

with which a given set of inputs are used to produce outputs<sup>11</sup> can be accomplished not only by innovation, but also by widening the dimensions of firms, through mergers, trusts, and every kind of agreement between firms. In Pantaleoni's view, efficiency is the only explanation for firm conduct.

A similar idea is expressed in his work on trusts and cartels (Pantaleoni 1909) where Pantaleoni distinguishes between what we now call horizontal and vertical integration. His paper is intended to demonstrate that while horizontal integration can indeed be a source of market power, vertical integration is only a way to improve x-efficiency. Moreover, he states that competition (or "selection", as Pantaleoni often calls it) endogenously determines the efficient level of vertical integration. Therefore, he is against what he considers "the persecution" of trusts made by American laws (Pantaleoni 1909 ed. 1925: 299).

It's interesting to notice that in his description of the competition process, entry always remains free: Pantaleoni does not even consider the existence of strategical or technical entry barriers. As far as economies of scale are concerned, he is aware that some industries can produce at decreasing costs, but he seems to believe that the minimum efficient scale cannot be but a low proportion of the total market demand. In his words: "if the industry is subject to the law of decreasing costs, all those who don't produce at the minimum cost will be eliminated, and there couldn't be extra-profits". Moreover he explicitly says that "potential competition [...] is always a way to brake prices". With this idea in mind, it's not a surprise that he was against antitrust laws, which he considers a useless Government intervention in the economic sphere.

We can see that Pantaleoni is not worried that collusions reduce the number of firms in the market, widening their market shares. This view seems to be similar to that of the Chicago school.

## Conclusions

De Viti de Marco and Pantaleoni were "militant marginalists", they both introduced marginalism into Italy. In this paper we have pointed out that for them competition was a dynamic process, as it was for the Classical school, even though they were marginalists.

The distinction between competition as a dynamic process and competition as a long -run, zero-profit equilibrium is always stressed in the works on the history of the idea of perfect competition (for example George Stigler 1957, Machovec 1995). It is common opinion that the Classical economists and Alfred Marshall dealt with the dynamic view of competition, while Cournot, Jevons and Edgeworth introduced the static notion of competitive equilibrium.

I don't think that this distinction is relevant for the purpose of my research. My topic is not the history of the notion of competition, it is that of the notion of market power. Market power is caused by barriers to entry. Freedom of entry is one of the four characteristics of a competitive market as it is described in the standard microeconomics textbooks. At the same time, entry is a dynamic, not a static concept. Hence, entry barriers are the cause of market power both in the static view of competition, as well as in the dynamic view of competition. For this reason, and as far as entry barriers are concerned, I don't see any distinction between

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<sup>11</sup> Italian economists, from the Classics to the Marginalists, called the purpose of improving x-efficiency "the law of the minimum means".

the Classical and the Marginalist paradigms. The distinction is relevant if the focus is on the history of the notion of competition, it is not relevant if the focus is on the history of the notion of market power.

There is no surprise that in the works of Pantaleoni on this topic we find citations of Smith, Say and Marshall (the dynamic view), together with those of Cournot, Dupuit, Jevons and Edgeworth (the static view).

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