Wine promotion with heterogeneous firms: Incentives for quality and collective reputation

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Motivation, I

- Between 2009 and 2013, EU Member States spent euro 522 million in EU funds to promote EU wines in third countries.
- For 2014-2018, funds allocated to Member States for this measure have increased to **1.16 billion euro** (EU-27).
- The **European Courts of Auditors (ECA) has criticized** this policy on different grounds:
  1. EU wine exports to third countries have significantly increased in absolute terms, but have lost market shares in the main third countries targeted by promotion actions; at the same time, exports of EU wines NOT eligible for support were also increasing;
  2. moreover, 'the promotion actions are often used for consolidating markets, rather than winning new ones';
  3. last, 'large wine companies have also benefited from funding, which was intended only for small-to-medium businesses' (Mercer, 2014).

Motivation, II

- The Court is thus concerned that 'there is a risk that the 2014-2018 budget is set too high, endangering the application of sound financial management principles' (ECA, 2014).

- Other critical commentators include **Robinson** (2015), who noticed the following:
  - **France** got a reduced budget over the period 2014 and 2018, probably due to misuse of funds (VIP tickets at Roland Garros, which cannot be considered as a wine promotion action) and to champagne promoting.
  - In **Spain**, 88 per cent of funds was given to six big companies that already had a presence in export markets.
  - For **Italy**, she notices that "there seems to be far more emphasis on the process than the results" of promotion activities.

Motivation, III

- The case of **Italy** is interesting because there has been quite a **controversy** between major wine exporters and the Ministry of Agriculture.
- *Italia del Vino Consorzio* and *Istituto Grandi Marchi* – representing 31 major wine producers, a turnover of 1.3 bn of euro, and 15% of Italian wine export – argued against two features of the Italian regulation enacted to get access to the EU funds. In the evaluation of proposals,
  1. priority is given to projects aimed at **markets** in which beneficiaries have NEVER implemented promotion activites with EU funds before.
     - This, they argue, would be against a basic strategic principle, that is target promotion activities in the foreign markets with more competition, which can also buy higher volumes, else competitors would gain bigger market shares.
  2. priority is given to projects aimed at **beneficiaries** (i.e., firms) that have NEVER benefited from EU co-funding before.
     - This, they argue, would penalize those firms that in the past have successfully been trail-blazer for the whole Italian wine sector.

Motivation, IV

- In this **ongoing project** we investigate the following questions.
  - Does it make sense – from an economic point of view – to subsidize promotion activities of EU wines in foreign markets.
  - Who should benefit, established exporting firms or new ones?
  - For which destination markets, rich or emerging ones?
- Using recent contributions in **trade theory**, we develop a model with the following main ingredients:
  - heterogenous firms (in the sense of Melitz, *Econometrica*, 2003);
  - quality is important;
  - collective reputation is relevant.

Motivation, V

- Work still in progress, but preliminary results show that:
  - weight of collective reputation affects incentives for quality investments;
  - favorable demand & cost conditions lead to 'larger' average quality by inducing a different range of firms to be investing in quality and by changing their quality choices;
  - the impact of promotion subsidies on average quality depends on which firms are quality leaders and thus on production costs and destination markets, i.e., parameter values.
  - $\rightarrow$ need to empirically test the model predicitons.

The model, I

BASIC STRUCTURE

- Monopolistic competition model, where goods are differentiated with each one corresponding to a firm.
- Firms are heterogenous in innate quality.
- Firms can improve quality by exerting some quality development effort.
- Entry and selling in the market requires a fixed cost.
- Production then exhibit constant returns to scale at marginal cost increasing in innate quality and final quality.
- Demand is influenced by perceived quality, expressed as a weighted average of true quality and average quality in the market.
- $\rightarrow$ Collective reputation (Fleckinger, 2015) in the formation of demand for quality.

The model, II

DEMAND SIDE

- In general, we would want to have **preferences** such that:

$$u = u(Q, S, \langle q_i \rangle, \langle \tilde{s}_i \rangle),$$

where

- perceived quality for product i is

$$\tilde{s}_i = \sigma s_i + (1 - \sigma) S,$$

- s_i is the quality of product i,
- S is an aggregate function of qualities, i.e., the average market quality

$$S = \int \frac{q_i}{Q} s_i di.$$

- q_i is the quantity of product i, and
- $Q = \int q_i di$ is the aggregate quantity consumed.

The model, III

- The parameter σ belongs to $(0, 1)$ and weighs differently (s_i, S):
  - if $\sigma \approx 0 \rightarrow$ consumer almost UNABLE to distinguish product quality;
  - when $\sigma \approx 1 \rightarrow$ consumer is an 'EXPERT', i.e., able to distinguish quality.
- $\Rightarrow$ Quality-extended version of Melitz-Ottaviano (2008).

The model, IV

SUPPLY SIDE

- A potential producer of a given good has **innate quality** θ distributed with law $G(\theta)$ over $[0, \theta_m]$.
- In order to reach quality $s > \theta$, producer of type θ has to exert **effort** $(s - \theta)$ which costs $k(s - \theta)^2$ with $k > 0$.
- To produce a **quantity** x, producer θ has to spend $(\theta + \delta s)$ per unit.
- This specification is – to the best of our knowledge – NEW into the literature.
  - It enables sufficient flexibility in the correlation between quantity and quality at the production level, and with price in equilibrium.
  - It is more general than recent contributions, e.g., Antoniades (2015).
  - It gives richer results since we can avoid imposing a rigid positive correlation between quantity and quality.

Preliminary results, I

- Endogenous model of entry ($\tilde{\theta}$), with endogenous choice of quantity, quality, prices. We get that
  - (i) **HIGH CR** – at the expense of individual reputation – entails an equilibrium where the largest firms are selling at the lowest prices; quality leaders $\Leftrightarrow$ small firms.
    - This is because there is NOT much investment in quality and the pattern of qualities is close to the pattern of innate qualities.
      $\rightarrow$ We can thus expect a 'low' average quality.
  - (ii) **HIGH IR** – here more incentives to invest in quality and then large firms $\Leftrightarrow$ quality leaders.
    - This context would probably entail a larger average quality on the market.
    - This situation appears when scope for quality, that is, when β and/or L is large (large market and large taste for quality) and when δ, θ and b are low (not too costly to produce quality and willingness to pay not too sensitive to quantity).

OPEN economy, I

OPEN ECONOMY

- We now extend the model to **trade**:
  - Two countries with firms in each.
  - Introduce a fixed cost of exporting as well as a trade cost.
  - Assume that each firm can separately choose a quality for domestic market and a quality for the export market.
- There is a home (h) and a foreign (f) country.
- When a **firm exports from market** n,
  - it will pay a fixed cost of exporting f_{nX}.
  - It will also pay a trade cost of the iceberg type: the one unit delivery cost to market n from market l is $\tau_n\theta$ for a firm with type θ.
  - $\rightarrow$ NOT ALL firms will export to the foreign market.

OPEN economy, II

- When firms decide to export, investing a fixed cost, we have situations that sort firms
  - between those that produce only for the domestic and those that export as well, as is found in the literature;
  - and others where firms decide only to serve foreign markets (not common result).
- The range of firms involved in either one or both activities is
  - DEcreasing, when $\Downarrow$ of entry costs: $\Uparrow$ entry, $\rightarrow\Uparrow$ competition;
  - INcreasing, when $\Downarrow$ of export costs: $\Uparrow$ set active firms $\rightarrow \Downarrow$ competition;
- The impact of **export (promotion) subsidies**, e.g., a decrease in $f_n X$, is an increase in the average θ among active/exporting firms. This means that average quality
  - is decreasing, when efficient firms are quality leaders;
  - is increasing, if least efficient are quality leaders (high CR $\rightarrow$ no quality investments).

Concluding remarks

- These are preliminary results of an ongoing project.
- We need to test our model predictions with the data.
- In particular, we would like to explore and test the predictions about the impact of subsidies on quality:
  - in our model, promotion subsidies may change the range of firms exporting (extensive margin) and their choices (intensive margin);
  - in a richer model with multiproduct firms, the impact could be also in terms of products range that is exported (better quality wines for the same firms?).
- In terms of further theoretical modeling, we would like to extend the model for normative purposes. For instance,
  - in a game between governments, e.g., UE vs. New World, can we devise an optimal subsidy promotion policy?
  - what would be the effects of a war on subsidies on investments on quality?