

A financial crisis on top of the ecological crisis: Ending the monopoly of neoclassical economics

Peter Söderbaum [School of Sustainable Development of Society and Technology, Sweden]

Copyright: Peter Soderbaum, 2009

Introduction

A number of unsustainable trends, such as those related to climate change, biological diversity, environmental pollution, depleting fish stocks, deforestation, accumulating radioactive waste threaten people in different parts of the world and globally. In addition to this we are experiencing a financial crisis. Something appears to be seriously wrong with the mental maps of influential actors in different parts of the world. In both cases of crisis, the tendency is to blame market actors for their greediness and risk behavior or national governments for the lack of relevant regulation, or both.

I will here argue that among potential explanatory factors we also need to include ideas about the role of science in society, paradigms in economics, established political ideologies (and other ideologies) as well as institutional arrangements. This means that also science and universities are involved. It is argued that the monopoly position of neoclassical economics at university departments of economics has played a significant role by influencing the mental maps of many actors and making them more legitimate. Even the so called Nobel Prize in economics is part of this picture.

Economics as a socially constructed language

Traditionally, science has been seen as being separate from politics. Positivism as a theory of science has dominated the scene to the exclusion almost of other perspectives. Science is then about searching for the truth, and what is thought of as reliable knowledge is provided to colleagues in the scientific community, politicians and other actors in society through educational activities, books, articles, research reports etc. The positivistic tradition is one where the scholar is standing outside observing what goes on in society, formulating and testing hypotheses. The scholar is responsible mainly to the scientific community. It is a limited responsibility doctrine.

But positivism is only one of many theories of science. Brian Fay has coined the term 'perspectivism' (1996) to counteract the idea that only one theory of science and one disciplinary paradigm at a time represents the 'truth'. Normally there exists more than one relevant vantage point and perspective in relation to a specific category of phenomena. Viewing reality from a second perspective often adds to the understanding offered by the first.

While objectivity is celebrated as part of positivism, the role of subjectivity and ideology is seriously considered as part of some of the alternative or complementary theories of knowledge. In hermeneutics (Ricoeur 1981), 'interpretation' is a key concept and as human beings we largely interpret the world through our languages. And languages can be regarded as objectively existing phenomena but also as being 'socially constructed' (Berger and Luckman 1966). Mainstream neoclassical economics is a standardized language that claims to be helpful in understanding the world. Standardized or not; each language points in specific directions concerning relevant objects, relationships, processes etc. to focus upon. The

language is socially constructed for specific purposes, for instance to deal with specific problems in specific ways. Neoclassical economics, as an example, is specific not only in 'scientific' but also in 'ideological' terms. 'Ideology' stands for a 'means-ends philosophy' and is not limited to more or less established political ideologies like socialism, social democracy, social liberalism or neo-liberalism. In this sense, neoclassical economics clearly qualifies as an ideology and as such is more specific and precise than the political ideologies mentioned.

Neoclassical economics tells us about the relevant actors in the economy (consumers, firms and government); about how to understand markets (supply and demand of commodities and of factors of production); about decision-making (optimization) and efficiency (usually a monetary concept or at best cost-efficiency). This way of understanding economics is clearly not neutral but specific in ideological terms. Gunnar Myrdal has argued that "values are always with us" (1978 p.778) in social science research and in my understanding "economics is always political economics". This suggests that the neoclassical attempt to develop a 'pure' economics from about 1870 onwards as opposed to 'political economics' (which was the language used by classical economists) was a mistake. At issue is now whether neoclassical theory as a conceptual framework and ideological orientation is useful in dealing with the ecological crisis and/or the financial crisis.

The ideological features of neoclassical economics also suggest that it becomes relevant to inquire into the similarities between neoclassical economics as ideology and the established political ideologies referred to. Has neoclassical economics contributed, for example, to make neo-liberalism more legitimate? Alternatives to the neoclassical conceptual framework and paradigm, such as some version of institutional economics, feminist economics or ecological economics are equally specific in ideological terms but may perform better in relation to the ecological crisis and/or the financial crisis. This is – again – a matter of subjective judgment. The important thing now in economics is to open the door for pluralism and competing (or complementary) theoretical perspectives and approaches.

Normal imperatives of democracy are applicable

Understanding that economics is socially constructed and specific in ideological/political terms suggests that economics can be manipulated for specific purposes. Economists and departments of economics are part of society and specific actors and interest groups within the academia and outside it may use their power to change economics in specific directions or to support a status quo 'business-as-usual' position for the discipline. Such pressures in different directions cannot be avoided but since ideology and politics are involved, it follows that actors both within and outside universities should observe normal imperatives of democracy. If economics is political economics then democracy will inform us about the rules of the game. In a democratic society, there are normally more political parties than one and many more ideological orientations are represented among citizens than those internalized into political parties. This suggests that the conceptual and ideological pluralism that exists in society should to some extent be reflected in our ways of doing research and teaching economics.

It appears fair to argue that the present situation at university departments of economics in Western countries (and other countries as well) is far from such a desired state of affairs. Education and research is limited to one paradigm – the neoclassical one. Rather than democracy, one may speak of dictatorship where only one theoretical perspective with

connected ideology is permitted. Neoclassical economists celebrate freedom of choice and are against 'protectionism' but protect their own theoretical perspective vigorously. They point in the direction of competition as good for society but paradoxically defend the neoclassical monopoly; they see the 'opportunity cost principle' as central to their message but do not want to apply this principle at the level of paradigms; When discussing portfolio investments, they repeatedly tell us that it may be unwise to put "all eggs in one basket" but have themselves neglected this wisdom. A more pluralistic economics might have saved us from some of the problems that we now experience.

Democracy is also about the responsibilities and accountability of each actor in society. The limited liability doctrine (of positivism) where economics is only about science and truth is comforting, but no longer valid. As economists we should instead be ready to admit and discuss our ideological orientations and how we can deal with them while working systematically in research and education. It turns out that the rules of democracy will supply some of the criteria for good research. A department of economics that has taken important steps in a pluralistic direction will be a stronger and more legitimate department.

Neoclassical economics and the sustainability crisis

As mentioned in the introduction, a number of unsustainable trends concerning the state of the environment can be observed and have been widely reported. The status of individuals in terms of health and poverty is another concern of sustainable development. Inequality in terms of monetary income and financial position appears to be increasing. At issue is whether or not neoclassical economics is helpful in dealing with the sustainability crisis. Hopefully some ideas from neoclassical economics are useful but what about other theoretical perspectives in economics? How can they contribute? Is the present monopoly for neoclassical economics justified?

One 'hypothesis' is that neoclassical economics is closely connected with a 'business-as-usual' attitude to development, and that present unsustainable trends are largely explained by this business-as-usual strategy and ideology. Neoclassical 'environmental economics', an extension of neoclassical theory, attempts to deal with sustainability issues by merely modifying the present political-economic system. But it seems unlikely that this is enough. In my understanding, the UN, the EU, Sweden as a nation, various regions and cities, etc. have adopted sustainable development as something new with openings for more radical changes and I will now try to point to my understanding of this newness. A number of questions that I believe are relevant for a dialogue about sustainable development will be formulated. I will point to how these issues are dealt with within the scope of neoclassical economics and then indicate a political economics approach to sustainability, so called 'sustainability economics' (Söderbaum 2008) that I believe is more useful.¹

¹ I came across the term 'sustainability economics' for the first time as part of a project at the Deutsches Institut für Wirtschaftsforschung, DIW, (www.sustainabilityeconomics.de) in 2003. The German Ministry of Education and Research had turned to DIW, Berlin, a neoclassical economics research institute, arguing that neoclassical economics is inadequate for sustainable development. DIW was urged to respond to this challenge and arranged a number of workshops with ecological economists and others. It is not clear whether this project had any lasting impacts on the research work of the institute.

What are the relationships between 'economics' and 'politics'?

Neoclassical response: Economics and politics can and should be separated. A value-neutral, 'pure' economics is possible

Sustainability economics perspective: Economics is always political economics. It is an illusion that economics can be separated from politics and ideology. Each theoretical perspective in economics is specific not only in scientific but also in ideological terms. Limiting economics to one paradigm, for example the neoclassical one, is contrary to normal ideas of democracy. Since there is a diversity of ideological orientations in society, some part of this diversity should be reflected in research and education at universities. Limiting education to one paradigm at university departments of economics means that these departments acquire a role as political propaganda centres. This is essentially the situation we are facing today.

Who are the relevant actors in the economy?

Neoclassical response: 'Consumers' and 'firms' are the relevant actors and they are connected by markets for commodities and factors of production. In addition, the national government is an important actor regulating markets, raising taxes etc.

Sustainability economics perspective: The sustainability crisis concerns individuals in all their roles and not just in their role as consumer and other market-related roles. The individual is also a parent, a professional and a citizen. Firms or business organizations participate in the development dialogue but so do actors connected with universities, environmental organizations, churches. Individuals and organizations are regarded as actors participating in the economy and society where the primacy of democracy over market is observed.

What is the role of the national government in the economy and in society?

Neoclassical response: Politics and policy-making is essentially in the hands of the national government. Two categories of policy instruments are available, so called 'command-and-control' instruments and market instruments. Market instruments are generally preferred by neoclassical economists as being more flexible.

Sustainability economics perspective: The national government has a specific and important role in the economy but is only one among policy-makers. All actors in the economy are regarded as policy-makers. The individual is guided by her 'ideological orientation' and understood as a 'political-economic person' (PEP) whereas an organization (the 'firm' included) is assumed to be guided by a 'mission' and understood as a 'political economic organization' (PEO). To reflect this multiple-actor and also a multiple-level perspective (the latter referring to organizational as well as territorial aspects), the term 'governance' is used (see also Bache and Flinders 2004). Relationships between actors in the economy and internationally have to reflect the principles of democracy. Participation, responsibility and accountability are among these ideas of a functioning democracy.

How do we understand the objectives and values of actors in the economy?

Neoclassical response: The individual as consumer is assumed to choose that combination of commodities (within her monetary budget constraint) that maximizes her utility. Consumer preferences are assumed to be given and are in no way questioned by the economist who claims neutrality in this and other respects. A larger income means that the budget will allow more commodities to be bought and a higher level of utility. The organization (which is assumed to be a firm) maximizes monetary profits. The possibility of non-monetary objectives is not discussed. At the macro level, focus is on national accounting and 'economic growth' in GDP-terms and economic growth tends to be seen as the main idea of progress in society. Neoclassical economists themselves sometimes warn against the use of GDP as an indicator of welfare but have little to say about other ideas of progress.

Sustainability economics perspective: As already indicated, it is assumed that the individual is guided by her ideological orientation and the organization by its mission. Neither ideological orientation, nor mission should be understood as a mathematical objective function to be optimized. The ideological orientation is fragmented, uncertain and consists of qualitative, quantitative as well as visual elements and something similar holds for the mission of an organization.

The ideological orientation of individuals as actors and the mission of organizations cannot be dictated by science but is a matter for each actor. Ideological orientation and mission can be modified or change radically over time. The individual may for example more or less internalize the ideas of sustainable development and a business company may focus on narrow interests in terms of profits or 'shareholder value' or internalize some idea of what is now referred to as Corporate Social Responsibility (CSR). Similarly, a university may consider its University Social Responsibility (USR) in relation to the challenge of sustainable development or other demands from the larger society.

An individual is part of many 'we-categories' (Cf. 'I & We Paradigm' in Etzioni 1988) including communities and networks. Relating one's own position to that of larger groups becomes an important part of ethical and ideological considerations. An actor may as part of her ideological orientation consider GDP-growth as more or less important in relation to other ideas of progress in society. This is something to be investigated by the scholar rather than assumed to be given.

What is the role of the monetary dimension in the economy?

Neoclassical response: The consumer is limited by her monetary budget constraint and chooses among commodities characterized by their price (in monetary terms). Firms are assumed to maximize their profits in monetary terms or shareholder value, i.e. the price of company shares. Progress of the national economy is measured in monetary terms (as GDP-growth) and decision-making at the societal level is a matter of monetary calculation in the form of cost-benefit analysis (CBA). This focus on money and monetary analysis has made many individuals as actors think that "economics is about money" and little else.

Sustainability economics perspective: When looked upon from the vantage point of sustainable development, the neoclassical emphasis on the monetary dimension becomes questionable and can be referred to as 'monetary reductionism'. Instead a multidimensional

perspective is preferred where the monetary dimension is only a part. The idea that all impacts can be traded against each other is abandoned. Monetary and non-monetary impacts are kept separate and analysis is carried out in profile terms rather than as one-dimensional calculation.

Shifting to a sustainability economics perspective means that non-monetary factors such as ecosystems, natural resources and human resources are as 'economic' as financial or monetary resources. Impacts on ecosystems, land-use, water resources and fish stocks are economic impacts as such (and not only through their implications in the monetary domain). Reference can be made to changes in non-monetary resource positions.

On the non-monetary side, the issues of inertia, path-dependence, irreversibility and connected uncertainties come to the fore and have to be discussed and analysed separately from monetary analysis. House construction on agricultural land is a largely irreversible process that has to be illuminated in non-monetary positional terms (Söderbaum 2008 pp. 106-107) and the same holds for depletion of fish stocks or degradation of water quality.

How is decision-making and efficiency understood?

Neoclassical response: In neoclassical economics, an assumption is made about a specific mathematical objective function to be optimized. The consumer maximizes utility in some sense; the firm maximizes its profits. Cost-benefit analysis is similarly an attempt to maximize in monetary terms at the level of society. Efficiency in neoclassical economics is closely connected with optimality in the mentioned sense. Profits in business, for example, is regarded as an indicator of efficiency.

Sustainability economics perspective: Looking for optimal solutions is a possibility (if all actors concerned agree about an objective function) but is regarded as a special case. The main idea of decision-making is one of 'matching', 'appropriateness' or 'suitability'. The decision-maker is guided by her ideological orientation and this ideological orientation is 'matched' against the expected impact profile of each alternative considered. In relation to a specific decision situation, the ideological orientation of an actor as decision-maker may be sharp or vague and the expected impacts of choosing one specific alternative may be certain or uncertain. This suggests that search activities to further articulate one's ideological orientation, or to reduce uncertainty about impacts, is always an option.

In a decision situation with more than one decision-maker, for example a political assembly, the analyst has to consider those ideological orientations that appear relevant among decision-makers and suggest conditional conclusions based on each of the ideological orientations considered. This information is then supposed to be useful for each decision-maker, for instance as part of voting in a political assembly. The politician will then be responsible for her voting behaviour and other actions.

Science can no longer dictate correct ideas of efficiency for purposes of resource allocation. There may still be some standardized ideas of efficiency such as profits in business but there are always potentially competing ideas. Efficiency within the scope of neoclassical economics is one thing and efficiency in relation to sustainable development another. Eco-efficiency, for example, may refer exclusively to non-monetary variables as in

ecological footprints (Wackernagel & Rees 1996). To conclude, efficiency is a matter of the observer's ideological orientation.

How are decisions prepared at the societal level?

Neoclassical response: A distinction is made between welfare theory and applied welfare economics. Welfare theory suggests that welfare is increased if at least one person is made better off as a result of choosing an alternative while no one is losing. Applied welfare theory on the other hand claims to be more useful in practice and is connected with cost-benefit analysis in monetary terms (CBA). Some individuals may then be losing in monetary terms if only the aggregated impacts are estimated to be positive. Neoclassical economists dictate that current market prices should be used to estimate a so called 'present value' for each alternative considered, thereby excluding other ethical or ideological standpoints. A specific market ideology is applied.

Sustainability economics perspective: A distinction can be made between approaches to societal decisions with respect to degree of aggregation and ideological closed/openness. This leaves us with four categories of approaches:

- I. Highly aggregated, ideologically closed
- II. Highly aggregated, ideologically open
- III. Highly disaggregated, ideologically closed
- IV. Highly disaggregated, ideologically open

Neoclassical economics clearly belongs to the first category. Impacts of different kinds and expected for different periods of time are summarized in monetary terms at correct market prices. Category II refers to an approach where impacts are aggregated in one-dimensional terms but prices or other values are open to the judgment of each decision-maker while category III may stand for a multidimensional approach where acceptable performance in each dimension is decided beforehand.

From the point of view of sustainability economics, category IV, highly disaggregated and ideologically open, is judged to be the most relevant and compatible with normal ideas of democracy. Although limited in scope to environmental impacts and often used late in the decision process, Environmental Impact Assessment (EIA) essentially belongs to this fourth category. A more holistic approach (in terms of scope) is 'positional analysis' (PA) which is preferred by the present author (Söderbaum 2008, Brown 2008). The purpose is to illuminate an issue for decision-makers, for example politicians, who differ among themselves with respect to ideological orientation. Actors or interested parties in relation to the issue or decision situation are identified and approached by the analyst to learn about their understanding of the problems faced and how it can be dealt with. Potentially relevant ideological orientations are articulated and alternatives systematically compared with respect to impacts in multidimensional terms. Inertia in the form of, for example irreversible impacts, are illuminated in positional terms. Also conflicts of interest are illuminated. Conclusions (in the sense of ranking alternatives) are conditional in relation to each ideological orientation articulated. As part of sustainability economics, it becomes natural to include an interpretation of sustainable development among ideological orientations.

How is the market and international trade understood?

Neoclassical perspective: A market is understood in terms of supply and demand of single commodities. Monetary costs of producing are related to the price consumers are willing to pay. The market analyst is standing outside watching what goes on. Prices and commodities exchanged are seen as objective phenomena and are never or seldom questioned from ethical points of view. According to this perspective, it does not matter if one market actor is 'successful' in monetary terms by exploiting another actor or if two market actors attempt to be fair in relation to each other in their market interactions. International trade is similarly understood in reductionist terms where one commodity is discussed at a time and where its price is the main consideration. International trade theory furthermore arrives at a conclusion that free trade is good while 'protectionism' (i.e. attempts to protect home industry through tariffs and quotas) is bad.

Sustainability economics perspective: From this point of view, market actors are understood as political economic persons and political economic organizations in their specific social, institutional and ecological context. A market transaction takes place within a social context where the ideological orientation of each market actor plays a role. Emphasis on self-interest, even greediness, is a possibility but so is also fairness or a wish to contribute to sustainability or the common good in some sense. The impacts of a market transaction is understood in multi-dimensional terms and related to activities of different groups of individuals.

A similar analysis is relevant for the international level. Impacts of different kinds can be scrutinized in each of the two trading countries as well as impacts on specific activities and thereby groups of individuals. Given such estimated impacts, it is an open issue and a matter of the observer's ideological orientation whether trade is good or bad for specific parties and for the nations involved. In each of the trading countries, there may be both winners and losers and general assertions about trade as bad or good can seldom be made. Environmental degradation or exploitation of mineral or other natural resources in one country are possible implications of trade and a person as actor may in a specific situation find good reasons to argue that protectionism is a reasonable trade strategy.

How is institutional change understood?

Neoclassical response: Institutional change is largely regarded as a matter of new laws and regulations. Special interest groups may lobby for rules that are favourable for them as suggested by neoclassical public choice theory (Mueller 1979).

Sustainability economics perspective: In general terms, a theory of science, the disciplinary paradigm in economics and more or less established ideologies may make specific institutions legitimate. Neoclassical economics has contributed to make greediness in business and focus on shareholder value legitimate. Simplistic neoclassical international trade theory has similarly made exploitation of people and natural resources legitimate and is reflected in the rules that guide the World Trade Organization (WTO) in their decisions and actions.

At a more specific level, each model used to understand or interpret specific phenomena may be part of a process where existing institutions are strengthened or new institutions emerge. At this level:

- interpretation of a phenomenon
- naming it
- other manifestations of the phenomenon
- acceptance among actors of the interpretation and its manifestations are important partial processes

The profit maximizing firm as a model in neoclassical microeconomics plays a role in making narrow ideas of the purpose of business legitimate. Also existing laws about the joint stock company become more legitimate. A stakeholder model of the business firm opens the door for new thinking in some respects (for example the admittance of tensions and conflicts of interest between individuals as stakeholders and stakeholder groups) and the same is true of the 'political economic organization'. The existence of financial management systems may make some actors realize that 'environmental management systems' (EMS) based on a similar logic is possible. In this way the ideological orientations of individuals a actors and the models they use play a key role in institutional change processes.

Conclusions about the ecological and financial crisis

Climate change is perhaps the most threatening aspect of the ecological crisis but not the only one. Reduced biological diversity, reduced water availability and deteriorating water quality in some regions exemplify other relevant dimensions. On the financial side, the 'market mechanism' has been unable to come up to expectations.

How can these problems be understood? Many factors have certainly contributed but in my judgment neoclassical economics as disciplinary paradigm and neo-liberalism as ideology are among the most important. If actors in society have failed, this can largely be attributed to the mental maps they have used for guidance and these mental maps are largely connected with dominant ideas about economics (as conceptual framework and ideology) and neo-liberalism as a dominant ideology in many circles. Thousands of students, now in professional positions, have learnt neoclassical micro- and macroeconomics over the years and have supported each other and been supported by their professors to further strengthen the neoclassical perspective.

Studying neoclassical economics would have been less of a problem if also alternative theoretical perspectives had been taught at university departments of economics. But the strategy has instead been to strengthen the neoclassical monopoly. It is up to the reader to judge whether neoclassical economics by itself and in combination with neo-liberalism explains some parts of the ecological and financial crisis that we now experience. Since neoclassical economics emphasizes the monetary dimension, one might expect that at least monetary issues are well considered in the paradigm but these days we even doubt if this is the case. Something may be missing in terms of interdisciplinary openings, including social psychology and also ethical considerations.

In any case, neoclassical economists in leading positions should be held responsible and accountable for limiting research and education to one paradigm. As I have argued previously, each paradigm is specific not only in scientific terms (with respect to conceptual framework and theory) but also in ideological terms. Limiting education in economics to one paradigm means that university departments of economics are degraded to political propaganda centres.

A way out of this is to admit that the political aspect is always part of economics and to use a political-economics approach when attempting to respond to the questions asked earlier in this article. Individuals, organizations, markets, decisions, efficiency, assessment of alternatives – all this can be approached in political economic terms.

A political economics approach means a more humble attitude to economics where it is understood and admitted from the very beginning that there are more than one approach to economics. Neoclassical economists have often used their power to eliminate competition concerning professional positions and to reduce choice for students. But outside university departments of economics, the interest in heterodox economics is proliferating. There are social economists, socio-economists, feministic economists, institutional economists, ecological economists, Green economists, even interdisciplinary economists, many of which are openly critical of the neoclassical paradigm.² For this reason, a pluralistic strategy at university departments of economics is the only realistic one. A move from neoclassical technocracy to a democratized economics is called for. Since neoclassical economists have become accustomed to their monopoly, such a change will not come about easily.

Neoclassical economics may be useful for some purposes but in relation to the challenge of sustainable development, it is – as I have tried to show – probably among the worst possible theoretical perspectives. The emphasis on a monetary dimension is contrary to the perspectives needed to deal seriously with environmental problems. Also the tendency to emphasize the self-interest of all kinds of actors is far from a widening of horizons to also include community interests. The emphasis on markets while downplaying other relations and democracy is a third deficiency of neoclassical economics.

The power game will continue and should not only include orthodox and heterodox economists as actors. Individuals in all kinds of roles are stakeholders and although neoclassical economists often try to hide behind mathematical equations, the language of economics need not be complex. In some sense we all have experiences as economists making decisions with impacts on the future state of affairs for us and for others.

Some neoclassical economists realize that they are in trouble in relation to the present crisis situation. One strategy is to act in a 'pragmatist' or even opportunist way. The Stern Report (2006) is a case in point where the author and his team produce precise figures about the estimated monetary costs as a percentage of GDP for counteracting climate change now compared to waiting and acting at a later point in time. Most people understand that action is urgent but structuring the problem in terms of monetary GDP appears a bit desperate and as much an attempt to save and protect neoclassical theory against competing perspectives.³

I will end this article by pointing to an assumption about heterogeneity in each actor category (Söderbaum 1991). Although sharing the same paradigm, neoclassical economists are not a completely homogenous group. Some participate actively in public debate, such as Joseph Stiglitz (2002) and Paul Krugman which is a positive feature. However, very few of the leading neoclassical economists refer to their own economics as 'neoclassical' (since that would be a first step towards admitting that there may be other kinds of economics) or speak of pluralism as a step forward. Control of journals and awards is another way of protecting the

² For an overview, see Fullbrook ed. 2003, 2004, 2007, 2008.

³ For a critical evaluation of the Stern report, see Spash 2007.

status quo. The Bank of Sweden (Riksbanken) Prize in Economic Sciences in Memory of Alfred Nobel is based on positivism as a theory of science, neoclassical economics and has so far not facilitated a move towards a more pluralistic economics. The ideas of excellence in social science of those in charge of this prize are still far from the political economics perspective advocated here. But this is another story.

References

- Bache, Ian and Matthew Flinders (eds) 2004. *Multi-level Governance*. Oxford University Press, Oxford.
- Berger, Peter L. and Thomas Luckman, 1966. *The Social Construction of Reality*. Anchor Books, London.
- Brown, Judy. Democracy, sustainability and dialogic accounting technologies: Taking pluralism seriously. *Critical Perspectives on Accounting* (2008), doi:10.1016/j.cpa.2008.08.002
- Etzioni, Amitai, 1988. *The Moral Dimension. Toward a New Economics*. Free Press, New York.
- Fay, Brian, 1996. *Contemporary Philosophy of Social Science. A Multi-cultural Approach*. Blackwell, Oxford.
- Fullbrook, Edward ed. 2003. *The Crisis in Economics. The Post-Autistic Economics Movement: the First 600 days*. Routledge, London.
- Fullbrook, Edward ed. 2004. *A Guide to What's Wrong with Economics*. Anthem Press, London.
- Fullbrook, Edward ed. 2007. *Real World Economics. A post-autistic economics reader*. Anthem press, London.
- Fullbrook, Edward ed. 2008. *Pluralist Economics*. Zed Books, London.
- Mueller, D. C. 1979. *Public Choice*. Cambridge University Press, Cambridge.
- Myrdal, Gunnar, 1978. Institutional Economics, *Journal of Economic Issues*, Vol. 12, No. 4 pp.771-783.
- Ricoeur, Paul, 1981. *Hermeneutics and the human sciences*. Cambridge University Press, Cambridge, Mass.
- Söderbaum, Peter, 1991. Environmental and Agricultural Issues: What is the Alternative to Public Choice Theory? pp. 24-42 in Partha Dasgupta ed. *Issues in Contemporary economics Volume 3. Policy and Development (International Economic Association)*. Macmillan, London.
- Söderbaum, Peter, 2008. *Understanding Sustainability Economics. Towards pluralism in economics*. Earthscan, London.
- Spash, Clive L. 2007. The economics of climate change impacts à la Stern: Novel and nuanced or rhetorically restricted? (Commentary) *Ecological Economics*, Vol. 63, pp.706-713.
- Stern, Nicholas, 2006. *Stern Review on the Economics of Climate Change*. UK Government Economic Service, London (www.sternreview.org.uk)
- Stiglitz, Joseph, 2002. *Globalization and its discontents*. Penguin Books, London.

Wackernagel, Mathis and William E. Rees, 1996. *Our Ecological Footprint. Reducing human impact on the earth.* New Society Publishers, Gabriola Island, BC.

peter.soderbaum@mdh.se

SUGGESTED CITATION:

Peter Söderbaum "A financial crisis on top of the ecological crisis: Ending the monopoly of neoclassical economics", *real-world economics review*, issue no. 49, 12 March 2009, pp. 8-19,

<http://www.paecon.net/PAEReview/issue49/Soderbaum49.pdf>