Zeitschrift für die gesamte Staatswissenschaft (ZgS) 137 (1981), 125-127

Kurzbeiträge / Short Articles

Reference Group Behaviour and Economic Incentives: A Remark*

by

EKKEHART SCHLICHT

It has repeatedly been claimed that social norms might be much more important in the determination of individual behaviour than economic incentives. The aim of this note is to render some tangibility to the proposition that this kind of *individual* behaviour might lead to a *very strong* sensitivity of *aggregate* response to economic incentives if the social standards of behaviour are formed according to reference group theory¹. The argument will be developed along the lines of an example taken from labour economics, but other applications, e.g. to the theory of consumer behaviour, are straightforward.

Assume that productivity π of a given worker ist determined by average productivity π^* prevailing in his reference group (among his fellow workers), and by the strength of an economic incentive *e*, which might represent a piecerate in the simplest case, or, more generally, measure the incremental benefits accruing to the worker in terms of income and promotion if he increases his productivity. Thus, individual productivity π is assumed to be a function of reference productivity π^* and of the economic incentive *e*:

(1)
$$\pi = f(\pi^*, e) .$$

If reference productivity π^* increases, the worker will increase his productivity π even if the economic incentive *e* remains constant. This is so because the individual perceives himself as being put into a social rôle and will try to fulfil the associated requirements (which are perceived as π^*) in order to maintain his self-esteem and to avoid being an outsider².

We assume, however, that an increase in reference productivity π^* increases individual productivity not by just the same amount, but to a slightly lesser extend due to the fact that the individual comes closer now to his capability

^{*} Thanks to J. Frohn for a conversation which led me to put down the argument.

¹ It is the great merit of DUESENBERRY [1949] of having introduced these considerations into economics.

² See IRLE [1975], pp. 165–175 and SINGER and HYMANS [1968] for some psychological and sociological background and a less crude line of argument.

limit. In other words, the partial derivative f_{π^*} is assumed to be between zero and unity:

(2)
$$0 < f_{\pi^*} < 1$$
.

Furthermore, a positive influence of the economic incentive on individual productivity is stipulated:

(3)
$$f_e > 0$$

Given a set of identical individuals forming a reference group, given a fixed economic incentive, and starting from a historically given reference productivity π^* , each individual will fix his individual productivity according to (1). If π happens to be above π^* , observed productivity will be above π^* in the next period. This will increase reference productivity for the whole group. Conversely, if π is below π^* , this will lead to a decrease in reference productivity.

More formally, the following differential equation can be put down to describe the process:

(4)
$$\pi^* = \mu \left\{ f(\pi^*, e) - \pi^* \right\}, \qquad \mu > 0.$$

(The dot represents the time derivative, and μ denotes a speed of adjustment.)

Because of (2), the derivative $\partial \pi^* / \partial \pi^*$ is negative, and the process (4) approaches an equilibrium productivity π which (if it exists) is uniquely characterised by the condition

(5)
$$\int (\bar{\pi}, e) = \bar{\pi} \; .$$

This condition defines equilibrium productivity implicitly as a function of the economic incentive *e*. If one looks at the impact of the economic incentive, one has to compute $d\bar{\pi}/de$, which is

(6)
$$\frac{d\bar{\pi}}{de} = \frac{f_e}{1 - f_{\pi^*}}$$

It turns out, therefore, that the impact of the economic incentive becomes particularly strong if f_{π^*} is close to unity: If reference group behaviour is very important individually, the economic incentive becomes very powerful even if it is rather unimportant individually, i.e. if f_e is very small.

A further observation can be added: If reference group behaviour is important, implying f_{π^*} to be close to unity, the speed of convergence of process (4) will be rather small, too: A slow reaction to economic incentives might imply that these incentives are very important, since it might indicate that the "social multiplier" $1/(1-f_{\pi^*})$ is particularly large.

126

137/1 (1981)

Reference Group Behaviour

References

DUESENBERRY, J.S. [1947], Income, Saving, and the Theory of Consumer Behaviour, Cambridge, Mass.

IRLE, M. [1975], Lehrbuch der Sozialpsychologie, Göttingen.

SINGER, E. and HYMANS, S. (eds.) [1968], Readings in Reference Group, New York.

pares.

Professor Dr. Ekkehart Schlicht Technische Hochschule Darmstadt Fachgebiet Wirtschaftstheorie Residenzschloß D-6100 Darmstadt Bundesrepublik Deutschland