THE ROLE OF INSTITUTIONS IN SUSTAINABLE DEVELOPMENT

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Contents

Summary

In this chapter we provide a si analyze the potential effects of efficiency and sustainability on t ce users, society as a whole, and future generations. We argue ant cases, the consideration of sustainability is a binding constrai from unsustainable to sustainable use of natural resources and th generally require making some parties worse off. This in turn imp ng policies that make resource use sustainable will be a difficult task, given that parties that will be harmed will resist the change. Therefore in order for them to comply they either have to be coerced or compensated. This paper shows how the ability to actually make the switch will depend crucially on whether a country's institutions allow it to implement the necessary coercion or compensation schemes.

1. Introduction

Ever since it was adopted by the Brundtland Report (WCED, *Our Common Future*, 1987) the concept of sustainable development has taken both the environmental and the economic literatures by storm. Even though there are several alternative definitions of the concept, and although it remains controversial, sustainable development has become a near-ubiquitous criterion for assessing economic activity and the use of any natural resource. It is understandable that this should be the case as it is reasonable that, at the very least, we should consider how the current use of natural resources will affect the welfare of future generations.

The term 'sustainable development' stresses the tradeoff that exists between current welfare and the future availability of natural resources. This suggests that we can think of sustainability as a constraint in a maximization problem where the objective function is current social welfare and where one of the choice variables is the use of natural

resources. Requiring that economic activity meet the criterion of sustainability would thus be analogous to having a sustainability constraint in addition to the usual budget and technological constraints. This conceptualization of sustainability as a constraint is useful because it highlights the fact that achieving sustainability will generally impose a cost on some economic agents. In the next section we provide a simple framework to analyze the potential effects of efficiency and sustainability on the welfare of resource users, society as a whole and future generations. We argue that in most relevant cases the sustainability constraint will be binding, so that achieving sustainability will generally require making some parties worse off. This in turn implies that implementing policies that make resource use sustainable will be a difficult task given that those parties that will be harmed will resist the change, so that in order for them to comply they either have to be coerced or compensated.

The major point made in this essay is that the successful adoption of policies that ensure sustainability will depend crucially on the institutions of a given country. Institutions are the formal laws and informal norms that constrain and shape economic decisions. They determine the property rights and transaction costs that together with technology and transformation costs affect economic performance. Note that we have defined both sustainability and institutions as constraints over economic activity. This highlights the close link between both of these concepts. Any attempt to impose sustainability will involve changing the institutions that currently constrain the use of that resource. This might, for example, involve a change in the property rights that are currently held, such as prohibiting fishermen from fishing during certain periods of the year. Those property rights themselves are institutions. Furthermore the potential for changing them depends on the country's laws and political system, which are also institutions. A country with well functioning courts and other institutions for safeguarding exchanges will be able to impose sustainability more easily that one with less developed institutions. Although this point is fairly uncontroversial, it is not reflected in the literature, where the emphasis is on which policies and which instruments should be used to reach sustainability. We argue that more attention should be given to assuring that the policies and instruments being proposed are compatible with the institutions within which they will operate. This makes it considerably more difficult to come up with ways to achieve sustainability, but it increases the chance that those policies being proposed will actually have the intended consequences.

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Author's Notes

1. Note that although EF was drawn as a straight line it could just as well be convex or concave to the origin. In essence the shape of the frontier is determined by technical aspects of the resource extraction procedures. The shape of the frontier does not affect the argument that is being made here.

2. The problems involved in achieving this cooperation will be examined in the next section.

3. See Keohane, Revesz and Stavins (1999) for a good review.

4. Some readers may be uncomfortable at this point because no mention is being made of the gains that can be provided to society as a whole and to future generations from restricting the activities of one or both users of the resource. These gains will be incorporated into the analysis below. For now we are focusing only on the relationship between the direct users of the resource. The analysis can be thought of as a positive (as opposed to normative) approach in a situation, for example, where society as a whole is not organized with respect to the given environmental problem so that only the direct resource users were politically represented. In that case policy policy-makers would only take into consideration the welfare of the direct users of the resource.

5. Alternatively we could use a three-dimensional graph with user 1's welfare in one axis, user 2's welfare in the second axis and society's welfare in the third. This would then allow us to unify the

previous discussion with the current one. However, because three-dimensional graphs can be difficult to visualize, we opted to keep the discussions separate. In addition, taking the analysis in steps allows us to focus on specific points that would otherwise receive less attention.

6. See Atkinson and Stiglitz (1980, p. 338) and Buchanan (1976) for interpretations of similarly shaped utilities possibilities frontiers.

7. The specific shape of the utilities possibilities frontier that was chosen is not important for the argument being made. The same points could be made using a standard concave monotonically decreasing frontier.

8. Here again a word of caution is due. At this point we are not incorporating future generations into the analysis. This will be done later on. This can be seen as an assumption that future generations are not given any weight in the policy-maker's social welfare function.

9. The resources in question were mineral rights in mid nineteenth century, federal range and timber land, fisheries and crude oil extraction.

10. Libecap (1989, p. 5).

11. Some important references in this literature are Keohane, Revesz and Stavins (1998), Jaffe and Stavins (1995), Cropper and Oates (1992) Baumol and Oates (1988), Bohm and Russell (1985).

12. It is true, however, that as time goes by more economic instruments are tried and increasingly they are reaching their intended objectives. Whereas Cropper and Oates (1992) were able to point to few successful uses of market-based environmental regulation, the Economist (2001) paints a more optimistic picture. However, as cautioned by Robert Stavins, quoted in that article, "this should not leave the impression that market-based instruments have replaced, or have come anywhere close to replacing, the conventional, command and control approach" (pg.75).

13. For a formal model of this interaction, see Dixit (1996) and Alston, Libecap and Mueller (2001).

14. See North (1990).