

Making Economics Exciting by Constructing a Quasi-Debate: The Samuelson-Minasian Controversy

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In sport, hearing a football result on the radio is much less exciting than seeing the game. In politics, a debate is more thrilling than a speech. In economics, however, it is hard for students to follow original debates. Articles and comments in high-quality economic journals are written for specialized colleagues, not for students (at least not for undergraduates). When they read such papers without any guidance, students feel as if they are reading an unknown language.

Fortunately, suitable textbooks are available in many cases. Nevertheless, it is sometimes worth trying to give a more authentic impression of the original debates.¹ The following approach was developed for an introductory course in public economics and regulation, in which students already had some basic knowledge of microeconomics. The debate between Samuelson and Minasian focused on a pseudo-dialogue that was distributed to the students. Samuelson is especially sharp tongued, which aroused the students' interest. The sheet distributed to the students is reproduced in the next section. It is followed by three simple figures used to clarify the issue.

THE SAMUELSON-MINASIAN CONTROVERSY

In 1958, Samuelson, whose contributions to the theory of public goods some years before had been very important, briefly discussed the question whether pay-TV should be allowed. When a descrambler is a prerequisite for receiving television programs, consumers can be excluded. This was the starting point for a discussion between Samuelson and Minasian in the *Journal of Law and Economics* in 1964. The following are direct quotations.

Samuelson (1958):

You might . . . be tempted to say: A descrambler enables us to convert a public good into a private good; and by permitting its use, we can sidestep the vexing problems of collective expenditure, instead relying on the free price mechanism. Such an argument would be wrong. Being able to limit a public good's consumption does not make it a true-blue private good. For what, after all, are the true marginal costs of having one extra family tune in on the program? They are literally zero. Why then

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prevent any family which would receive positive pleasure from tuning in on the program from doing so? (p. 335)

Minasian (1964):

I may possibly have misunderstood some aspects of Samuelson's argument, but the viewpoint that I will be criticizing is certainly one which is held by many economists writing on questions of welfare economics (p. 73). The crucial element of Samuelson's argument is that, once a program is on the air, the marginal cost of viewing is zero; therefore, consistent with the Paretian optimality condition, the price should be zero. . . . The rule can neither serve as an analytical vehicle for deciding whether it is economic to have one more channel operating in an area or in a country, nor discriminate among kinds of programs to be put on the air (p. 72f). [T]he theory ignores the effect of different signalling and control systems (alternative institutional arrangements) in revealing alternative values of the used resources. (p. 79)

Samuelson (1964):

My remarks have been scandalously misinterpreted. . . . The reader of this [Minasian's] paper could be pardoned for thinking that I have opposed subscription television (p. 81). Only one who confuses a necessary condition with a set of sufficient conditions could read into my argument the absurd pattern: Since subscription TV violates $P = MC$ and commercial TV (allegedly) does not, the former should be prohibited (p. 83). Imperfections of one arrangement must be weighed against imperfections of another (p. 83).

Minasian (1964):

Samuelson reinforces my conclusion that the theory of public goods, of itself, is incapable of governing choice between institutional arrangements. The fact that a solution raises price above marginal cost provides no reason for rejecting it. I hope that other economists will study Samuelson's comment both to avoid the possibility of misinterpretation and to learn the relevance of the concept of a public good for economic policy (p. 80 postscript).

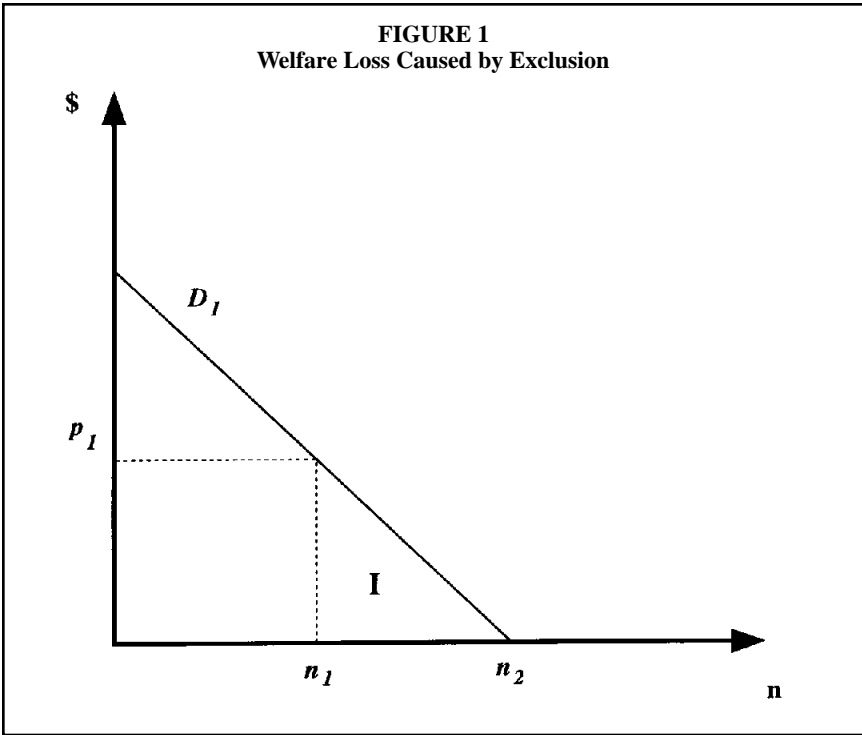
BACKGROUND INFORMATION ON THE DISCUSSION

What happens when we "prevent any family which would receive positive pleasure from tuning in," as Samuelson put it (1958, 335), is shown in Figure 1. Let D_1 in Figure 1 be the demand curve for a certain television channel. In the case of pay-per-channel, every household can only choose whether it consumes an amount of 0 or 1. Therefore, the x axis measures the number of households n .

At a price p_1 , demand is n_1 ; $(n_2 - n_1)$ potential households are excluded. In "normal" markets, only those households are excluded whose willingness to pay is too low to justify the production of marginal units of the good. This cannot be the case here. If $p_1 \times n_1$ are the total costs, and these are financed by tax and TV provided at a price of 0, $(n_2 - n_1)$ more households would enjoy that channel, raising consumer surplus and total welfare by area I.²

However, as Minasian (1964) pointed out, this is not the whole story. With $p = 0$, we would have no "analytical vehicle for deciding whether it is economic to have one more channel operating in an area or in a country," nor could we "discriminate among kinds of programs to be put on the air" (73).

FIGURE 1
Welfare Loss Caused by Exclusion

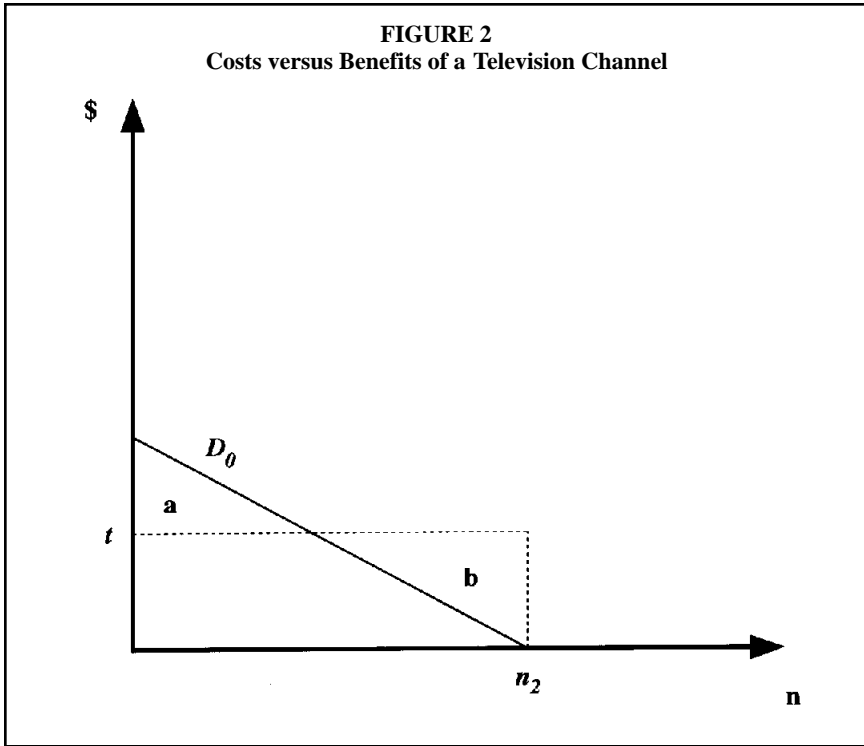


These are two distinct arguments, the first of which can be illustrated by Figure 2. For the case that the channel is tax financed, let us presume that each household pays the same tax t , so that $t \times n_2$ is the total tax revenue, which exactly covers the costs of the channel. It is essential to Minasian's first argument that the demand curve cannot be observed. It is therefore unknown whether benefits are greater than costs. For D_0 in Figure 2, they are not, as area $a <$ area b .

With his second argument, Minasian claimed that the financing of TV through taxes reveals less than pay-TV about the viewers' preferences with respect to the programming. Because consumers can "exit," whereas taxpayers cannot, managers of pay-TV stations receive stronger feedback about viewers' preferences, and they also have stronger incentives to react accordingly.

As a thought experiment, imagine a tax-financed channel that is changed into a privately owned pay-TV station. Before the change, the demand curve for the channel was D_1 (Figure 3). As before, let both total costs and the tax revenue $t \times n_2$ equal the area $p_1 \times n_1$. Now the channel is no longer tax financed; instead, subscribers are charged a fee, p_1 . To simplify the analysis, assume that p_1 is set by a regulatory agency. This leaves managers two ways to increase profits: lower costs or increase quality. It is assumed that total costs remain constant, whereas quality is increased. As a result of the increase in quality, the demand curve shifts upward from D_1 to D_2 . It can clearly be seen that the welfare loss resulting from pay-TV, area I in Figure 1, might well be more than offset by the increase in consumer surplus (area III) and producer surplus (area II).

FIGURE 2
Costs versus Benefits of a Television Channel



In response, Samuelson made it quite clear that he had not overlooked this point but argued that it is nevertheless true that pay-TV does not lead to a Pareto optimum, even though it might be the best available option.

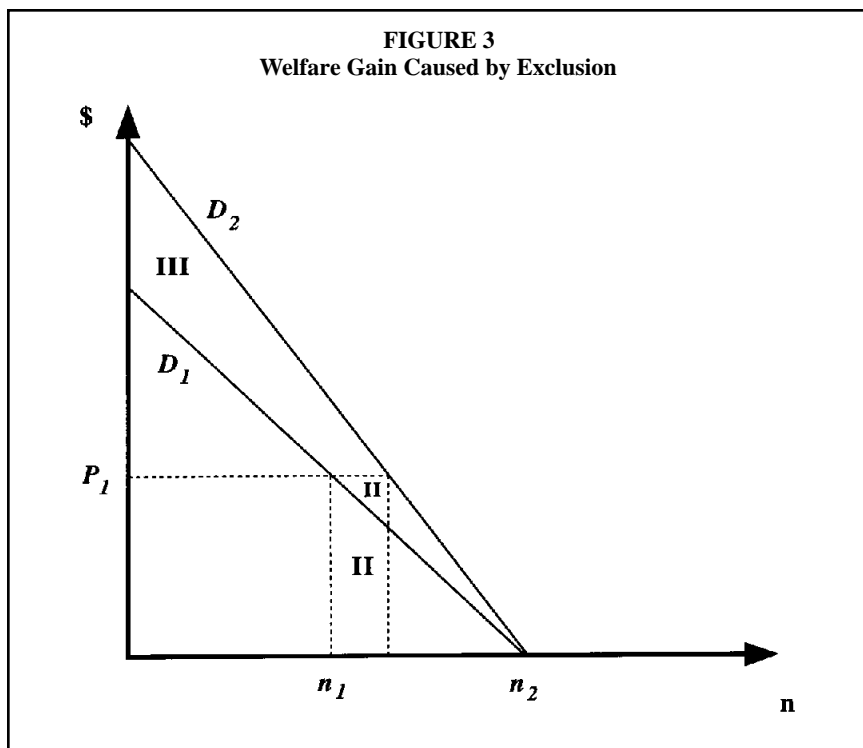
This exercise should be considered a success if students ask (themselves, at least): So there must be allocations that are to be preferred to the outcomes of both tax finance and exclusion (pay-TV). Is there a way to reach such a superior allocation? This question nicely leads to the matter of preference revelation (Barnett 1993), which is, however, beyond the scope of this note.

CONCLUDING REMARKS

Such an approach is not restricted to the discussion of pay-TV supported by the Samuelson-Minasian controversy. The scope of application is much broader. First, the arguments developed here can easily be applied to other nonrival but excludable goods or services.³ Such arguments might help (students) study the pros and cons of road pricing in the absence of congestion or copyright protection of intellectual or artistic property.

Second, anyone who likes the method of montage exemplified above will have little difficulty finding other controversies of equal interest for the same purpose. Unlike other nonstandard teaching methods such as classroom experiments, marginal costs for the instructor are almost zero once such a dialogue has been writ-

FIGURE 3
Welfare Gain Caused by Exclusion



ten. The inclusion of one or two in a textbook or survey would doubtless be well received by economics instructors.

Thus benefits are high and marginal costs are low with this method. Total opportunity cost would, on the other hand, appear less certain. The main problem is that there is not much dialogue to extract from typical modern economics papers with large portions of mathematics. However, the most interesting comment/reply sections found in somewhat older volumes could be used, provided the subject of the debate is still of some relevance.⁴ Examples might be the discussion of the concentration-profits relationship in section 4 of the well-known book edited by Goldschmid, Mann, and Weston (1974),⁵ or the national debt controversy on the intertemporal burden of public debt.⁶

NOTES

1. A fictitious debate (between the students Ernie and Bert) is used in Maddock and Carter's (1982) survey of the theory of rational expectations. A book-length, yet absorbing debate between Dave and Ed is the product of Roberts's (1994) imagination, with Dave being no one less than David Ricardo, who has one evening on earth to argue in favor of free trade.
2. Absence of excess burden of taxation is presumed.
3. However, advertising-financed TV is a special case that requires a separate discussion. The graphical presentation of that problem in Oliver (1989) is similar to the one given here.
4. One referee suggested that "a fruitful coalition might be formed with an economic historian in the department, whose comparative advantage might be in retrieving quotes from the older literature."
5. In retrospect, one of the two main contestants, Leonard W. Weiss, wrote, quite remarkably, that

“Demsetz presented his points very well, . . . it seemed that he had won” (Weiss 1991, 297).
6. See Holcombe, Jackson, and Zardkoohi (1981) for a good overview.

REFERENCES

- Barnett, R. R. 1993. Preference revelation and public goods. In *Current issues in public sector economics*, ed. P. M. Jackson. Basingstoke and London: Macmillan.
- Goldschmid, H. J., H. M. Mann, and J. F. Weston, eds. 1974. *Industrial concentration: The new learning*. Boston and Toronto: Little, Brown.
- Holcombe, R. G., J. D. Jackson, and A. Zardkoohi. 1981. The national debt controversy. *Kyklos* 34 (Fasc.2):186–202.
- Maddock, R., and M. Carter. 1982. A child’s guide to rational expectations. *Journal of Economic Literature* 20:39–51.
- Minasian, J. R. 1964. Television pricing and the theory of public goods. *Journal of Law and Economics* 7:71–80.
- Oliver, M. 1989. Radio deregulation in the UK. In *Freedom in broadcasting*, ed. C. Veljanovski. London: Institute of Economic Affairs.
- Roberts, R. D. 1994. *Choice. A fable of free trade and protectionism*. Englewood Cliffs, N.J.: Prentice-Hall.
- Samuelson, P. A. 1958. Aspects of public expenditure theories. *Review of Economics and Statistics* 40:332–38.
- . 1964. Public goods and subscription TV: Correction of the record. *Journal of Law and Economics* 7:81–83.
- Weiss, L. W. 1991. *Structure, conduct and performance*. New York, London: Harvester Wheatsheaf.