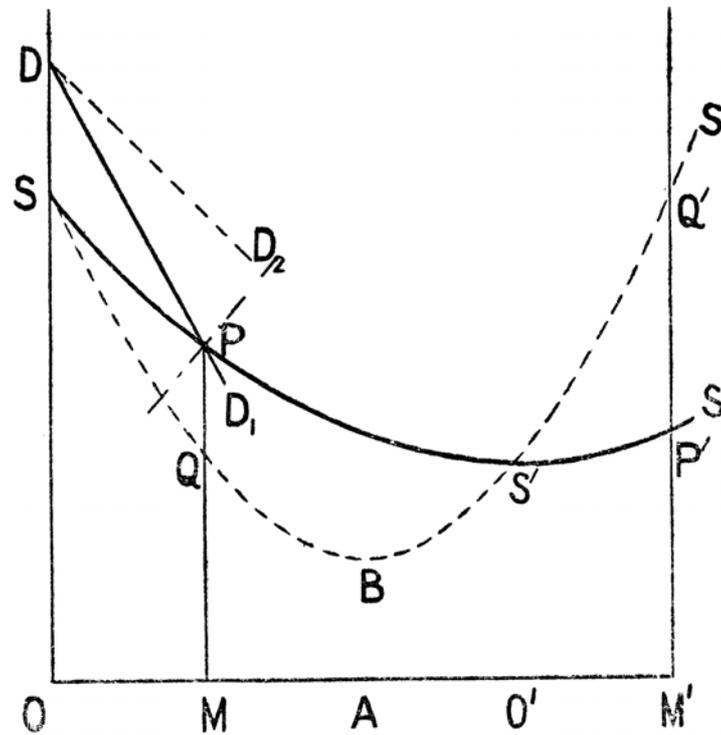


first time, with the two cost curves (average and marginal) and the demand function (1913, 214, fig. 3). In the section called *Graphical Representation of Cost*, he treats a variety of aspects. He analyzes the case in which the demand curve intersects the supply curve in the increasing part of the marginal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

management” (1981: 470). It’s well known that J. Dupuit was a very strong supporter of free markets; nevertheless he was convinced that, as the transport network is a monopoly, the private monopolist could abuse of his position; for this reason Dupuit was in favour of public intervention: “L’exploitation par l’Etat d’une industrie quelconque – he writes – est un fait exceptionnel qui doit toujours être justifié par des circonstances exceptionnelles. Or ici [transport network, water distribution, lighting, heating] la circonstance est le monopole” (1852-53 : 852)<sup>41</sup>. The same opinion was expressed by Walras (1875), who wanted the Government to intervene in the railways, either by directly controlling, or by regulating them<sup>42</sup>. The importance of nationalization for the railways is strongly expressed by Ely (1886 and 1889)<sup>43</sup>, while Hadley finds the necessity for Government regulation in the very difficult aim of controlling “the abuses of monopolies without destroying the industries” (1886: 28), and H.C. Adams (1887) sees social harmony restored by extending the duties of the State in the “industries of increasing returns”<sup>44</sup>. It is to these American writers that Marshall refers when he says: “arguments are now used, especially in America (as for instance by Mr H. C. Adams), in support of the active participation of the State in industries which conform to the law of increasing return” (1890a: V.XIII. fn.129). On the contrary, Marshall suggests that “such undertakings, though always under public control, and sometimes even in public ownership, should whenever possible be worked and managed by private corporations” ([1890b] 1964: 106). The proposal of De Viti de Marco (1890) is very interesting: he writes that the Government can regulate entry in a natural monopoly through a system of competitive bidding; it can award a franchise to the most efficient firm and can refuse to renew it if the firm behaves as a monopolist. As is well known the same proposal was made by Chadwick in 1859, and by Demsetz in 1968<sup>45</sup>.

## 7. An overview

Expression	Concrete situations	Scale economies	Incompatibility	Diagram	Government intervention

<sup>41</sup> There are many other occasions, like the monthly meetings of the Société d’économie politique between 1853 and 1864, in which Dupuit expressed his opinion in favor of public management of natural monopolies. See Mosca (1998: 265).

<sup>42</sup> For a different analysis of Dupuit and Walras on railroads see Ekelund and Hébert (2003).

<sup>43</sup> See the criticisms of Ely’s belief in government superiority for the regulation of natural monopolies by O’Driscoll, who thinks that: “he was in error in almost all his contentions” (1982: 197-199).

<sup>44</sup> On Adams’ opinion of regulation see Sharkey (1982: 15-16).

<sup>45</sup> For the proto-history of franchise bidding see the very interesting article by Ekelund and Hébert (1981).