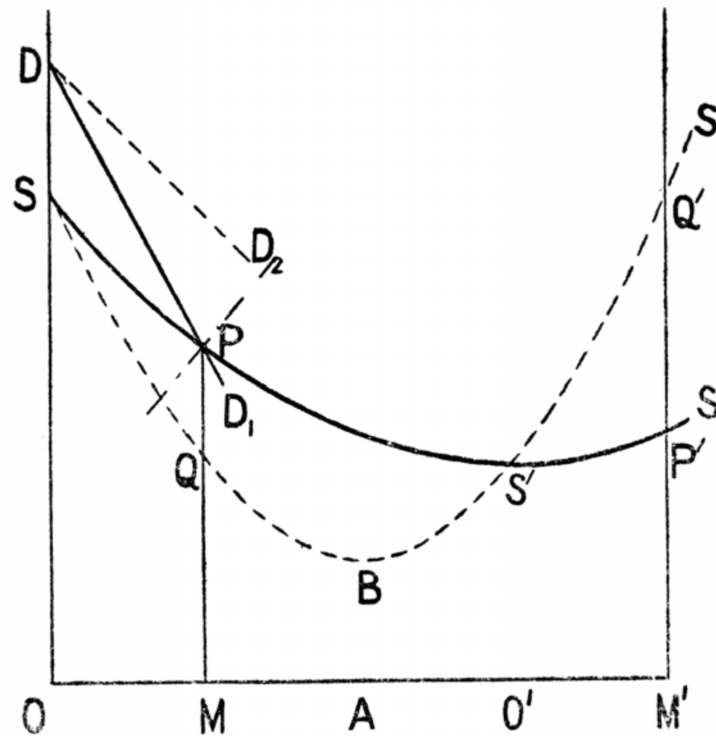
focuses of Sraffa's critique of Marshallian supply function[37]. His 1925 article opens with the quotation of Pantaleoni's classification of industries based on different returns; he then states the contradiction between internal economies and competitive equilibrium[38]. He returned to this in his 1926 article: "reductions in cost connected with an increase in a firm's scale of production – he writes – arising from internal economies or from the possibility of distributing the overhead charges over a larger number of product units, [are] incompatible with competitive conditions" (1926: 540). In a brief historical reconstruction of Smith's theorem on increasing returns, Stigler (1951) does not mention Sraffa, while he cites Knight's criticisms of Marshall's solutions for the reconciliation problem. In fact, in the first half of the 1920s, Knight dealt with the problem several times[39], reaffirming that the necessary outcome of generalized decreasing costs due to large scale production was monopoly (Marchionatti 2003: 60). We can thus ascribe to Sraffa and Knight the definitive statement on the incompatibility of increasing returns and perfect competition. Of course, in the 1920s both of them, together with many other economists inside and outside Cambridge, contributed to the well known "cost controversy", which was focused exactly on whether increasing returns and competition could be compatible or not. It's worth noting that those participating in this conference didn't mention any concrete example of industries exhibiting generalized economies of scale; moreover, the expression "natural monopoly" to identify those industries was never used. Once more, we see that the different components of the concept followed different paths.

5. The diagram

We have seen that Barone perfectly described the shape of average cost curves and the situation in which natural monopoly occurs, using both cost curves and market demand. He did it in words, and didn't draw the diagram. It was Edgeworth, in one of his four famous articles on the theory of railway rates[40], written between 1911 and 1913, who drew a diagram in which natural monopoly was perfectly represented, probably for the

[37] The literature devoted to Sraffa's criticisms of Marshall's theory is also massive; see the up-to-date references in Rosselli (2005).
[38] For an interpretation of Sraffa's 1925 article see Roncaglia (1991).
[39] In particular we remember Knight (1921).
[40] We have already mentioned three of these four articles in the section on economies of scale.

first time, with the two cost curves (average and marginal) and the demand function (1913, 214, fig. 3). In the section called *Graphical Representation of Cost*, he treats a variety of aspects. He analyzes the case in which the demand curve intersects the supply curve in the increasing part of the marginal cost curve, and then he turns to its decreasing part.



In his diagram, DD_1 is the demand curve, SS_1 is the average cost curve, and SS_2 is the marginal cost curve. Edgeworth writes that, while a decreasing average cost curve is "insignificant in a *régime* of competition …" (1913: 213), it is perfectly possible under a monopoly regime.

6. Government intervention

We go now briefly to natural monopoly as a rationale for Government intervention. We are aware that a subject of such importance should be treated with much more depth; at the same time we think that a short synthesis of the different positions taken by the economists mentioned above is enough for the limited scope of this paper.

And we start with J.S. Mill, who states that: "when … a business of real public importance can only be carried on advantageously upon so large a scale as to render … competition … illusory … it is much better to treat it at once as a public function" (([1848] 1849: 176). As Ekelund and Hébert point out, he proposes a: "decentralized provision of service at the municipal level under government ownership and locally elected board