post-tax profits, and thus the constraint becomes (9a): \[ 0 \leq \sigma - \sigma_0 + R \leq \pi_n, \] none of the policy effects discussed in the paper are qualitatively altered.
7. For the derivation see Madanlal (1990a).
8. See Madanlal (1990a) for details of derivation.
9. If \( \pi_n \) is negative the factors would be non-cooperatist in Dickinson terminology. Similarly, if \( \pi_n \) is positive, the factor would be "cooperatist".
10. Madanlal (1990a) for an explicit derivation of \( \pi_n \).
11. The comments in Note 6 are also true for the tradeable model.
12. However, the "shadow marginal revenue", which takes into account the effects of the foreign exchange constraint, is the same in both methods. In fact, this is the equality captured in equation (11d).
13. Unexpectedly, if the constraint does not bind \( (\sigma_0=0) \), the firm equates the domestic and export marginal revenues, i.e. \( \sigma_0 = \sigma_n = \sigma_n' \).
14. Using (5c), it can be shown that the solution to problem (4), \( \sigma^*V_0 = \sigma_0 \), is equal to \( 2(1/2 - \sigma^*_0) \), which is positive.
15. As the government raises the tax rate, it can raise output only up to a point. This is because the raising tax rate will eventually reduce reportable profits to the point where the firm can import enough capital to reach its uncontrolled profit-maximizing output level. Further increases in the tax rate will have no further effect on factor inputs and hence on output.
16. Using equation (11b), it follows that the solution to the solution to equation (11), \( \sigma^*V_0 = \sigma^*_0 - (1/2 - \sigma^*_0) \), is positive.
17. The last step in note is that \( \sigma_0 = (\pi_0 + \pi_n)/2 = \sigma_n + \sigma_n'/2 > 0 \), by substituting the \( \sigma_n \) from equation (13b).

REFERENCES


OTHER THINGS EQUAL

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Schelling's Five Truths of Economics

A while ago I was at a conference in Sweden, in a splendid hotel far up the lakes from Stockholm, during a warm summer like an English Bergman movie. A number of American economists I admired were at the conference, the economic historians Douglass North and Bob Fogel, for example, and Tom Schelling. As an undergraduate in the early 1960s I had not taken Schelling's pioneering course in game theory. Students are like that, tasteless, because they are ignorant. The list of courses from great economists that I ignorantly spurned is long and embarrassing: Galbraith's course on industrial structure, Leonid's course on graduate price theory, Kuznet's course in national income statistics, Haberler's course in international trade, Solow's course up the street at MIT (in anything at all). It's why I am not laissez faire in matters of curriculum. By way of definition and by empirical test the student/consumers are too ignorant to select optimally.

Anyway, I was acquainted with Schelling but had never been his student. So I had not heard his amazing proposition about economics and accounting.

At the Swedish conference he told the story of a visit to Yale in the 1950s of Peter Bauer, already then a distinguished economist whose opinions were to be believed. Bauer asserted mysteriously that an economist knew only five things — this is, truly, truly knew, as against what one might be willing to publish in the American Economic Review or think vaguely plausible when the moon was new. Schelling, a nervous assistant professor at the time, did not get around to asking Bauer which five things he was thinking of, so had to reconstruct him himself.

Schelling figured out that what economists really, truly know, and non-economists do not, are matters of accounting. (1) The national accounts add up, national product equals national income. (2) The balance of foreign payments adds up, too. (3) The money supply is "created" by a system of banks in which each holds as a reserve only a fraction of the money deposited with it; this one was discovered by Charles Phillips of the University of Iowa in the 1950s). The fourth and fifth of the Truths consist of a couple of demographic truths of accounting, which might be illustrated with the growth of the unmarried population he neatly two when a husband and wife get a divorce.

These are the few things an economist would be willing to stand before God and declare to the True. Learning to think like an economist, Schelling argues, consists in good part of learning to speak such bits of accounting logic as Adam Smith said in the first sentence of An Inquiry into the Nature and Causes of the Wealth of Nations, where he announced the Truth that national income equals national product equals national expenditure, "The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniences of life which it annually consumes."

Schelling's proposition is not likely to thrill most economists. They reckon they are quite a lot smarter than their colleagues in the Department of Accounting, who do not deal with Deep Behavioral Propositions such as \( Q_p = D(p) + Max U x t. B = 0 \). The trend
in academic accounting, actually, is to remake the field into economics of the Marx U sort. Like political scientists and some sociologists the accountants are essential.

But when you get inside an economic argument you are likely to bump into accounting. Schelling himself provides an example in his eye-opening little book, \textit{Micromotives and Macrobehavior} [1978]. To quote the blurb, "traque lights flash, cars slow down, traffic crows. An accident has occurred in one of the outbound lanes. Why is it the citybound traffic jams up? Drivers have reduced their speed to get a glimpse of the wreckage on the other side of the divider. Each driver pays ten seconds for his own look and nine minutes, fifty seconds for the curiosity of the drivers ahead of him." Schelling's argument is crucial to understanding the externalities of congestion. The behavioral premises are trivial. So is the accounting: each driver pays for the cumulated time spent by each person ahead of him in the queue. But the economics is startling, first-rate stuff, one way that economists makes progress.

Schelling and I are claiming that if you examine important economic arguments you will find times out of ten an accounting identity overlooked by the man in the street, or even by the economist in the study. Take Marty Feldstein's point about the way Social Security pushes the saving rate down. Any economist knows there's something in it. Set aside the controversy about the magnitudes of the effect. Surely we as economists know — really, truly know, if we knew anything — that private saving for one's old age is fungible with public saving for the same purpose. Maybe it's not perfectly fungible, but no economist worthy of the name will assume unthinkingly that the presence of Social Security has no effect of reducing people's saving for their old age.

It's right there in the accounting. A pension from the government is an asset, too.

The identical point is involved in the long-running controversy over the burden of the government debt. (By the way, why haven't economists complained about its treatment in political discussions recently? The men and women in the street, and in Congress, don't get the accounting even roughly straight.) Bob Barro's point long ago was that if the public had an avenue of accounting common sense it would see that the interest on a government bond is matched by some nasty liabilities down the road called "taxes". That's what the empirical dispute is about: do people have an ounce of accounting sense?

It's hard to find an economic argument of any importance that is not dominated by a more or less tricky point in accounting. At any rate the point will be tricky enough to elude most economists until some able economist notices it. The first generation of economists with formal training in graphical analysis thought that they could prove a blackboard that society would be better off if we prevented speculators from smoothing prices. The consumers preferred varying prices in good and bad years, in the way that people prefer sales in clothing stores: they buy more when the price is low, and gain on balance from the varying price. The proposition was taken seriously, a new theorem. Then Paul Samuelson pointed out that the accounting was wrong. To be sure, if some "outside Santa Claus," as Samuelson put it, could be found to buy high and sell low, against his self-interest, then the consumers for their part would be enriched by varying prices. But if you do the accounting correctly the enrichment of the consumers is more than outweighed by the impoverishment of producers and speculators. For the consolidated accounts, stable prices are better.

In the same spirit and at about the same time it was announced that income taxes could be proven on a blackboard to be superior to excise taxes. Such was the products of the first generation of formalists in economics. Almost immediately, however, I.M.D.

\textit{Other Things Equal}, a column by Donald N. McCloskey, appears regularly in this \textit{Journal}.