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Outlines of
The sources of monopoly power before Bain

Market power is "the ability of firms to influence the price of the product or products they sell" (Martin 1989: 16). This is our contemporary definition. But what do we know about the history of this notion? What do we know about when it was defined and how it was explained in the history of economic thought? And what role did it play in characterizing the areas of public intervention?

For Industrial Organization the sources of monopoly power are due to "barriers to entry", a concept first formulated by Joe Bain (1956). On the basis of this category, Industrial Organization defined the sources of monopoly power following two different approaches: for the structure-conduct-performance approach (1950s), monopoly power depends on concentration (it considers only exogenous barriers to entry), while for the New Industrial Organization (1980s) monopoly power depends on potential competition (it considers exogenous and endogenous barriers to entry).

No historical analysis focusing on the problem of entry before the 1930s has been written yet. We therefore look at the historiography that focuses on similar topics to find out what kind of limitation to entry economists took into account before Bain, the role they attributed to the number of firms present in the market, and their ideas on potential competition. We look at the histories of: 1. models of profit maximization in non-competitive markets, 2. antitrust, 3. the theory of competition, 4. Industrial Organization.

1. A good many scholars have traced the history of the **models of profit maximization** in non-competitive markets[1], and they all agree that it began with Cournot (1838), followed by Dupuit (1844), Bertrand (1883), Launhardt (1885), Auspitz and Lieben (1889), Edgeworth (1897), Hotelling (1929), Chamberlin (1933) and J. Robinson (1933). However, these models do not examine the entry of new firms, so they take little notice of the causes of market power, often considering them as given[2]. This is why the history of the models of profit maximization in non-competitive markets has little to say about the causes of monopoly power in economic thought.
2. **The history of antitrust** from its very beginnings has been the subject of a good many studies: some argue that in the first decades of its activities antitrust was more sensitive to social and political considerations rather than economic ones[3], whereas others detect the strong influence of economic theory right from the start[4]. The most extreme version of this latter position[5] would involve the possibility of reconstructing the development of the ideas on the causes of market power by reviewing the theories behind antitrust legislation. However, we still wouldn't find here a general history of the causes of market power, because antitrust's range of activities is limited only to those kinds of behavior that generate monopoly power by *unreasonably restraining competition*.

[1] See, among others, Schumpeter (1954), Stigler (1982), Niehans (1990), Ekelud and Hébert (1999), Puu (2002, pp. 1-5).
[2] Modigliani writes for example that "the impossibility of entry is frequently at least implicitly assumed in the analysis of oligopoly, following the venerable example of Cournot, with his owners of mineral wells" (1958, p. 216). And according to Ekelud and Hébert, among all the "pioneers" they cite: "Dupuit *alone* examined in detail the sources of monopoly" (1999, p. 19, our italics); we mentioned this in the introduction. Of course, in the models of imperfect and monopolistic competition the cause of market power is explicitly indicated (product differentiation) (Hicks 1935).
[3] Peritz (1990) cit. in Giocoli (2009). Stigler in 1982 was still skeptical about the influence of the economists on the decisions of antitrust (Stigler 1982).
[4] See, for example, Kovacic (1992) and Meese (2003).
[5] For example, such as that of Hovenkampf (1989b): "Antitrust policy has been forged by economic ideology since its inception" ([1991], p. 136); or "The antitrust laws are … eternally wedded to prevailing economic doctrine" (p. 157).

In addition the only economists who, it is argued, influenced antitrust in its early years were Americans; this entirely cuts out those economists in the rest of the world, in the decades around the turn of the century, who developed their thinking on the subject of the sources of market power.

3. On seeking in the **literature on competition** the causes of monopoly power we should be careful to distinguish two cases: one in which the obstacles to *perfect* competition are considered, which do actually coincide with the causes of market power; the other, in which the behavior adopted by firms to obtain market power through competition is examined. In the light of the following literature (Schumpeter 1954, Peterson 1957, Stigler 1957, Dennis 1977, Di Lorenzo and Hight 1988, Backhouse 1990, Morgan 1993, Machovec 1995, Blaug 1997, Bradley 2008), we may state that:
   a. The Classicals had found a series of causes, not just institutional, which they believed could give rise to monopoly power: lack of knowledge, collusion, inelastic input supply, number of firms, or customs. Some of them (lack of knowledge, or collusion) are to be considered strategies *to compete*[6], whereas others (inelastic input supply, or customs), were seen as real obstacles to the competitive process[7]; the latter, however were considered temporary, though we shall be coming back to this.
   b. For the Marginalists the causes of market power are: the non homogeneity of goods, lack of knowledge, agreements among firms, indivisibility of commodities, customs, scale economies, strategies, and all the requirements of *perfect* competition; moreover, for some of the Marginalists concentration does not generate monopoly power. For the marginalist period, too, we can divide the causes of market power into two categories: on the one hand endogenous, due to strategic behavior (agreements, lack of knowledge, non homogeneity of the product), on the other, it can be put down to exogenous factors (technology, indivisibility, inelastic input supply, customs). We should also notice that as further definition of the conditions for *perfect* competition proceeds, it is denied that they are realizable[8].

4. On the **pre-history of Industrial Organization**, the existent literature provides us with very few hints, in a variety of contexts (Chamberlin 1933, Sylos Labini 1957, Stigler 1982, Hovenkampf 1989, De Jong and Shepherd 2007). From this literature we find the following information:
   a. For the Classicals the sources of market power are: number of firms, collusion, custom, scale economies, capital requirements.
   b. For the Marginalists the sources of market power are: strategies, scale economies, absolute cost advantages, product differentiation, demand conditions (elasticity and market size). Concentration may or may not generate monopoly power. For some of them there are no entry barriers at all, even in the long run.

   As will be seen, the list is not a short one, and the causes of monopoly power are all present, both exogenous and endogenous.

From this analysis of the literature we found useful pointers, giving us plenty of reasons to pursue this research further. However, in the literature there are hints only; the things that are said about the authors of the past about finding the causes of monopoly power are only vague and isolated fragments, without systematic analyses, without interpretation, because as mentioned above, the theory prior to the

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[6] Hart (2001), for example, recalls that for the classicals "technological change was the natural result of economic competition" (p. 3).

[7] We do not share the idea that in the thinking of the classicals the non-institutional obstacles to competition were entirely absent. For example Hovenkamp (1989b) is too categorical when he sees in the classical "the absence of any notion of barrier to entry" ([1991] p. 148).

[8] This is certainly true for the short run, as Morgan (1993) points out: "imperfections in the market *delay* the effects of the working of the static laws" (p. 589, italics added).

1930s, focusing on the causes of market power, has never been examined. We ask ourselves at this point where research should begin.

1. **Why not the Classicals**? If the market power obtained by firms through strategic behavior did not worry the Classicals, and if that due to exogenous obstacles did not show over the horizon of a short run that they judged to be unimportant, then it is clear that a detailed examination of the causes of monopoly power cannot be found in their thinking, so there is no classical theory of (non institutional) barriers to entry. The confirmation of this lies in the fact that in the writings of the Classicals there is little room for the theory of monopoly.
2. **Why the Marginalist period**? The main reason is that the idea that market power was not the result either of natural or institutional causes was fully realized precisely in this era. But, again, why?
   a. One reason can be found in the economic history: in the marginalist period trusts, combinations, mergers, vertical integrations, public utilities, and railways were being set up (Hovenkampf 1989). The economists realized that obstacles to competition lasted for a long time, so they tried to understand why, whether it was a good thing, and if the rivalry among firms was enough.
   b. These years saw a mixture of methods: Classicals, the historical school, and marginalism were all used, and from this cross-fertilization fruitful methodological contaminations were born.
   c. New analytical tools were available, e.g. demand functions, cost curves, and equilibrium conditions; so some of the new theoretical developments were due to the use of these tools.

   All this leads us to conclude that focus on the problem of monopoly and its causes grew enormously precisely in this age for two different kinds of reason. The first, linked to the theory, is that with the emergence of the notion of *perfect* competition every instance of the strategic behavior of firms becomes an index of monopoly and as such gave rise to worry. The second, on the other hand, concerns the new economic situation in which market power, whether generated by strategies or obstacles, showed itself to be lasting and hence worrying, but for different reasons to the previous case. The difference between the cases should not be lost sight of: in the first case the identification of monopoly power is due to *a change in theory*[9], in the second it is due to *a change in reality*.
3. **Why the *Italian* Marginalists?** In particular we examine the thought of the Italian Marginalists, for the following reasons:
   a. Schumpeter (1954) writes that Italian economics "was second to none" in the marginalist period. If Italian economic thought was of prime significance in the period which is relevant to our research, we cannot leave it out of consideration.
   b. In Italy there have been many contributions on the subject (Parisi 1992, Augello and Guidi 2009); in fact the subjects concerning market power were not dealt with only in the USA, as is often believed. These contributions were stimulated both by international events, and by the Italian industrial situation (holdings, combinations, interlocking directories, and local concentration of firms) (Ciocca 2008)
   c. The secondary literature tells us of interesting lines of thought: on the one hand Sraffa, the father of the theory of imperfect competition, and on the other Sylos Labini and Modigliani, who introduced the new oligopoly theory, are Italians. It is therefore possible that there is an Italian matrix for their ideas. The Italian contribution to U shaped cost curves, which is a very important tool for the analysis of market power, was decisive (Keppler and Lallement 2006).

[9] This is the opinion of Edgeworth, according to Machovec (1995): "Edgeworth's dissatisfaction with the concept of zero profit … was rooted in his realization that the new package of semantics *and ideas* attending the model of perfect competition were affecting how leading economists were reasoning about the market process" (p. 288, author's italics).

Moreover there are important Italian contributions on the theory of natural monopoly (Mosca 2008). All this leads us to believe that in the writings of the Italian Marginalists there are interesting elements for a history of the theory of monopoly power.

The **economists chosen** are Vilfredo Pareto, Maffeo Pantaleoni, Antonio De Viti de Marco, and Enrico Barone. They were linked by very close personal and intellectual relationships (Einaudi 1934). As they were free market oriented and very much politically involved, they had to react to the problem of monopoly power. Moreover, there are valid pointers in the literature: Pareto is mentioned for his theory of competition and of monopoly (Schumpeter 1954, Chamberlin 1933, Dennis 1977, Backhouse 1990, Machovec 1995; Pantaleoni is remembered for his ideas on industrial combinations (Schumpeter 1954); Barone for his contribution on costs (Schumpeter 1954, Keppler and Lallement 2006, Mosca 2008); De Viti de Marco for his article on the telephone industry (Mosca 2008). Another important reason why these four Italian Marginalists were chosen is that they were leading figures on the international scene, making Italy a driving force in economic debate. For personal reasons they were cosmopolitan, participating in the cross-fertilization of ideas (Asso 2001): they received and wrote reviews, and their books were translated into many languages, so there are good reasons for asking whether their thinking on the specific subject of monopoly power was also known about outside Italy. Also their influence at the international level on later generations with reference to this subject would seem to have been fruitful, because some encouraging traces of it are available to us. For example, it seems that Knight took the notion of equilibrium precisely from Pareto and Barone (Marchionatti 2003); then there is the influence of Pantaleoni's theory of overhead costs on J.M. Clark, and through him on the later theories of competition (Sylos Labini 1957, Asso and Fiorito 2001). De Viti de Marco inspired entire research projects[10]; for our subject in particular there is evidence of possible links between his ideas and the most recent theories of regulation of public utilities[11]. There is also a line of thought running from Pareto to Lerner via Amoroso, to Lerner's famous measurement of market power, even if there is no proof of direct influence[12]. To sum up, there are very valid indications from the literature!

Why is it important to reconstruct the history of entry barriers before Bain? We have already mentioned the fact that through this category it is possible to find new connections, new lines of thought. We may add that, although the history of models says that there is nothing on entry barriers before Bain, nevertheless before the Bain - Modigliani - Sylos Labini oligopoly model there is a lot on this notion (as the literature suggests). In fact entry is not considered only in analytical models. So our research serves in the first place to avoid erasing from historical memory an entire slice of *theoretical* thinking that does not appear in the histories of the models, only because the theories were not formalized. Moreover this category allows us to clearly and definitively reject the widely held belief that in economic theory before the 30s only the two extreme situations of perfect competition and monopoly were taken into consideration[13]: economists were perfectly aware of all the situations between perfect competition and monopoly, and worked out theories to explain them, also before the 1930s.

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[10] Buchanan (2003, p. 283) has recognized the importance of De Viti de Marco as the "entry point" in the research project which led him to the Nobel Prize.

[11] Petretto (2002) does not indicate the actual links, but offers useful suggestions to look for them.

[12] Keppler (1994) ascribes to Amoroso, a follower of Pareto, the formulation in 1930 of an index similar to the one developed by Lerner four years later (p. 597).

[13] Joan Robinson stated this (1933[1972], p. 7): "In less recent textbooks the analysis of value generally began with perfect competition … However, in an isolated chapter, it was necessary to introduce the analysis of monopoly"; and she adds … "the institutional texts never contained a clear guide as to how these intermediate cases should be dealt with". Martin (2007) is also of this opinion: "The mainstream price theory of the early twentieth century consisted of a theory of competitive markets and a theory of monopoly, with a vast wasteland in between" (p. 27). Myatt and Hill (2003), on the other hand, argue that in the 40s the textbooks were still much less focused on perfect competition than they are now.

What were these theories? Italian Marginalists used a kind of theory of strategic competition, which was an adaptation of the classical competition theory to the new situation. For them competition was still a behaviour, but limited by more and stronger barriers to entry. Therefore their interest in monopoly was due to a change in reality, not in theory. We also think that their theory was very similar to the theory of strategic competition, even if they did not use formalized models for entry. These two theories are both very different from the neoclassical theory of perfect competition.

Barriers to entry are also important for economic policy: they are a rationale for public intervention, and they were so also before Bain! The ideas of our economists were intended to be applied, they called for reforms. The marginalist period may have been the first one in which competition policies based on a theory were required, not only in the USA.

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