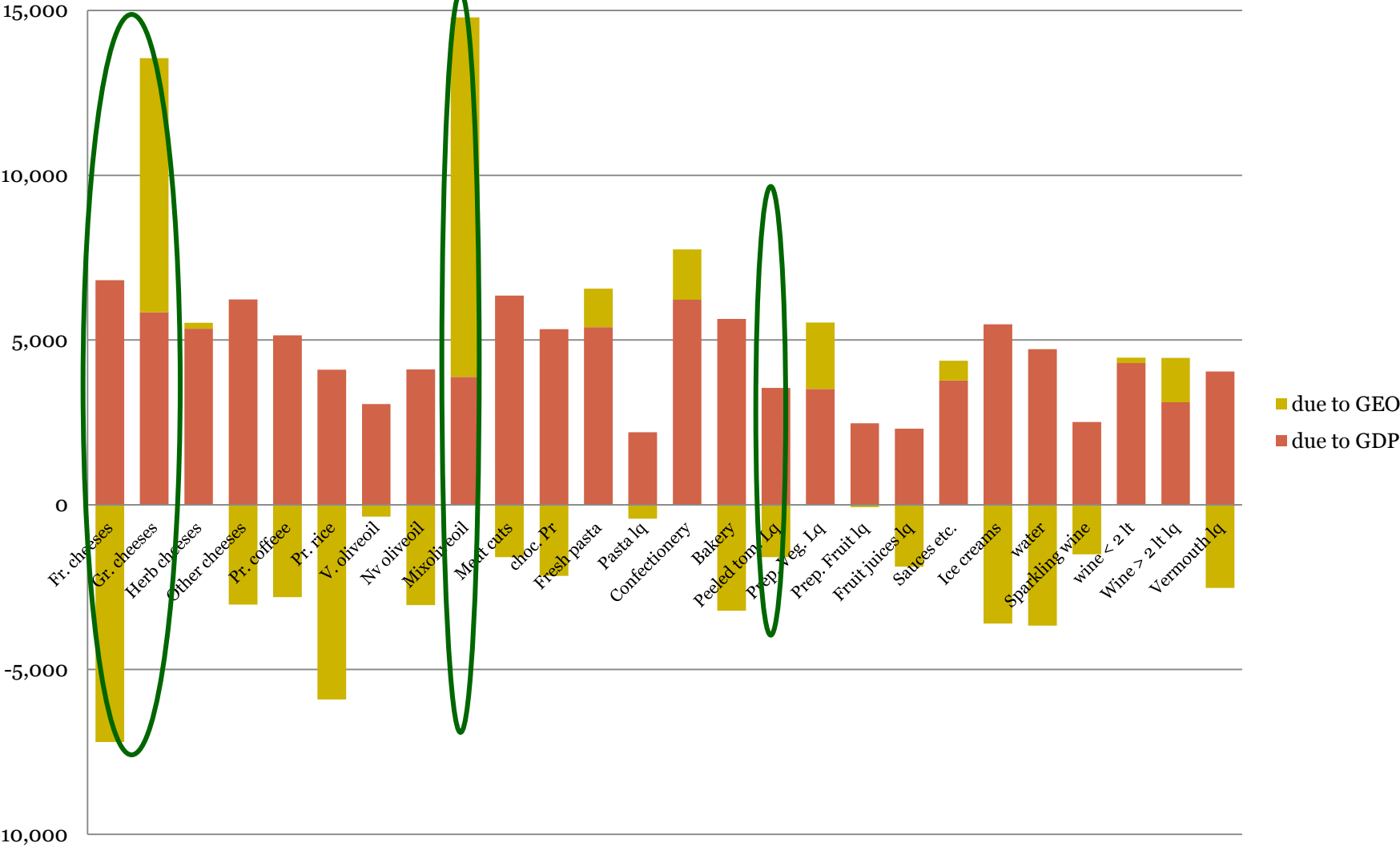
Prody index for agri-food MiI

- ✓ Two modifications of the “basic” index:
 - 1) The 26 items of the MI have been divided into two groups (high quality and low quality) according to the unit values of the Italian exports:
 - UV > median (50%) = high quality
 - UV < median (50%) = low quality
 - 2) The 2006/07 values of the indices have been calculated also with the 1996/97 per capita GDP to reduce the GDP growth effect from the overall variation of sophistication.

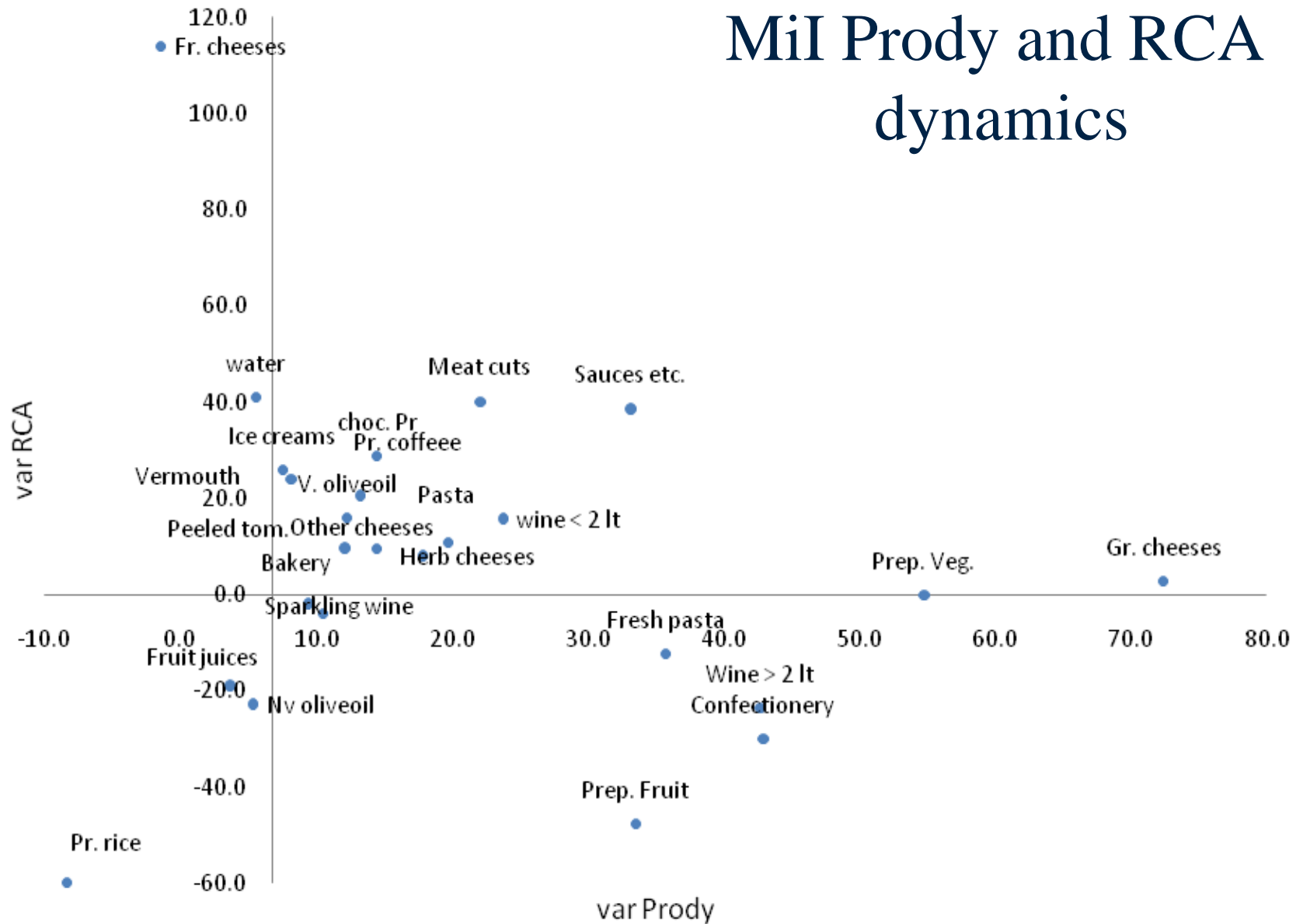
Prody index: values and ranking



Dynamics of Prody: GDP and GEO effects



MiI Prody and RCA dynamics



Concluding remarks 1

- ✓ The agri-food MiI is in good health but... some alarm bells!
 - ✓ The Prody for some item is very low, for others decreased during the decade
 - ✓ For some products the quality level is low, even in the case of important MiI products: peeled tomatoes, pasta, some categories of wines. Is there room for improvement?
- ✓ Finally, in some cases Italy is further specializing in exporting goods whose sophistication is decreasing: >>reducing capacity to remunerate resources? >> lost of competitiveness?

Concluding remarks 2

- ✓ The adaptations made to the Prody index have well responded to the needs of this study:
 - ✓ The differentiation of the Prody on the base of the unit value has shown that for some MiI products Italy competes on a lower level of quality on the world market.
 - ✓ Calculating changes of Prody at constant GDP allow to better measure the impact of changes in export specialisation patterns on sophistication trends
 - ✓ All in all, sophistication indices to investigate a specific sector trade performance: encouraging results!
 - ✓ Agri-food MI is particularly fit to be used as a case study for its specific features.