

# (RE) READING ENVIRONMENT IN A MARKET SOCIETY: THE SOCIO-SPATIALITY OF SOCIAL COSTS

N. Tunga K rođlu  
Middle East Technical University; tkoroglu@metu.edu.tr

## 1. Introduction

The modern world faced a vital dilemma while market society inevitably merge to whole globe. The dominance of market in the modern industrial societies, resulting in an endless trend of growth, seems to have reached a turning point, and the transforming environment gives the impression of a vanishing ‘nature’. However, the cost of the economic growth, that was promoted as a gift to humankind, took more than the ‘nature’. Logically, it seems easy to decide what to do to stop the approaching catastrophe: that is, put an end to the dominance of market and economic reasoning. Yet, such a huge social evolution raises enormous difficulties at its realization.

The destruction that environment is confronted with has been widely discussed WCED (1987)<sup>1</sup>, but the institutional relations that obstruct the systematic solutions have to be scrutinized in more detail. These institutional relations emerged as a self-regulating institutional set dominated by the market, that Polanyi (1944) has named as ‘market society’ in his book *The Great Transformation*. The obstacles that market society places in front of the solutions may depend on both the scale and content of the environmental destruction and the methodological, ideological and economical preferences of the solutions suggested. Nonetheless, the most important obstacle that blocks the solutions is a built-in character of the market society that is related neither with scale and content nor with the preferences of applied solutions. Social costs, as the cause of environmental disruption in a different manifestation, are systemic and inevitable products of the market society. They can neither be totally internalized into economics, nor removed from the system. In fact, they can be named as the viruses of the ‘free rational market’.

For environment, however, they are absolute reality. They transform the environment reproducing the capitalist production relations and inevitably damaging nature. Different from resources, their allocation produces ‘bads’, in stead of goods, and they are embedded into the space. Therefore, an adequate sustainable development that deals with temporal solutions, that is, intergenerational solutions, becomes a fantasy, unless space is re-introduced to the discussions, and intra-generational solutions are searched, that is redistribution of goods and costs in space and time.

Consequently, in this paper a definition of how and in what type some of these obstacles are produced within the market society will be discussed so that an adequate and reasonable solution can be highlighted. Driven from this discussion, the so-called solutions of neoclassical economics and problems in valuation and internalization of nature are criticized through the ‘social cost’ and cost-shifting concepts of Kapp. At the end, the socio-spatiality of social costs will be discussed that will draw attention to an analysis of a co-institutional intervention to environmental destruction.

---

<sup>1</sup> See also Lash, Szerszynski and Wynne 1996, and Macnaghten and Urry 1998.

## 2. From Enlightenment to the Market Society

The development of the market society and the establishment of the institutional set of the modern society go back to the enlightenment. The combination of the production increase as a result of the industrial development and institutional transformations of the enlightenment lead to a conflict with the 'ancient regime' that give rise to the modernity. This conflict, however, did not only emerged against the ancient institutional set, but it also settled among the developing institutions of the modern industrial society. The conflict emerged between those who wanted to modernize the society according to their thoughts, and those who resisted such a transformation leaded by others' standpoint. Wagner (1994, 8) has later clarified this conflict as an ambiguity between two groups as 'freedom-autonomy' and 'discipline-control'.

Industrialization, in this challenging process, generated a new normative consensus based on such values as achievement, equality of opportunity, and legal-rational procedures, which can be argued as the liberal principle of modernity (Giddens 1994). The development of industrialization has been strongly related with the massive development of capitalism, creating a system in where environmental exploitation becomes ordinary.

In this transformation process, all social institutions disembedded from the institutional set of 'ancient regime'. Consequently, the market established its new relations with the others institutions of the modernity creating a 'self-regulating' market as the dominant institution in the market society (Polanyi 1944). In market, the control of the economic system would be opened to the actors, taking determinant hegemony of ancient regime's leaders. The actors within the market may manipulate or distort the system as similar to previous, but this does not change the fact that an a-priori hegemony can not lead the market any more. Finally, this 'liberalized' market is open to a dual system of power, each of which has its own plural structures. An ambiguity that has important similarities with Wagner's (1994) modernity argument: as the private was assigned to liberty, public was assigned to the discipline.

The market society, as Polanyi (1944) states, is formed by institutional mechanism set and based on the fictitious commodification of land and labor, locating the market at the center of the set as the dominant institution. The domination of the self-regulating market, survived from the conflict between the two 'general' interest group creating an originality.

Within the institutional set, the public sector had to be legitimately constructed, and the new emerging 'nation state' provided a perfect apparatus for this. It gave the territorial control of the market, and solidarity. The territorial control and solidarity does not only supply the market, but also provide a limited democratic and liberal sphere to the modernity. Citizenship of nation state, although it has been an important conceptualization within the democratization (Wokler 1998), it has blocked to the enlightenment's and modernity's spatial diffusion demand: spreading to the globe. The nation state also formed a perfect apparatus for the rational organization of society: through the bureaucratic state. It is characterized by legal rules, a salaried administrative staff, the specialization of function, the authority of the office, not the person, and documentation. (Giddens 1994)

In addition to the nation state and bureaucracy, the market within the institutional set was also supported by positive sciences, and consequently, the economic reasoning became the superior mentality of the modern industrial society. A scientifically supported market could triumph over the superstitious taboos of 'ancient regime'. However, the market itself is constructed on a utopia that Polanyi (1944) named as 'commodity fiction' of land and labor that created its own and new superstitious taboos, which became more powerful than former: the 'free rational market' of the modern industrial societies (Horkheimer and Adorno 1996; Feyerabend 1991; Gorz 1995). Consequently, the survival of the nation state and other institutions of modern society become dependent to the survival of the market, so that the interest of the market transformed into the interest of the market society (Polanyi 1944).

As the 'commodity fiction' became the backbone of the functionality of the market within the modern institutional set, its utopian character has been hidden with the help of the 'rational' and 'positive' sciences. This fiction of labor gave rise to the exchange of labor force in the market as a commodity. Moreover, the fiction of land made possible to exchange both agricultural products, natural resources and land itself. Their commodification is only built on their materially exchangeable values. Thus, human is reduced to labor force and nature to land (Polanyi 1944). All other meanings and values of them are easily accepted as not rational (Feyerabend 1991; Gorz 1995). In other words, they were not involved into any scientific analysis or calculation, and the 'reciprocity principle of behavior' in an economy, that Polanyi had introduced, is excluded. Hence, the exclusion of the reciprocity principle blockades all other possible interactions between human and nature, and reduces the environment to resource. Whether it becomes the subject of price and 'exchanged' in market is a matter of scarcity.

Environment within this fiction is disembedded from its socio-spatial ties and transformed into absolute land. However, "what we call land is an element of nature inextricably interwoven with man's institutions. To isolate it and from a market out of it was perhaps the weirdest of all undertakings of our ancestors" (Polanyi 1944, 178). Hence, in contrast with the fiction, land and labor can not be separated. Labor, as a part of society, is only a temporary form of a social activity, and land is only a materialization of space. He defined them as parts of life and nature arguing that they;

form an articulate whole. ... One Big Market, on the other hand, is an arrangement of economic life which includes markets for the factors of production. Since these factors happen to be indistinguishable from the elements of human institutions, man and nature, it can be readily seen that market economy involves a society the institutions of which are subordinated to the requirements of the market mechanism.

...The economic function is but one of many vital functions of land. It invests man's life with stability; it is the site of his habitation; it is a condition of his physical safety; it is the landscape and seasons. ... And yet to separate land from man and organize society in such a way as to satisfy the requirements of a real-estate market was a vital part of the utopian concept of a market economy. (Polanyi 1944, 178)

In other words, social life is materially shaped within *space* that is both a product and a means of social life (Soja). It is same for economic activities as they can only be realized in space. The exclusion of environment and the reciprocity value of land, therefore, result in a market in which human and nature interaction is established through temporal 'exchange' relations only. To exclude all other relations and values from human nature relation, at the other hand, require more than just

not seeing those values. Such exclusion can only be sustained through systemic capability. For Kapp, the systemic exclusion versus undesirable relations in market materializes in social costs.

### 3. The Immorality of the Market Society: The Social Costs

As Adam Smith in 1776 and J. Stuart Mill in 1848 were introducing the 'laissez-faire', they also had assumed the social liberation through the individual one, exploiting the nature for the growth of the economy<sup>2</sup>. The pre-bourgeois history was 'nature-like and unhistorical', and the division of labor was a natural division of labor, which was based on gender and age. Industrialization has also opened the path for the presentation of the idea of 'division of labor' in production that Adam Smith had introduced in *The Wealth of Nations*. From then on, the classical tradition increasingly treated nature not as a central element of economy theory, more as a limiting boundary for economic development (Smith 1990). While the leading liberals of the society were cheering the capitalist age as the 'natural' outcome, and saw the nature as a machine, they have delightfully used the science for their own benefit. (Gorz, 1995; Feyerabend, 1991) As instrumental reason has scientifically 'externalized' nature, capitalism has joint to the process through commodification of nature as a source of production. Hence, industrialization within a rational mechanization of production has also been seen as the rise of the individual liberalization that has prepared the foundations of the property rights, and the owning of nature as a private good (Gorz 1995). However, as the benefits of this exploitation goes to the liberal entrepreneurs, the costs were paid by the whole society and mainly by the nature. Hence, besides the exchange value of nature as a resource<sup>3</sup>, nature is seen as a discharge area for the wastes of the production process able to absorb everything, and economics may attempt to internalize these dimensions of natural environment. Ironically, however, the exploitation process of natural environment in Kapp's (1997, 531) words;

has nothing in common with a typical two persons' market relationship; it is not the result of any voluntary contractual transaction. The affected persons are as a rule without protection; they have no voice in the matter; they are victims of a process over which they have little if any control. ... Neither those who contribute nor those who are affected by environmental pollution are, as individuals, able fully to evaluate the relative importance of the damages caused, quite apart from the fact that the negative effects are highly heterogeneous in character and may become apparent only after a considerable period of time; hence an evaluation in monetary terms (for example, in terms of an individual's willingness to pay, or to accept monetary compensation) would be neither appropriate nor cognitively responsible in view of the nature of the damages caused by the values effected.

He continues arguing that he is;

not denying that it is possible to attribute a monetary value to environmental damages, to human health, human life, or for that matter to esthetic values.... In fact in markets such evaluations are made constantly; but I am questioning and, in fact, *denying* that monetary values constitute appropriate and responsible criteria for the evaluation of the damages caused by environmental disruption. (Kapp 1977, 531)

In other words, he was suspicious that the valuation of environment in economics is only tried to be based on the 'exchange principle' within economy. This, in fact, is not surprising, because price in market is determined through the exchange value only. Therefore, the 'reciprocity' is disregarded at

---

<sup>2</sup> Francis Bacon (1999), besides many other modernists, as the enthusiastic advocator of the mastery of nature, argued that, the balance between 'man and nature' could only be repossessed through man's beneficent dominion over external nature.

<sup>3</sup> Economics considers the natural environment as a free good, having no monetary cost until its over-exploitation due to 'free-riding' makes it scarce and converts it into an economic good.

the internalization of social costs and valuation of environment. However, as Kapp (1970, 841) has stated, the “economic theory continue to treat allocation, production, exchange and distribution as if they occurred in an essentially closed and autonomous ‘economic’ sphere with only minor effects on man’s natural and social environment”. The effects on the environment and society of such a fiction “are anything but negligible”. These effects, has been named by Kapp (1950, 14), in *The Social Costs of Private Enterprise*, as ‘social costs’, which “refers to all those harmful consequences and damages which third persons or the community sustain as a result of the productive process, and for which private entrepreneurs are not easily held accountable”.

As Kapp introduced the term ‘social cost’, he rejected the exceptional and incidental characteristics of externality. He preferred to use ‘social cost’ instead of the term ‘externality’, because ‘externality’ implies that uncompensated side effects are exceptional rather than pervasive, incidental rather than systemic” (Swaney and Evers 1989, 8). The definitions of externality and social costs may look alike, but the main point for Kapp is more on what the term leads to be understood in society. Moreover, he was aware of the risk of discussing in traditionalized terms and therefore, and he defines what the use of ‘externality’ term may cause. For Kapp (1970, 842) simplifying assumptions and empty terms, such as the use ‘externalities’, give empty conclusions that will prevent “formulating the problem in an adequate fashion and hence from developing adequate criteria of action and appropriate methods of control”. It is important to note, at this point, that Kapp objected to the use of ‘social cost’ “to refer to total or actual costs of production in the sense of costs to society”. For him, such an attempt may give the term “an apparently more harmless meaning than those who prefer to use the term with reference to costs not reflected in conventional cost accounts” (Swaney and Evers 1989, 9).<sup>4</sup>

Kapp (1977, 529) sees environmental disruption and social costs as “anything but exceptions or minor side effects of economic processes. Rather, they are pervasive consequences having global and regional effects which alter not only the conditions and the quality of human life, but also may affect and endanger the process of social and economic reproduction.”

However, according to Martinez-Alier, Munda and O’Neil (1999 45), he is;

inclined to consider the attempt at measuring social costs and social benefits simply in terms of monetary or market values as doomed to failure. Social costs and social benefits have to be considered as extra-market phenomena; they are borne and accrue to society as a whole; they are heterogeneous and cannot be compared quantitatively among themselves and with each other, not even in principle.

Hence, it will be a mistake to measure social costs simply internalizing them. Valuation of environment “also implies the normative valuation of social values and costs” (Bürge-meier 1999, 78), and doing this by using only ‘exchange values’ may only result in new social costs.

---

<sup>4</sup> He (1974, 94; cited in Swaney and Evers 1989) goes on arguing that “the prediction to render the term ‘social costs’ innocuous by using to designate the total costs reminds one of an earlier episode in the history of economic analysis when some neo-classical economists tended to identify market prices as “social value’ in the sense of value to society. Schumpeter set an end to this apologetic reinterpretation of terms and concepts”.

### 3.1 Social costs and Valuation of Environment

The problem of the valuation of environment is strongly related with “an old question in the history of economic thought: the definition of the ‘right’ price“, that “cannot be solved by simply referring to a price determined by supply and demand in a competitive market”. (Bürge-meier 1999, 78) “The point is that the term ‘economic value’ and ‘price’ have often been considered as synonyms, whereas they are not. As Georgescu-Roegen (1971, 282; cited in Gleria 1999, 87) pointed out, all that comes into the production process has an economic value, even if it has no price”. For Georgescu-Roegen (1968, 237; cited in Gleria 1999, 82), “two distinct elements are involved in the problem of value: an intrinsic quality of the object and a subjective evaluation by the user. But the common belief that only monistic explanation befits genuine science prompted one student after another to seek a single cause for value”.

For an adequate efficient method, the economics has to manage an acceptable valuation of environment that is both effective and rational for not only exchange, but also reciprocity. If the valuation of environment could be established only through the ‘exchange principle’, than Solow’s solution could be held as adequate. Solow (1974b, 11) stated that “if it is very easy to substitute other factors for natural resources, then there is in principle no problem. The world can, in effect, get along without natural resources”. Hence, “It means that natural capital can be safely run down as long as enough man-made capital is built up in exchange” (Neumayer, 1999, 23). Returning to Solow’s (1974a 41) words: ‘Earlier generations are entitled to draw down the pool (optimally, of course!) so long as they add (optimally, of course!) to the stock of reproducible capital’. This assumption leads to Solow-Hartwick sustainability. “Keeping total net investment, suitably defined to encompass all relevant forms of capital, above or equal to zero” (Neumayer 1999, 23), that is, the Hartwick rule would be enough for sustainable development.

Such arguments are based on the substitutability paradigm between man-made capital and natural capital. However, unless commensurability problem is solved, it has no meaning to talk on the substitutability between these capitals. Yet, for commensurability the use of common measure through which different dimensions of value can be traded of one with another, so that losses in one dimension of value can be compensated for in gains in others has to be realized. Monetary measures are the most commonly used measure invoked for this purpose (Martinez-Alier, Munda & O’Neil, 1999). Even the ‘cost-benefit analysis’, the conventional neo-classical approach to project evaluation, does not find a solution to the problem. It is based on the assumption “that it is always possible to find a set of conversion factors able to transform all dimensions underlying a given action into a single composite measure” (Martinez-Alier 1999, 41).

Furthermore, according to Kapp (1970) to place a monetary value on and apply a discount rate (which?) to future utilities or disutilities in order to express their present capitalized value may give us a precise monetary calculation, but it does not get us out of the dilemma of a choice and the fact that we take a risk with human health and survival. A related contribution is made by Martinez-Alier (1999, 39), who argue that “there are no ‘ecologically correct’ prices, although there might be ‘ecologically corrected’ prices”. Therefore, the value of the perceived ‘social costs’ “is a product of social institutions and distributional conflicts”.

Substitutability, through exchange principle using monetary measures, can not define the reciprocity and redistribution principles of behavior. Most importantly, within these discussions, ‘social costs’ do not have any value unless they are internalized into economics. To internalize any ‘social costs’, at the other hand, involves paradoxical problems that emerge due to the internal characteristics of ‘social costs’. However, this is due to the ‘structural’ relation between market system and social costs that create new techniques and institutions that reproduce the social costs. Therefore, it is possible to argue that social costs reproduce themselves to escape from internalization through *cost shifting*, at each internalization attempt.

### **3.2 The Paradox in Internalization of Social Costs: Cost Shifting as the Built-in Buffer of Market**

‘Cost shifting’, as Kapp (1950, xxvii) has introduced in the preface to *The Social Costs of Private Enterprise*, and defined; “private enterprise under conditions of unregulated competition tends to give rise to social costs which are not accounted for in entrepreneurial outlays but instead are shifted to and borne by third persons and the community as a whole“.

Therefore, as Kapp (1977, 532) has later argues, “it is inevitable that in a market economy dominated by the desire to minimize entrepreneurial costs and to maximize net entrepreneurial returns, social costs and environmental damage tend to be ‘externalized’” through cost shifting “as far as possible within the existing institutional and legal framework while appropriate monetary benefits (profits) will be internalized.” At each attempt to internalize social costs, cost-shifting occurs especially when “entrepreneurial outlays (or the accounting costs of any enterprise, public or private) are reduced, not by employing production methods that are superior from an overall social perspective, but rather by avoiding outlay at the expense of workers, the environment, or the community at large” (Swaney and Evers 1989, 10).

Kapp (1950, 231) developed his argument on cost shifting stating that “capitalism must be regarded as an economy of unpaid costs, ‘unpaid’ in so far as a substantial proportion of the actual costs of production remain unaccounted for in entrepreneurial outlays; instead they are shifted to, and ultimately borne by, third persons or by the community as a whole”. Hence, although an internalization attempt may exist;

“Any economic unit... which operates within the market... will tend to keep its own entrepreneurial costs at a minimum even though the chosen input and output patterns will give rise to discharges of pollutants with a negative impact on the quality of the environment and hence on third persons, other firms, and society at large. Hence market systems may be said to have an institutionalized ‘built-in’ tendency to reinforce environmental disruption and social costs. In other words, we are faced with the fact that the actual total costs of production are not covered by entrepreneurial returns and that the endeavor to optimize will be a pseudo-optimization which in effect is an uneconomic use of material and human resources.“ (Kapp 1977, 533)

Hence, environmental production and the reduction of social costs call for more fundamental methods of control. As he (1977, 537) stated;

an important question is whether, and how far, ... social objectives can be evaluated, compared, and balanced in terms of market or exchange value, that is, price. ... Market or exchange values are likely to lose in importance as criteria of valuation and comparison because ... they are not sufficiently adapted and are inappropriate as indicators and criteria for the evaluation of what is socially essential, desirable, and possible. They measure only part of the actual costs: they reflect existing inequalities

of income and hence inequalities in the capacity and willingness to pay for environmental amenities and the achievement and maintenance of specific quality standards. Nor do exchange values (that is, market prices) take into account the interests of future generations not represented in markets.

He sees the improvement of the present environmental situation at making basic standards of safety, and protection of quality of the physical and social environment explicit objectives of public policies.

#### **4. As a Conclusion: Socio-spatial Redistribution of Social Costs**

As the institutionalized social costs can not be internalized due to the built-in cost shifting, new measures will be carried out to safeguard human health and social and economic reproduction in modern industrial societies. The strict public control, promotion and systematic development of technologies with a low ecological impact, and increasing the capacity of the natural environment to assimilate residuals are used as policies to overcome the environmental destruction and secure the reproduction of the society.

These measures, however, are only piecemeal attempts that hide the systemic paradox of internalization of social costs. In environmental destruction, the difficulty emerges from the heterogeneous character of the damages, and more importantly, they may become apparent only after a considerable period of time. Therefore, correcting environmental destruction through using indirect measures in conforming to the market system as public policies is not an adequate and efficient method. Hence, “environmental policy and resource decision-making cannot avoid making normative choices which include questions of resource distribution, income distribution, and relationships between conflicting rights claims” (Martinez-Alier 1999, 43). In other words, “policy maker-planners etc. is faced not with a clear-cut decision between protection and damage, but rather with the distribution of different kinds of damages and benefits across different dimensions of value” (O’Conner & Spash 1999, 9). Therefore, “Society’s economic welfare can not be defined by simply adding up individual behavior, and then treated as a simple allocative problem” (Bürgenmeier 1999, 78).

Although it is related with allocation of the resources, with the environmental disruption it became highly vital to allocate the social costs in space. Resources have been allocated as input in production process that would increase the total welfare of human. Yet, social costs, as ‘the systemic results of the capitalist production process, are generating an environmental threat that humankind has to cope with it in a limited space, that is, the earth. Therefore, unless the social costs are evaporated, they have to be allocated on earth. In other words, they have to be distribution and redistributed in space and time<sup>5</sup>. The distribution (and redistribution) of social costs without

---

<sup>5</sup> The most extensive argument on the distribution of environmental costs has been made by Beck (1993; 1999) under the ‘environmental bads’ concept. For him, ‘environmental bads’ is the environmental costs of continuing industrial and technological development. However, the term ‘environmental bads’ of Beck is not capable as the social costs term. Although it highlights the effects of environmental disruption, it only reflects the ‘bads’ that are mostly on the shop window. Beck continues arguing in his discussions that the political agenda is undergoing a shift from a conflict over distribution of goods to a conflict over distribution of ‘bads’. For him, it is a shift from class to non-class society. Such a conceptualization rejects the dominant character of market among the other institutions. Consequently, if the role market society and the dominance of economic reasoning within the environmental disruption is accepted, the shift that Beck is discussing loses its meaning, as social costs are inherently the results of the conflict over the distribution of goods. In other words, distribution of ‘bads’ emerged from the distorted distribution of goods.



considering the problem of income distribution can not be a solution to any environmental problem. It may only alienate certain symptoms at certain location to other localities, especially to poor's. According to the Lawrence Summers<sup>6</sup> principle, if the people affected from environmental damages and are poor (and of future generations), then the internalization of social costs will be cheaper. The market —through public policies such as willingness to accept compensation, or “so called ‘hedonic prices’, that is, the decrease in value of properties threatened by pollution— would indicate that locations where the poor live are more appropriate than locations where the rich live” (Martinez-Alier 1999, 34). Furthermore, the relation between income distribution and social costs can be seen at Lawrence Summers’ (1992, cited in Martinez-Alier 1999, 40) expression as; “the measurement of the costs of health impairing pollution depends on the foregone earning from increasing morbidity and mortality. From this point of view, a given amount of health-impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages”.

Consequently, besides the paradox in internalization of social costs, any environmental policy should be accompanied by a distinct social policy with corrective income redistribution that has to be supported with distribution of the social costs, which are both the subject of a socio-spatial reorganization. A socio-spatial reorganization is required to the extent that people are freely mobile, which is mostly not true due to economic and social reasons. The content of the socio-spatial organization may differentiate in certain aspects, according to the regions’ (localities’) characteristics. It is clear, however, that the general character of such a socio-spatial reorganization requires a planning intervention disciplined by a total view of society and environment very different from the economic reasoning.

However, this does not mean that reorganization will leave economic and social development aside. In fact, it is obvious that, the new socio-spatial organization methods will continue to deal with problems of development, and its inequalities, involving the distribution of income and also social costs. The point is that, it has to be freed from the justifications through terms of market principles. Hence, planning should no more be warranted upon the failures of the competitive markets, as the failures are paradoxical as they are systematically reproduces themselves at internal interventions. Therefore, participatory-democratic co-institutions has to be supported that may share the power of the market, decreasing its dominance among the institutional set of the modern society.

---

<sup>6</sup> Lawrence Summers’ principle ‘The poor sells cheap’, (1992). At that time his internal memo was leaked to the press, he was chief economist at the World Bank.

## REFERENCES

- Bacon, F. (1999) *Novum organum: Tabiatın Yorumu ve İnsan Alemi Hakkında Özlü Sözler*, trans. S. Ö. Akkaş, Doruk Yayınları, Ankara
- Beck, Ulrich (1993) ‘*Risk Society and Provident State*’, in *Risk, Environment and Modernity: Towards a New Ecology* (1998), Sage Publication London, 27-43
- Beck, Ulrich (1999) *World Risk Society*, Polity Press, Cambridge
- Bürgenmeier, B. (1999) “Environment Protection: Towards a Socio-Economic Policy Design”, in *Valuation and the Environment: Theory, Method & Practice*, (Eds. M. O’Conner, and C. Spash) Edward Elgar, Cheltenham, 73-86
- De Gleria, S. (1999) “Nicholas Georgescu-Roegen’s Approach to Economic Value: A Theory Based on Nature with Man at its Core”, in *Bioeconomics and Sustainability: Essays in Honor of Nicholas Georgescu-Roegen*, (Eds. K. Mayumi and J. M. Gowdy), Edward Elgar, Cheltenham, 82-102
- Feyerabend, P. (1991) *Özgür Bir Toplumda Bilim*, trans. A. Kardam, Ayrıntı Yayınları, İstanbul
- Georgescu-Roegen, N. (1968) “Utility”, in *International Encyclopedia of Social Sciences*, v. XVI, MacMillan Press and Free Press, New York, 236-267
- Georgescu-Roegen, N. (1971) *The Entropy Law and the Economic Process*, Harvard University Press, Cambridge
- Giddens, Anthony (1994) *Modernliğin Sonuçları*, [1992, The Consequences of Modernity, Basic Blackwell-Polity Press] trans. E. Kuşdil, Ayrıntı Yayınları, İstanbul
- Gorz, A. (1995) ‘*İktisadi Aklın Eleştirisi*’, trans. I. Ergüden, Ayrıntı Yayınları, İstanbul
- Horkheimer M. and T. W. Adorno (1996) ‘*Aydınlanmanın Diyalektigi: Felsefi Fragmanlar*’, trans. O. Özgül, Kabalcı Yayınları, İstanbul
- Kapp, K. W. (1950) *The Social Cost of Private Enterprise*. New York, Schocken Books.
- Kapp, K. W. (1970) “Environmental Disruption and Social Costs: A Challenge to Economics”, in *Kyklos*, v. 23(4), 833-48
- Kapp, K. W. (1974) *Environmental Policies and Development Planning in Contemporary China and Other Essays*, The Hague, Mouton
- Kapp, K. W. (1977) “Environmental and Technology: New Frontiers for the Social and Natural Sciences”, in *Journal of Economic Issues*, 11, 527-40
- Lash, Scott, B. Szerszynski and B. Wynne (1996) “Introduction: Ecology Realism and the Social Sciences”, in *Risk, Environment and Modernity: Towards a New Ecology* (1998, Eds. S. Lash, B. Szerszynski and B. Wynne), Sage Publication London, 1-26
- Macnaghten, P. and J. Urry (1998) *Contested Natures*, Sage Publications, London
- Martinez- Alier, J. (1999) “From Political Economy to Political Ecology”, in *Bioeconomics and Sustainability: Essays in Honor of Nicholas Georgescu-Roegen*, (Eds. K. Mayumi and J. M. Gowdy), Edward Elgar, Cheltenham, 25-50
- Martinez-Alier, J., G. Munda and J. O’Neil (1999) “Commensurability and Compensability in Ecological Economics”, in *Valuation and the Environment: Theory, Method & Practice*, (Eds. M. O’Conner and C. Spash) Edward Elgar, Cheltenham, 37-57
- Neumayer, E. (1999) *Weak versus Strong Sustainability: Exploring the Limits of Two Opposing Paradigms*, Edward Elgar, Cheltenham,

- O’Conner, M. and C. Spash (1999) “Introduction”, in *Valuation and the Environment: Theory, Method & Practice*, (Eds. M. O’Conner and C. Spash) Edward Elgar, Cheltenham, 1-36
- Polanyi, M. (1944) *The Great Transformation: the Political and Economic Origins of Our Time*, Beacon Press, Boston,
- Smith, Neil (1990) *Uneven Development: Nature, Capital and the Production of Space*, Basil Blackwell, Oxford
- Solow, R. W. (1974) “The Economics of Resources of the Resources of the Economics”, in *American Economic Review*, May 1-14
- Solw, R. W. (1974a) “Intergenerational Equity and Exhaustible Resources”, in *Review of Economic Studies*, Symposium, May 29-46
- Summers, L. (1992) “Let Them Eat Pollution”, in *The Economist*, 8 February
- Swaney, J. A. and M. A. Evers (1989) “The Social Cost Concept of K. William Kapp and Karl Polanyi”, in *Journal of Economic Issues*, v. 23(1) 7-33
- Wagner, Peter (1994) *A Sociology of Modernity: Liberty and Discipline*, Routledge, London and New York
- WCED (1987) *Our Common Future*, Oxford University Press, Oxford
- Wokler, R. (1998) “The Enlightenment Project as Betrayed by Modernity”, in *History of European Ideas*, v. 24, 301-313