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Strategies in Relation to Complexities:
From Neoclassical Cost-Benefit Analysis to Positional Analysis

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Strategies in relation to complexities: From neoclassical Cost-Benefit Analysis to Positional Analysis

Peter Söderbaum

Abstract

In this essay neoclassical Cost-Benefit Analysis (CBA) is criticized as being too simplistic and also too specific in ideological terms. Positional Analysis (PA) is advocated as an alternative based on a definition of economics in terms of multidimensional analysis and democracy. Non-monetary impacts are regarded as being as ‘economic’ as monetary ones and decision-making is seen as a multiple stage process where issues of inertia, path dependence and irreversibility can be considered. While PA is still based on some simplifications, it is argued that the approach is closer to the complexities of the real world.

Sustainable Development is presented as a multidimensional issue where mainstream neoclassical theory has failed. A degree of pluralism in economics is needed to overcome some of the present unsustainable trends. As an example CBA-analysts cannot dictate correct values for assessments in a democratic society. In relation to decision-making, different and competing ideological orientations have to be considered.

Key words: technocracy, democracy, Cost-Benefit Analysis (CBA), Positional Analysis (PA), political economics, political economic person, ideological orientation, non-monetary dimensions, inertia

Introduction

Many economists, like other scientists and professionals, wish to see themselves as experts in an extreme sense being able to point to clear-cut solutions to problems. The identity of the economist is then connected with specific professional skills. Sometimes and in some situations this desire to solve problems can be fulfilled and is hardly controversial. Those affected or concerned may agree about the best possible way of handling a problem. In other more complex situations there are often disagreements about how to perceive the problem(s) and how to approach it. Such more complex problems suggest a need to look for approaches that are appropriate in the sense of matching the characteristics of the problems faced.

But some economists and other professionals tend to disregard many kinds of complexities in attempts to justify their identities as experts. Instead we should face complexity rather than assume it away. If reality is complex, then we have to live with this complexity or at least a considerable part of it. Gareth Morgan, an organization theorist, has argued as follows:

“We live in a world that is becoming increasingly complex. Unfortunately our styles of thinking rarely match this complexity. We often end up persuading ourselves that
everything is more simple than it actually is, dealing with complexity by presuming that it does not really exist.” (Morgan, 1986, p.16)

When preparing investments in infrastructure such as roads, airports, energy systems there is still a need of experts but experts of a different kind. I will here compare neoclassical (and mainstream) Cost-Benefit Analysis (CBA) that is criticized as being simplistic with another approach, Positional Analysis (PA). PA hopefully represents a step forward in dealing with complexity. It also claims to represent a movement away from extreme technocracy to a strengthened democracy. Taking democracy seriously will imply a more complex analysis but also one that is more relevant in relation to the real world.

**Neoclassical CBA as a case of technocracy and extreme simplification**

Investments in infrastructure are normally complex in the sense that impacts of different alternatives considered are multidimensional. The CBA analyst probably understands the multidimensional nature of impacts but assumes that one-dimensional monetary analysis is appropriate. Non-monetary impacts can be transformed to monetary ones by reference to actual or hypothetical market prices, it is argued.

Investments in infrastructure are normally complex also in the sense that those affected and other concerned actors, for example politicians, differ with respect to ideological orientation. The CBA-analyst may understand that there is a diversity of ideological orientations in society and conflicts between individuals as single actors and between different actor categories but assumes that there is a consensus in society about the application of market values (according to the rules of valuation built into CBA). Optimal solutions based on a single idea of a common interest for society as a whole is assumed as possible and meaningful.

Investments in infrastructure are normally complex in the sense that impacts (and even ideological orientations of specific actors) are uncertain. Analysts using CBA tend to assume that impacts are certain and can be aggregated in the interest of society as a whole.

**There is no value-neutrality**

Cost-Benefit Analysis as previously indicated is an attempt to summarize all kinds of impacts affecting market actors with the purpose of finding an optimal solution. The approach is presented as objective and neutral in value terms. This claim of value-neutrality is however strange. The values built into CBA are specific. Some citizens and actors in a society may broadly agree with the market values of CBA while others disagree. At issue is now if economics and our approaches to decision-making can deal with this aspect of complexity.

A first recommendation is to forget about “value neutrality” and one optimal solution for society as a whole. Decision-making should be approached in ways that are compatible with democracy and that

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1 Among economists Gunnar Myrdal has repeatedly argued that “values are always with us” in research and education (1978).
can strengthen (rather than weaken) democracy. A related recommendation is to return to the pre-1870 view of economics as “political economics”. Economics needs to be understood in terms of democracy where the existence of competing ideas of values and ideological orientations exist and must be respected. In relation to investments in infrastructure, the analyst has to consider different ideas about what is good for society rather than one single idea. When broadening their perspectives compared with the mainstream some economists refer to “the” common good (Daly and Cobb, 1989) but we need to consider and take seriously that those affected or concerned refer to and believe in different ideological orientations and thereby different ideas of a common good. Any conclusion in terms of ranking alternatives will then be conditional in relation to each ideological orientation articulated and considered.

**Understanding economics in political terms**

Research and education in universities are specialized. There are departments of economics and other departments of political science, the latter sometimes referred to as departments of governance. Ways of strengthening democracy is a central issue in political science. When reading textbooks in economics, democracy is not seriously considered. I believe that this downplaying of democracy is a serious mistake. Neoclassical ways of defining economics as “allocation of scarce resources” should be reconsidered. Economics is instead here referred to as “multidimensional management of (limited) resources in a democratic society” (Söderbaum, 2017, p. 22). Actors in society are then understood in political terms as ‘political economic persons’ and ‘political economic organizations’ (as alternatives to neoclassical Homo Oeconomicus and the profit-maximizing firm, respectively).

A ‘political economic person’ is assumed to be guided by an ‘ideological orientation’ and a ‘political economic organization’ is similarly guided by ideological orientation or rather ‘mission’. The ideological orientation or mission of an actor varies more or less over time with situation and context. An actor’s ideological orientation (mission) is an open issue and something to be investigated in each case rather than assumed as given. An actor may emphasize short term impacts or long-term impacts and her ideological orientation may be narrow or broad in scope. It may be framed in terms of quantitative, qualitative and visual elements. One-dimensional motives are possible as well as multi-dimensional ones. As a special case an actor’s ideological orientation (mission) may be formulated in quantitative terms but an actor’s ideological orientation is often rather ambiguous, fragmentary and uncertain. This is – again – something to be investigated.

Why this emphasis on ideological orientation? Having abandoned the idea of value-neutrality we need to deal more openly with value or ideological issues. Sustainable development specified in some way is a normative development concept that differs from economic growth in GDP-terms. If we mainly rely on neoclassical theory as a conceptual basis for management and governance then I believe that the prospects for our planet will be diminished.

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2 In a much used introductory text in economics by Gregory Mankiw and Mark Taylor (2011) ‘democracy’ is not even part of the index or glossary.
But economics as a discipline cannot exclusively be built on one ideological orientation such as economic growth (or sustainable development for that matter). Normal imperatives of democracy tells us that only pluralism is a constructive position. Analysis has to be many-sided rather than dictated by single interests. To this we will return.

From one-dimensional to multi-dimensional analysis

A popular idea is that “economics is about money”. This view is largely supported by neoclassical theory and method with its Cost-Benefit analysis and focus on monetary profits in business. But reducing all kinds of impacts to their alleged monetary equivalents is a gross simplification. A first step toward a more complex understanding is to accept that “costs” and “benefits” can be of monetary as well as non-monetary kinds and to regard non-monetary impacts as being as ‘economic’ as monetary ones (Table 1). Our previous definition of economics points in this multidimensional direction. Costs and benefits are furthermore an issue of each actor’s knowledge and ideological orientation. An impact may be seen as a cost (environmental damage) by one actor and the same impact may be regarded as a benefit or being of little interest to another (forest owner).

Table 1. A classification of ‘costs’ and ‘benefits’

<table>
<thead>
<tr>
<th></th>
<th>Monetary</th>
<th>Non-monetary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>‘a’</td>
<td>‘b’</td>
</tr>
<tr>
<td>Benefit</td>
<td>‘c’</td>
<td>‘d’</td>
</tr>
</tbody>
</table>

There are many kinds of non-monetary impacts. In an early study with positional analysis (Söderbaum, 1973), it was argued that in each scientific discipline there are a number of potentially relevant dimensions for economic analysis. The 1970s was a time of increased interest in interdisciplinary thinking. The following dimensions were listed: dimensions related to psychology, social dimensions, ethical-legal dimensions, aesthetic dimensions, health-related dimensions, biological, biochemical and ecological dimensions, physic-technical and physic-chemical dimensions, dimensions related to information and knowledge, spacial or geographic dimensions, historical dimensions and finally monetary dimensions.

In the year 2000 so called “Millenium Development Goals” (MDGs) were formulated. These were:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

The MDGs focused primarily on the situation in so called developing countries. Later it was understood that all nations have serious development problems and a new development agenda
was articulated by the United Nations in 2015 with 17 sustainable development goals (SDGs). They are:

- End poverty in all its forms everywhere
- End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Ensure healthy lives and promote well-being for all at all ages
- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Achieve gender equality and empower all women and girls
- Ensure availability and sustainable management of water and sanitation for all
- Ensure access to affordable, reliable, sustainable and modern energy for all
- Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Reduce inequality within and among nations
- Make cities and human settlement inclusive, safe, resilient and sustainable
- Ensure sustainable consumption and production patterns
- Take urgent action to combat climate change and its impacts
- Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- Strengthen the means of implementation and revitalize the global partnership for sustainable development.

The SDGs are clearly multidimensional and they are further subdivided in a UN Agenda for 2030. Environmental sustainability for example refers to many dimensions rather than one. Biodiversity and environmental pollution are examples of this. It can be noted that ‘economic growth’ more precisely sustainable economic growth is present among the goals but plays a more modest role than in many other documents claiming to discuss progress in the economy.

When studying impacts in non-monetary dimensions one more classification scheme is of interest (Table 2)

**Table 2. A classification of economic impacts in terms of flows and positions.**

<table>
<thead>
<tr>
<th></th>
<th>Flow (referring to period of time)</th>
<th>Position (referring to point in time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary</td>
<td>‘e’</td>
<td>‘f’</td>
</tr>
<tr>
<td>Non-monetary</td>
<td>’g’</td>
<td>’h’</td>
</tr>
</tbody>
</table>
Monetary flows at the level of nations can be exemplified by Gross Domestic Product (GDP), an aggregated measure of market transactions expressed in monetary terms usually for a year (cf. ’e’ in Table 2). The balance sheet of a business company refers to a point in time, the end of a year for example, and is expressed in monetary terms, thus exemplifying a monetary position (’f’ in Table 2). Profits in a business company (a monetary flow) influences the balance sheet (a monetary position) in ways well-known to economists.

Our emphasis here is however on non-monetary impacts and ’positional thinking’ in particular. Let us as an example think of a situation where an investment in a new highway across agricultural land and other parts of the landscape is considered. As part of CBA, some financial and monetary impacts are certainly part of the assessment. Land until then used for other purposes such as forestry and agriculture is purchased from farmers and other real-estate holders at a monetary cost to be paid by tax payers. In addition there are construction costs which varies with the design and stretch of the new motorway. But do these costs cover all relevant costs and for whom? What about non-monetary aspects of impacts?

Ecosystems will be affected by the new road, there may be noise from traffic, accidents etc. And for some there will be time-savings, less noise and perhaps improved health positions. Parts of these impacts will be observed by the road-planning agency but some impacts and costs are irreversible in the sense that it is not easy or possible to return to the previous land-use position for the case that it is judged desirable by some actors in the future. Such land-use changes that are possible or not possible in the future can be illustrated in a special kind of decision-trees (Söderbaum, 2000, pp. 93-97).

Positional thinking in multiple (non-monetary) stages can be exemplified with and compared to a game of chess where each move facilitates specific positional moves in the future while excluding others. Issues of inertia, commitments, path dependence, lock-in effects are taken seriously, the idea being that those who are expected to take responsibility for decisions should know what they are doing. Complexities of this kind are often neglected as part of CBA while PA represents an attempt to illuminate these impacts. And inertia as a phenomenon can be relevant for many non-monetary dimensions.

One example of positional thinking familiar to many these days is GPS, Global Positioning System, “a satellite navigation system used to determine the ground position of an object” or in other words: a radio system that uses signals from satellites to tell you where you are and to give you direction to other places”. Positional thinking in geographical terms is of course a fact of life and can be referred to without any technical devices.

The mentioned chess analogy is of interest but also the GPS analogy. Positional thinking can refer to many dimensions previously listed such as health status (or health position) of an individual, changes in professional positions over time, social positions etc. The importance of such cases of inertia as part of decision-making is of course finally a matter of the knowledge and ideological orientation of each actor.
Positional analysis as an approach to investments in infrastructure

Positional thinking is a main theme in positional analysis but not the only theme. A broad description of the approach with scheme of analysis etc. is available in a book “Positional Analysis for Sustainable Development” (Brown et al., 2017). Here mainly the purpose of the approach will be discussed as well as how it can be used to deal with some of the complexities of decision-making.

The purpose of PA can be described as being one of illuminating a decision situation in a many-sided way. This many-sidedness refers to:

- Ideological orientation of decision-makers, affected and concerned actors
- Alternatives of choice
- Impacts of alternatives
- Conditional conclusions that follow

The overall idea is that analysis should be compatible with democracy in the sense of listening to many voices and involving actors in facing problems and constructively dealing with them. Differences of opinion should be openly presented and discussed. Those who take sustainable development, threats of climate change and environmental pollution seriously should feel that they are welcome to the table together with mainstream actors who emphasize other interests. Conflicts of interest should be illuminated rather than hidden and conclusions in the sense of ranking alternatives, for example, are conditional in relation to each ideological orientation considered.

PA then can be summarized as an attempt to make different actors aware of possibilities and complexities in the real world and to deal with some of the complexities. There are technocratic elements also in PA but no claim to point to one single optimal solution for society as a whole.

Reconsidering the roles of analyst, decision-maker and concerned actor

The technocracy – democracy tension can be illustrated also by focusing on the role of analyst in relation to decision-maker (politician) and other concerned actors (Table 3). In the case of CBA, left hand column, the analyst aims at one optimal solution when assessing alternatives. Reference is made to actual of hypothetical market values. Politicians are then expected to accept the result of the CBA study.

The PA analyst on the other hand does not question that such market values can be highly relevant for some politicians but does not limit analysis to this particular ideological orientation. Also other ideological orientations with their implications are analyzed.

<table>
<thead>
<tr>
<th>Role as</th>
<th>Technocracy</th>
<th>Democracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyst</td>
<td>Optimal solution presented</td>
<td>Many-sided illumination of decision situation: conditional conclusions</td>
</tr>
<tr>
<td>Politician (decision maker)</td>
<td>Optimal solution accepted</td>
<td>Ideally consulted at all stages of study. Faces complexity and uses available</td>
</tr>
</tbody>
</table>
Concluding comments

This essay is based on the belief that democracy is a superior idea when compared with technocracy (or other kinds of dictatorship) when dealing with present unsustainable development trends of many kinds. Democracy is furthermore not a field that can be left to political scientists but should become a leading concept also in economics. Good science in economics and other social sciences disciplines then becomes a matter of compatibility with democracy.

Are such preferences for democracy neutral in value terms? I have already argued that there is no value-neutrality in economics. “Values are always with us”. We then need to refer to some values rather than others. A good starting point is to focus on values built into the constitutions of single nations. And principles of democracy often play a central role. When some countries, even in Europe, take steps away from democracy, this only strengthens the reasons to continue a dialogue about governance by arguing, for example, that even economics need to be democratized (Söderbaum and Brown, 2010).

Reference is sometimes made to “post-normal science” (Funtowicz and Ravetz, 1991). As students we need to admit complexities and point to the humility that should follow. Scientists should not be self-sufficient but need help from the outside world for example by visionaries. Simplifications through our assumptions will always be there but extreme forms of simplification can be avoided. The present monopoly for neoclassical theory at university departments of economics in many parts of the world is an extreme simplification of a dangerous kind. Only a degree of pluralism in terms of schools of thought will help us navigate (in positional terms) towards a more sustainable world.

References:


Daly, Herman E. and John B. Cobb, Jr, 1989. For the Common Good. Redirecting the Economy Toward Community, the Environment and a Sustainable Future. BeaconPress, Boston.


