

Lin Ostrom's Contribution to Economics: A Personal Evaluation

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Abstract Lin Ostrom's work constitutes a great step forward in the analysis of social governance. Instead of focusing on the technical characteristics of goods she studies what types of institutions have emerged and how they affect individual motivation and behavior in public goods and commons situations. Her approach represents a careful analysis of institutions often emerging from below. Unorthodox impacts of institutions on individual motivation and behavior as well as the possible creation of new institutions must be taken into account. The constitution must ensure that the involved individuals can establish adequate institutions regardless of possible opposition by politicians and bureaucrats.

Keywords Free riding · Public goods · Commons · Institutions · Social governance

1 Technical definitions versus institutional and behavioral analysis

“Public goods” should be provided by the government, “private goods” by the market—this is still the dominant view in economics since Samuelson (1954). Elinor Ostrom has demonstrated in her work that this distinction between goods based on their technical characteristics (non-excludability and no rivalry in consumption) is inappropriate when real world issues are considered. There is indeed an enormous variety of ways public and private goods are supplied depending on the relevant *institutional* conditions. Lin departs from the simple public–private, or (0, 1), thinking. She shows that there are many alternatives to an exclusive government provision or an exclusive private provision. She thereby shifts the approach from the technical into the social scientific arena. Starting with her best-known book *Governing the Commons* (Ostrom 1990) she finds that under many conditions human ingenuity is capable of overcoming the free riding problems inherent in goods with open access, be they

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public goods or commons. Human beings are not passive adaptors to particular technical characteristics; rather they create institutional conditions helping to overcome the incentives to free ride. She emphasizes that regular face-to-face interaction and discussions are crucial. In addition, individual actions must become known to the other persons involved in order to prevent egoistic exploitation. Knowing that deviant behavior may be observed is in some case sufficient to make people conform to the rules. If that is not the case, the persons involved find it beneficial to agree on sanctions to deter defectors.¹ Lin Ostrom observes that sanctions work best when they are gradual in their severity: a defector can first be admonished, then a small punishment can be imposed and only if he or she still does not follow the rules a stiff penalty is issued. Such graduated punishment is at odds with the idea that even a slight deviation from the rules must be strongly punished as advocated by some adherents of the “broken windows theory” (Kelling and Coles 1996; Cormann and Mocan 2005; Keizer et al. 2008).

Lin Ostrom’s ideas are so relevant because they are not simply theoretical propositions or the result of some laboratory experiment. Rather, they are based on an extensive collection of real life cases in many different countries and cultures, and for different types of commons. This type of research provides insights based on the empirically observed behavior of individuals under conditions they live in. In the more recent parlance, this approach can be called a “natural experiment” as the institutions addressing the commons problems are systematically compared with each other. This is extremely difficult and burdensome and therefore rarely undertaken in modern economics. The reason is not that scholars are lazier today than they were 20 or 30 years ago. Rather, the short-term publication pressure has become so intense that collecting such an enormous data base for many different countries and over so many different types of commons is generally regarded a bad investment for anyone’s present-day career purposes.

Despite Lin Ostrom’s pathbreaking contributions (Ostrom 1990; Ostrom et al. 1993, 1994) that put institutions evolving from below, and the corresponding incentives provided, into the center, economics textbooks and many theoretical treatises still focus on the Samuelsonian conception of the necessity that public goods should be supplied by government, and private goods by the market. The type of institutional economics advanced by Ostrom is still largely disregarded, in particular in neoclassical orthodoxy. Her discussion of the *particular* way in which institutions are shaped to deal with the *specific* problems of various commons is totally different from the attempts of proponents of the “third way” in which a vague form of “democratic planning” is advocated. She is far from being an ideologue but rather a serious empirically orientated scholar with an open mind interested in seeing how the real world functions.

Not surprisingly, the bestowal of the Nobel Prize came unexpected for many economists, and many seem not to have been familiar with her work, or even her name². The committee taking the decision can be considered to be more open than many academic economists who

¹Endogenous sanctioning has been analyzed much later in experimental economics; see Fehr and Gächter (2000).

²Consider the following statements posted on the blog “Economics Job Market Rumours”, read by economics PhD students, post-docs and young faculty: “Never heard of Ostrom in my life”, “The fact that most of us have not heard about her says enough about her contributions”, and “Economics is superior. Don’t let political science contaminate (sic) us!” (compiled by Geoff Hodgson 21 October 2009). It can, of course, be argued that a lot of nonsense is written on such blogs. But the same disregard by the economics profession is visible in various rankings. Thus, Elinor Ostrom is not among the 5% top of the roughly 10,000 authors on RePec; on SSRN she is ranked 2,304 with respect to total downloads over the last 12 months, and 14,756 with respect to the number of all time downloads.

tend to be committed to standard theory. Unorthodox scholars have been awarded Nobel Prizes in Economics before, Kahneman, Sen, Simon, Hayek, Myrdal Fogel and North being examples.

That Lin Ostrom was awarded the Nobel Prize is all the more noteworthy because economics over the recent years has developed in quite a different direction. In line with the explosion of experimental work based on game theory, human behavior has increasingly been attributed to particular *human types* such as “defectors”, “collaborators” or “conditional cooperators”—in many cases irrespective of institutional conditions. The share of particular types has even been determined by percentages. Thus, for example, 50% are said to be “conditionally cooperative”, and 30% are said to be “egoists” (Fischbacher et al. 2001).³ Identifying individuals as such types seems awkward on the background of Lin Ostrom’s work. According to that view such types *behave* quite differently according to the specific institutional conditions they are confronted with. “Conditional” could be understood in the sense that behavior depends on the specific institutional condition. In this sense, everyone is a “conditional cooperator” (see Torgler and Frey 2007 for the case of tax compliance).

2 Policy consequences

Lin Ostrom’s careful identification and analysis of a great number of institutional conditions helping to overcome free-riding in public goods and commons is of immediate relevance for economic policy. It draws the attention away from the still dominant discussion of government versus market. In policy this is reflected in the distinction between government intervention and regulation on the one hand, and tradable permits, auction markets and similar pricing instruments on the other hand. This antagonism is well visible today for instance in the discussion on the global environment (in particular climate change), or on water or noise pollution.

Thinking along the lines suggested by Lin Ostrom’s work focuses attention on the *adequate choice of institutions* to deal with the problems posed by public goods and commons. The emphasis is not simply on the instruments such as particular government interventions or tradable permits, but rather on the many different ways people involved deal with a particular free-riding issue. For adequate institutions to arise, three conditions must be met:

1. It must be known *how particular institutions affect the behavior of the individuals involved in the supply of a public good or common*. While Lin Ostrom has contributed foundations, our knowledge of how motivation and behavior depend on institutional settings is still seriously limited.

For future policy it is important to be *open* with respect to how particular institutions affect motivation and therewith behavior. Standard economics takes as granted that individuals respond to extrinsic incentives, and disregards the interrelationship with intrinsic motivation. Some institutions negatively impact intrinsic motivation, leading to a perverse result due to the crowding-out effect. This is likely to happen for instance when the tax authority starts from the assumption that every taxpayer deliberately cheats on tax returns. The tax authority then treats citizens as subjects and interprets every mistake made in a tax declaration to be an attempt to evade taxes. It takes aggressive

³But it should be added that good scholars do not make the mistake to overstress the external validity of particular games. Nevertheless, the exercise of associating behavior with human types focuses on a world in which institutions are not central.

actions against the respective taxpayers (e.g. ordering them to appear in the tax office and subjecting them to an audit that reminds of an interrogation in a criminal case) instead of discussing the issue informally, e.g. on the phone.⁴ Assuming that citizens had some extent of tax morale (which they normally have) they lose it quickly when treated in that way (for empirical evidence see Feld and Frey 2002, 2007; Torgler 2007; Braithwaite 2009). Lin Ostrom is well aware of such effects going against the standard assumptions of neoclassic economics (see, extensively, Ostrom 2000; Frey 1992, 1997).

2. *New forms of institutions must be considered.*

The institutions with which we are familiar are shaped by history and existing technological possibilities. When the need to cope with free-riding problems arises, human ingenuity is well equipped to invent new organizational forms and rules. This holds in particular with the general availability of means of communication such as mobile phones and surveillance cameras, which may possibly reduce the need for face-to-face communication and monitoring. At the same time it has become obvious that information technology cannot totally substitute for personal interaction.⁵

In the case of dealing with free-riding issues that arise with public goods and commons, the various forms of participation are a crucial issue. There are many different forms already existing, and we should be aware of possible new creations. Examples are combinations of democratic and random elements (see Elster 1989; Duxbury 1999), or a functional, overlapping and (democratically) competing jurisdictions (FOCJ, see Frey and Eichenberger 1999).

Free-riding problems can also be dealt with by having institutions creating low cost situations for opportunities to contribute to public goods and commons, and deterring free-riders (see the extensive discussion in Kirchgässner 1992). A case in point is open software development such as Wikipedia (see e.g. Osterloh and Rota 2007) which is a special case of collective (Allen 1983) or private-collective invention (Von Hippel and von Krogh 2003).

3. The constitutional setting must *allow and welcome institutions from below* to deal with free-riding.

The trust in human ingenuity to develop institutions able to cope with the problems of public goods and commons can materialize only if they are politically feasible. Lin Ostrom stressed in her *Governing the Commons* that good local solutions are often undermined by interventions of regional and central authorities. Psychological contracts, which are not written law, must allow for adaptation into appropriate institutions (for the case of firms see Osterloh and Frey 2000). The constitution must therefore contain a provision allowing individuals to find and institute the most adequate governance system. This is no matter of course; such provisions are against the interests of politicians and bureaucrats and are therefore rarely found in today's constitutions.

3 Conclusion

Lin Ostrom's work constitutes a great step forward in the analysis of social governance. Instead of focusing on the technical characteristics of goods she studies which institutions

⁴Empirical evidence suggests that a considerable number of mistakes are raising, rather than reducing, the tax load, i.e. are against the interests of the tax payer. See Feld and Frey (2003).

⁵Scholars still meet at workshops, managers still attend meetings, and politicians still gather at conferences though the costs in terms of time, effort and money are substantial.

have emerged to deal with free-riding issues and how they affect individual motivation and behavior in public goods and commons situations. Her approach is all the more noteworthy as it deviates from the usual tendency, particularly in experimental economics based on game theory which tries to identify types of persons.

Ostrom's work is directly relevant to policy. Instead of seeking to overcome free-riding problems either by government intervening and regulating, or using the market by issuing tradable permits or by setting up auctions, her approach suggests a careful analysis of institutions often emerging from below. Her program will fruitfully contribute to future policy if unorthodox impacts of institutions on individual motivation and behavior and the possible creation of new institutions are taken into account. Most importantly, the constitutional provisions must enable individuals involved in free-riding problems to establish adequate institutions, even against the opposition of politicians and bureaucrats.

References

- Allen, R. C. (1983). Collective invention. *Journal of Economic Behavior and Organization*, 4, 1–24.
- Braithwaite, V. (2009). *Defiance in taxation and governance: resisting and dismissing authority in a democracy*. Cheltenham: Elgar.
- Corman, H., & Mocan, H. N. (2005). Carrots, sticks, and broken windows. *Journal of Law and Economics*, 48, 235–266.
- Duxbury, N. (1999). *Random justice. On lotteries and legal decision making*. Oxford: Oxford University Press.
- Elster, J. (1989). *Solomonic judgments*. Cambridge: Cambridge University Press.
- Fehr, E., & Gächter, S. (2000). Cooperation and punishment in public goods experiments. *American Economic Review*, 90, 980–994.
- Feld, L. P., & Frey, B. S. (2002). Trust breeds trust: how taxpayers are treated. *Economics of Governance*, 3, 87–99.
- Feld, L. P., & Frey, B. S. (2003). Deterrence and tax morale: how tax administrations and taxpayer interact. *OECD Papers*, 3(10), 1–19.
- Feld, L. P., & Frey, B. S. (2007). Tax compliance as the result of a psychological tax contract: the roles of incentives and responsive regulation. *Law and Policy*, 29, 102–120.
- Fischbacher, U., Gächter, S., & Fehr, E. (2001). Are people conditionally cooperative? Evidence from a public goods experiment. *Economics Letters*, 71, 397–404.
- Frey, B. S. (1992). Tertium datum: pricing, regulating, and intrinsic motivation. *Kyklos*, 45, 161–184.
- Frey, B. S. (1997). *Not just for the money. An economic theory of personal motivation*. Cheltenham: Elgar.
- Frey, B. S., & Eichenberger, R. (1999). *The new democratic federalism for Europe: functional overlapping and competing jurisdictions*. Cheltenham: Elgar.
- Keizer, K., Lindenberg, S., & Steg, L. (2008). The spreading of disorder. *Science Express*, 20 November.
- Kelling, G. L., & Coles, C. (1996). *Fixing broken windows: restoring order and reducing crime in our communities*. New York: Free Press.
- Kirchgässner, G. (1992). Towards a theory of low-cost decisions. *European Journal of Political Economy*, 8, 305–320.
- Osterloh, M., & Frey, B. S. (2000). Motivation, knowledge transfer, and the organizational forms. *Organization Science*, 11, 538–550.
- Osterloh, M., & Rota, S. (2007). Open source software development—just another case of collective invention. *Research Policy*, 36, 157–171.
- Ostrom, E. (1990). *Governing the commons: the evolution of institutions of collective action*. Cambridge: Cambridge University Press.
- Ostrom, E. (2000). Collective action and the evolution of social norms. *Journal of Economic Perspectives*, 108, 137–158.
- Ostrom, E., Gardner, R., & Walker, J. (1994). *Rules, Games and common-pool resources*. Ann Arbor: University of Michigan Press.
- Ostrom, E., Schroeder, L., & Wynne, S. (1993). *Institutional incentives and sustainable development*. Boulder: Westview Press.
- Samuelson, P. A. (1954). The pure theory of public expenditure. *Review of Economics and Statistics*, 36, 387–389.

- Torgler, B. (2007). *Tax compliance and tax morale: a theoretical and empirical analysis*. Cheltenham: Elgar.
- Torgler, B., & Frey, B. S. (2007). Tax morale and conditional cooperation. *Journal of Comparative Economics*, 35, 136–159.
- Von Hippel, E., & von Krogh, G. (2003). Open source software and the “private-collective” innovation model: issues for organization science. *Organization Science*, 14, 209–223.