

Access to an Essential Facility: Efficient Component Pricing Rule or Full Private Property Rights?*

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1999

Abstract

In this paper we compare the access to an essential facility in two different property rights regimes. In one of them, the owner of the facility has a full private property right. In the other, access is regulated according to the efficient component pricing rule. Proponents of the second regime claim that this rule is efficient, for it forecloses the complementary market only to inefficient producers. We prove that the two legal frameworks are equivalent if we do not consider the possibility of the transfer of the property right and that if this is allowed the efficient component pricing rule might exclude efficient suppliers.

Keywords: Network, Access, Property Rights, Regulation, Antitrust, Public Policy

JEL Classification: L13, L40

*We thank William Baumol for helpful remarks.

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1 Introduction

To illustrate the topic of this paper consider the following situation. Two railroads intend to provide transportation services from A to C, through an intermediate point B¹. They own parallel tracks on the route BC, but one of them owns the only available track extending from A to B. This track is essential for both firms if they want to operate in the market for transportation services from A to C. The railroad that owns the AB track has a property right on an essential or bottleneck² facility. The extent to which it is allowed to exercise its property right depends on the existing regulation and/or antitrust laws³.

The access to a bottleneck facility constitutes an important issue for competition policy. Generally there are two institutions that may be involved: a regulatory agency (RA), with specific powers in the regulated market; or an antitrust authority (AA). One of the conditions that must be decided upon is the access or interconnection price⁴. A quite popular rule to solve this problem, known as the “efficient component pricing rule” (EP), has been proposed by Willig and Baumol and endorsed by others⁵. The principle of EP is that the access price must be such that the owner of the essential facility is fully compensated for its opportunity costs which include the profits foregone as a consequence of the new entry. Advocates of EP claim that this rule is necessary to avoid that “the bottleneck input is priced in such a way that sales of the final product are diverted to a supplier that incurs in the

¹This example is taken from Baumol and Sidak (1994a) pp. 95-96, or Baumol and Sidak (1994b) pp. 178-180.

²In this paper the two terms are used as synonymous.

³There are many industries in which a similar problem arises. Among them: telecommunications, energy and gas. For some examples, see Economides and White (1995) pp. 558-559.

⁴Generally an AA does not have the power to set the access price, but since some prices can be considered an indirect means to foreclose the complementary market or to distort competition in the same market, the AA can declare some prices to be in violation of antitrust laws. Hence, while an RA has to choose a single access fee, an AA has to define a set of admissible prices. In the sequel we do not elaborate this distinction since it would result only in formal complications.

⁵See Willig (1979), Baumol (1983), Baumol and Sidak (1994a, 1994b), Armstrong et al. (1996). For an extensive survey of the literature, see Sidak and Spulber (1997). A variation of the rule has been proposed by Sidak and Spulber (1996) and called the “market determined efficient component pricing rule”. It is based on the same principle and the criticisms relative to EP expressed in this paper can also be referred to its adaptation.

process real incremental costs higher than those that would be incurred by a rival”⁶. This result is called economic efficiency in supply and it is the only intended goal of EP.

The analysis on which the efficiency claim is made lacks a detailed discussion of the strategic interaction that takes place in the complementary market with or without entry. Some authors have pointed out that, once this is done, EP does not appear to have any allocative merits, because it perpetuates the wastes commonly associated to a monopolistic market⁷. The same authors have shown that if less efficient firms (i.e. with higher production costs) are allowed to step into the market, this might determine an increase in the net social welfare, since the allocative gains stemming from a more competitive environment may be higher than the technical inefficiencies.

We believe that these criticisms are well founded and it is not our intention to discuss them.⁸ In fact, the allocative outcome of EP depends crucially on the characteristics of the downstream market and on its regulation⁹, whereas our analysis is much more general and largely independent of the proper description of the actual competition in the complementary market. Our critical concern with EP is about the necessity of any form of regulation in order to achieve the efficiency goal to which this rule aims. We argue that the same result can be obtained in a legal framework in which the owner of the facility has a full private property right which is not restricted in any way by regulatory or antitrust laws. If this is true there is no reason for having an RA or an AA dealing with the access to the essential facility. We have to make clear that we do not support this option. We simply maintain that the opinion of those who: 1) claim that the access to a market should be regulated or subject to the application of antitrust laws; and 2) recommend the implementation of EP, is inconsistent.

The rest of the paper will be as follows: In section 2 we will define the problem, describe the two property rights regimes and their formal representation. In section 3 we will show that a fully deregulated setting is equivalent to a regulation based on EP if the transfer of the property right is not considered and may be more efficient if this possibility is allowed. Two specific

⁶Baumol et al (1997) p. 148.

⁷See Economides and White (1995) and Economides (1998).

⁸The same proponents of EP, long before the criticisms of Economides and White, have repeatedly stated that the full allocative efficiency of this pricing rule depends on the elimination of monopoly rents through proper regulation of the final product market.

⁹See Laffont e Tirole (1994), Larson (1998) and Economides and White (1998).

points will be discussed in section 4. Section 5 will contain the conclusions.

Before starting the analysis, we think appropriate to highlight a difference between the regulatory and the antitrust issue. An RA has to make a decision on the conditions regarding the access to an essential facility by virtue of a legislation which bestows this power on it. This is part of its tasks and one of the reasons for having an RA. On the contrary, an AA will have to deal with the same problem only if the firms that operate, or are willing to operate in the market fail to reach an agreement. Once this is occurred, the antitrust problem is fundamentally the same as the regulatory problem. Therefore, the rest of the analysis will be conducted without any reference to this distinction. However, we want the reader to keep it in mind in reading this paper because it has some relevant implications that will be shortly addressed in section 4.

2 The problem

In this section we will describe two different property rights frameworks regarding an essential resource. The two legal regimes are named: Efficient Component Pricing Regulation regime (ECPR), and Full Private Property Right regime (FPPR). The economic problem is the following. A firm owns a bottleneck facility and operates in the complementary market. This firm is referred to as the incumbent. A second firm may want to access to the incumbent's facility to enter in the related market. It is called the entrant.

In the ECPR, the incumbent is entitled of the right of collecting all the revenues generated by the access to the facility as long as the entrant is willing to pay an access price which is authoritatively set by an RA¹⁰. The RA is bound to fix the access price according to EP.

In the FPPR, the incumbent is entitled of the right of deciding whether the entrant should have access to the facility and the access price. The RA (if it exists) does not have any role as far as the access to the facility is concerned.

In both regimes the incumbent can transfer its property right to the entrant or to any other third party. In case it does so, the new proprietor is subjects to the same rules as the previous one.

¹⁰We limit the analysis to an RA, but it can easily extended to an AA with the cautions referred in note 4 and having in mind the difference mentioned at the end of the Introduction.

Advocates of EP claim that under the ECPR entry will be denied only to inefficient producers. The question is: can the ECPR and the FPPR lead to different outcomes with respect to the entry of incumbent's rival firms?

To answer this question we describe the economic and legal setting as a multi-stage game. The first stage regards the ownership of the essential facility. The incumbent and the entrant can exchange the property right if, taking into account the rest of the game, this exchange entails a Pareto improvement. If they do not, the incumbent remains the proprietor of the facility. In the second stage the access price is set. Under the ECPR, the RA is the only player that has to make a decision. It chooses a price that maximizes its objective function, subject to the constraint imposed by EP. Under the FPPR, the incumbent and the entrant bargain in order to set an access fee. The RA has no words in this stage. In the third stage the entrant decides whether to enter into the market and the market game takes place. In modelling these events we will make as few assumptions as possible in order to establish a general result. The formal description given in the next subsection proceeds backwards.

2.1 Access to the essential facility and competition in the complementary market

x is the final good whose production requires access to the essential facility owned by the incumbent. $i = 1, 2$ denotes the two firms; 1 is the incumbent and 2 the entrant. p^i is the price charged by i for the good x . \mathbf{p} is the vector (p^1, p^2) . $x^i = x^i(\mathbf{p})$ is the quantity consumers demand to firm i at the prices \mathbf{p} . $\mathbf{x} = (x^1, x^2)$. $c^i(x^i)$ is the cost firm i faces to produce x^i , with $c^i(0) = 0$. $a(x^2)$ is the access price the entrant pays to the incumbent in order to produce the quantity x^2 . $c_a^1(x^2)$ is the direct cost the incumbent has to bear in order to provide access to the entrant; $c_a^1(0) = 0$. $\pi^i = \pi^i(\mathbf{p}, \mathbf{x}, a)$ is the profit function for firm i ¹¹. $R = E, F$ denotes the legal system, where E is the ECPR and F the FPPR. Let $a_R(x^2)$ be the outcome of the second stage when this stage is played according to the rules defined by R . $\mathbf{p}_R(a_R) = (p_R^1(a_R), p_R^2(a_R))$ and $\mathbf{x}_R(a_R) = (x_R^1(a_R), x_R^2(a_R))$ represent the Nash equilibrium (NE) outcome that emerges in the market game. $\pi^i = \pi^i(a_R)$ is the reduced form of the profit function of firm i in the regime

¹¹The notation makes clear that demand, costs and hence profits do not depend *directly* on the property rights regime.

R. Let us define the set A_∞ (more precisely below) as the set of access prices at which the entrant prefers staying out of the market, i.e. for any $a_\infty \in A_\infty$, $x_R^2(a_\infty) = 0$, where it is assumed that entry occurs only if $\pi^2(a_R) > 0$. There are no particular restrictions upon the subgame relative to the market for x . It may or may not be regulated and if regulation exists, it may take any form; the market may be subject to the application of antitrust laws or benefit an immunity; competition may be in price (Bertrand) or quantity (Cournot); products may be differentiated or homogeneous. Any combination of these assumptions is possible. The only restrictions that we impose are the following:

INDEPENDENCE OF THE ACCESS REGIME (IAR): If for any $x^2 \in R_+$, $a_E(x^2) = a_F(x^2)$ then:

- 1) $\mathbf{p}_E(a_E) = \mathbf{p}_F(a_F)$;
- 2) $\mathbf{x}_E(a_E) = \mathbf{x}_F(a_F)$.

IRRELEVANCE OF THE MEANS OF EXCLUSION (IME): For any $a_\infty, a'_\infty \in A_\infty$:

- 1) $\mathbf{p}_R(a_\infty) = \mathbf{p}_R(a'_\infty)$;
- 2) $\mathbf{x}_R(a_\infty) = \mathbf{x}_R(a'_\infty)$.

IAR states that the market game is exactly the same once the access price is set and thus it is independent of the regime regarding the access to the essential facility. If we assumed that the market game depends on R , then differences in the entry might be the consequence of the different market game played by the firms and not of the different regimes regulating the access to the essential facility. IME says that if the complementary market is foreclosed the market equilibrium does not depend on the access price. In other words if the incumbent remains a monopolist, its market policy is not affected by the means used to exclude its rival.

In the second stage of the game a_R is defined. We assume that in both the ECPR and the FPPR a_R can be drawn from the same set A which includes all the functions $a : R_+ \rightarrow R_+$ such that $a(0) = 0$. In other words the entrant cannot be forced to pay an access fee if it decides no to enter. No other restrictions hold and hence the access price is not restricted to linear pricing. $A_R \subset A$ is the set of access prices such that the market

subgame possesses a NE. Given IAR, $A_E = A_F$. We define the following set: $A_R \supset A_\infty = \{a_\infty \in A_R : x_R^2(a_\infty) = 0\}$. a_∞ is an access price such that the entrant would rather stay out of the market. The incumbent's refusal to deal with the entrant is equivalent to fix an access price in A_∞ . Finally, $A_R^* \subset A_R$ is the set of the equilibria of the first stage under the regime R . The equilibrium concept of this stage depends on the legal setting as discussed below, however we assume that in any case A_E^* and A_F^* are non empty.

The equilibrium concept of the second stage under the ECPR. Under the ECPR a_E is chosen by the RA. First define the following condition which captures the constraint imposed on the RA by EP:

EP CONSTRAINT (EPC):

$$\pi^1(a_E) = \pi^1(a_\infty).$$

The equilibrium of this stage is defined by all the access prices that solve the following RA decision problem:

$$\begin{aligned} & \max_{a_E \in A_E} W(\mathbf{p}_E, \mathbf{x}_E) \\ & \text{subject to EPC.} \end{aligned}$$

We do not make any particular assumption with respect to the objective function of the RA, which can be written in its reduced form $a_E \rightarrow W(a_E)$. It can be thought as a social welfare function or whatever one may think appropriate¹². The only assumption we make is the following:

PREFERENCE FOR A COMPETITIVE ENVIRONMENT (PCE): For any $x_E^2 > 0$, $W(\cdot, x_E^2) > W(\cdot, 0)$.

PCE says that the RA would prefer to have two firms in the market rather than one.

¹²Any theory about the behavior of an RA is admissible as long as the assumptions in the text hold.

The equilibrium concept of the second stage under the FPPR. Under the FPPR, the second stage is better described by a cooperative or bargaining game. The incumbent and the entrant bargain in order to define a_F , taking into account all the consequences that this choice entails for the market subgame. Any solution concept of the bargaining problem can be employed¹³. Once again the restrictions we impose are minimal. They are:

INDIVIDUAL RATIONALITY (IR): For any $a_F \in A_F$, $a_F \in A_F^*$ only if $\pi^i(a_F) \geq \pi^i(a_\infty)$, $i = 1, 2$.

PARETO IMPROVEMENT WITH RESPECT TO THE STATUS QUO (PISQ): Given any $a_\infty \in A_\infty$, $a_\infty \notin A_F^*$ if and only if there is an $a_F \in A_F$ such that $\pi^i(a_F) \geq \pi^i(a_\infty)$, $i = 1, 2$ and $\pi^i(a_F) > \pi^i(a_\infty)$, for at least one player.

All bargaining equilibria (or cooperative solutions) impose IR and Pareto optimality. PISQ is a weaker assumption than Pareto optimality since it simply rules out the *status quo* if it can be improved upon, but does not require the solution to be optimal¹⁴. IR and PISQ are minimal requirements meant to describe economically rational firms.

Finally, in the first stage the two firms can reverse their position so that 1 becomes the entrant and 2 the incumbent. Once again, this stage is described by a cooperative game. We do not detail this stage because we shall primarily deal with a two-stage game that starts at the second stage.

3 Comparison between ECPR and FPPR

In this section we intend to prove that, as far as entry is concerned, if we do not consider the possibility for the incumbent to sell its property right on the essential facility, the ECPR and the FPPR are equivalent. If we allow the incumbent to transfer its property right, the ECPR might lead to an inefficient result whereas the FPPR would not.

¹³For instance the Nash or the Kalai-Smorodinsky solutions. For these and other solution concepts see Roemer (1996) Ch. 2 and Shubik (1982) Ch. 6 and 7.

¹⁴Pareto optimality implies PISQ, but PISQ does not imply Pareto optimality. Hence our conclusions will be valid for any solution concept that assumes Pareto optimality, and also for all those conceivable solutions in which players do not bargain optimally.

3.1 Equivalence of ECPR and FPPR

Proponents of EP usually do not discuss the ownership of the bottleneck facility. Thus, in this subsection we analyze the two-stage game starting from the second stage. The incumbent and the entrant cannot exchange their property rights. In this game, although the ECPR and the FPPR are very different as for the role different agents play in defining the conditions regarding the access to the market, it is not difficult to see that they are equivalent as long as entry in the complementary market is concerned. Our claim is the following:

Theorem 1 *Under the FPPR entry into the complementary market occurs if and only if it occurs under the ECPR.*

Proof. To prove this theorem we show that:

α) if there exists an $a_\infty \in A_\infty$ such that $a_\infty \in A_E^*$, then $A_E^* = A_\infty = A_F^*$; and

β) if there exists an $a_E \notin A_\infty$ such that $a_E \in A_E^*$ then $A_\infty \cap A_E^* = \emptyset$, and $A_\infty \cap A_F^* = \emptyset$.

Suppose that $a_\infty \in A_E^*$; consider any $a'_\infty \in A_\infty$. Given IME $\mathbf{p}_E(a'_\infty) = \mathbf{p}_E(a_\infty)$ and $\mathbf{x}_E(a'_\infty) = \mathbf{x}_E(a_\infty)$. Hence, $W(a'_\infty) = W(a_\infty)$, which implies that also a'_∞ is a solution of the RA problem and, as a consequence, $a'_\infty \in A_E^*$. Now suppose there is an $a_E \notin A_\infty$, such that $a_E \in A_E^*$; the former means that $x_E^2(a_E) > 0$, whereas $x_E^2(a_\infty) = 0$; since a_∞ and a_E are both in A_E^* this means that $W(a_E) = W(a_\infty)$, but this contradicts PCE. Thus, $a_E \notin A_E^*$, which completes the proof that $A_E^* = A_\infty$. Now the second part of α). Suppose that $a_\infty \in A_E^*$ but $a_\infty \notin A_F^*$, since a_∞ trivially satisfies IR this can be only if, according to PISQ, there is an $a_F \in A_F$ which satisfies IR and constitutes a Pareto improvement with respect to the *status quo*. Suppose that the Pareto improvement is such because $\pi_F^2(a_F) > \pi_F^2(a_\infty)$, but since $\pi_F^2(a_\infty) = 0$ by definition, we have $\pi_F^2(a_F) > 0$, which implies that $x_F^2(a_F) > 0$, then for $A_E \ni a_E = a_F$ IAR entails that $x_E^2(a_E) > 0$ which cannot be otherwise PCE would be violated as previously shown. Suppose that the Pareto improvement is such because $\pi_F^1(a_F) > \pi_F^1(a_\infty)$, but this violates IME, since $\pi_F^2(a_F) = \pi_F^2(a_\infty)$ implies that $a_F \in A_\infty$. The same reasoning can be used for any $a_\infty \in A_\infty$, thus: $A_\infty \subset A_F^*$. The last part of the previous argument proves also that if $a_\infty \in A_E^*$, there cannot be a $a_F \notin A_\infty$, such that $a_F \in A_F^*$; hence, $A_F^* \subset A_\infty$, which completes the proof of α). Now β). If there exist a $a_E \notin A_\infty$ such that $a_E \in A_E^*$, then

a_E satisfies EPC and $x_E^2(a_E) > 0$. Hence, PCE implies that, given any $a_\infty \in A_\infty$, $a_\infty \notin A_E^*$. Furthermore, if we put $A_F \ni a_F = a_E$, IME assures that $\pi_F^2(a_F) > \pi_F^2(a_\infty)$ and that $\pi_F^1(a_F) = \pi_F^1(a_\infty)$ (EPC). Hence, a_F is a Pareto improvement with respect to the *status quo* and PISQ affirms that given any $a_\infty \in A_\infty$, $a_\infty \notin A_F^*$. ■

We feel the need to make clear that the theorem *does not* affirm that $A_E^* = A_F^*$. This means that the equilibrium in the complementary market may differ in the two regimes.

3.2 The transfer of the property right

Economic efficiency in supply requires that a service should be provided by the supplier whose costs are the lowest available. Supporters of EP claim that this pricing rule meets this requirement. In this subsection we show that, if we consider the transfer of the property right on the bottleneck facility under the ECPR, an efficient transaction might be foregone while it would be carried out under the FPPR. The analysis is less general than that of the previous subsection since an example suffices to prove our claim. Suppose the complementary market is regulated by an RA that sets the price p^* , at which consumers demand $x^* = x(p^*)$. The incumbent, if it has to manage the essential facility and produce the complementary component, has costs such that $\frac{c^{1i}(x^1)}{x^1} = p^* - 1$, while the entrant has incremental costs such that $\frac{c^2(x^2)}{x^2} > p^*$. If the two firms cannot transfer the property right, under both regimes, entry will be foreclosed to the inefficient entrant. However, suppose that the entrant is more efficient in managing the essential facility so that, if it acquires the property right on it, it is able to offer access to the other firm at a cost such that $\frac{c_a^2(x^1)}{x^1} = 1$. However, assume that the same firm is still inefficient in producing the component necessary to supply x , so that its average cost remains above the regulated price. Suppose further that firm 1, if it becomes the entrant, does not have to bear the costs necessary to run the essential facility and, as a result, can provide the complementary component at an incremental cost such that $\frac{c^{1e}(x^1)}{x^1} = p^* - 3$. Now the game described in the previous subsection can be enriched with the first stage in which the two firms can transfer the property right on the essential facility, so that player 1 becomes the entrant and player 2 the incumbent in the sequel of the game. Under the ECPR, if 2 acquires the property right, the RA will force it to charge an access price such that it will be indifferent between allowing

firm 1 to enter into the market and excluding it. Since its average costs are above the regulated price, this indifference occurs when the access price is such that the new incumbent (firm 2) gains zero profits. Hence, it is rational for the player 2 not to acquire the property right on the essential facility¹⁵. On the contrary, if the existing regime is the FPPR, the two players will exchange their property rights. Indeed, if they fix an access price such that $1 < \frac{a_F(x^*)}{x^*} < 2$, and firm 1 alone provides the final good x , at the regulated price, then firm 2 will get $\pi^2(a_F) = a_F(x^*) - c_a^2(x^*) > 0$, and firm 1 will gain $\pi^1(a_F) = p^*x^* - c^{1e}(x^*) - a_F(x^*) > \pi^1(a_\infty) = p^*x^* - c^{1i}(x^*)$. Thus, transferring the property right from firm 1 to firm 2 constitutes a Pareto improvement with respect to the previous ownership and the two players will take advantage of this opportunity. It is apparent that, in this case, the essential facility will be managed by the firm with the lowest available costs, while the complementary component and the final good will be provided by the firm with the lowest incremental costs. The ECPR prevents this efficiency enhancement contrary to the claim of its proponents and followers.

4 Comments

Two points are worth discussing with respect to the results of the previous section. The first regards the assumptions on the information structure of the game. The second elaborates on the distinction between an RA and an AA mentioned in the Introduction.

The equivalence result can be criticized on the ground that, due to transaction costs, the incumbent may foreclose the complementary market even if there is room for an efficient agreement. In the words of the formalization, PISQ may be wrong. This can be the case if the players do not have information on the cost structure of the opponent or on other characteristics of the market. We recognize this possibility. However if this is true for the firms, *a fortiori* it is true for the RA or the AA. We believe that it is much more likely that the RA fails to find an efficient access price due to lack of accurate information. After all, firms know their own costs and have a profound knowledge of the demand side of the markets in which they operate. On the

¹⁵The choice is rational because firm 2 is indifferent between remaining out of the market and acquiring the property right on the essential facility. However, if we assume that the transfer of the property right entails a positive lump-sum cost, firm 2 will express a strong preference for the *status quo*.

contrary, an RA (and even more so an AA, which does not deal only with a specific industry) does not have any of the private information necessary to make its decision. An RA will generally gather information through the same firms that are subject to its regulatory power and that would have to reach a private agreement under the FPPR. If these firms do not have accurate information in the first place, we do not see how the RA, which relies on them, can have it. IR and PISQ are assumptions made to describe rational players more than the information structure of the game. Our conclusion can be criticized only if one proposes a solution for the second stage which violates IR or PISQ, as a result of poor information, *and* shows that an RA is able to overcome this problem by means that are not available to the firms. Our opinion is that if the ECPR and the FPPR lead to the same outcome, any considerations on the costs or the reliability of the information available to the players should be regarded as an argument in favor of the FPPR¹⁶.

EP may be suggested also as a solution of an antitrust controversy between the owner of an input which is indispensable to enter in a complementary market and a rival firm which seeks access to this input. Many antitrust cases deal with this situation¹⁷. If the owner of the input refuses to deal with the potential entrant, its conduct may be considered an abuse of its dominant position in the input market and/or an attempt to monopolize the complementary market by leveraging the market power it has in the first market. However, it must be said that the illegality of this behavior is considered an exception to the “long recognized right of trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal”¹⁸. Our theorem proves that if we had to decide these cases according to the ECPR, the set of these exceptions would be empty. We must notice that an AA is called to decide on a “refusal to deal” case only when the incumbent and the entrant have already unsuccessfully bargained in order to find a mutually beneficial solution, and even more often when the two firms were part of a pre-existing joint arrangement unilaterally terminated by the owner of the essential facility. According to the theorem proven in this paper, the adoption of the ECPR in the antitrust field coincides with the adoption of a “per se legality” approach to any refusal to

¹⁶This conclusion is even more strongly stated by the proponents of the EP: “wherever they can be relied upon to do the job, market forces are preferable to governmental intervention” Baumol and Sidak (1994a) p. 4.

¹⁷See Hovenkamp (1994) pp. 263-277.

¹⁸*United States v. Colgate & Co.* 39 S. Ct. 465 (1919) at 468.

deal, unless we found our economic analysis on the assumption of irrational behavior. We do not think that many antitrust scholars (economists and lawyers) would be willing to accept either this premise or the conclusion that logically follows from its rejection if the ECPR is endorsed.

5 Conclusions

In this paper we have compared the access to an essential facility in two different property rights regimes. In one of them, the owner of the facility has a full private property right and cannot be interfered with its exercise. He is free to allow access to its facility and to charge any price he deems appropriate. In the other the owner of the facility cannot refuse access to this input if another firm is willing to pay an access fee set by a regulatory agency according to the efficient component pricing rule. Proponents of the second regime claim that this rule is efficient, for it forecloses the complementary market only to inefficient producers. We have proven that the two legal frameworks are equivalent if we do not consider the possibility of the transfer of the property right and that if this is allowed the efficient component pricing rule might exclude efficient producers. Our conclusion is that those who support the application of the efficient component pricing rule should rather prefer a legal regime in which the access to the essential facility is fully deregulated and completely left to the discretion of the owner. A regulatory agency or an antitrust authority should not interfere with the exercise of this property right. We just need to make clear that we share neither of these points of view. We think that regulatory and antitrust laws are necessary and sound if they induce firms to behave in a way they would not otherwise, so that markets are more competitive and/or efficient.

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