

Information costs, deliberation costs and transaction costs a parallel treatment¹

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It seems reasonable to say that everything which is valuable has a cost. Accordingly, one may conclude that useful information, rational deliberation and advantageous transactions are three services which should have a cost just like any other services. However, it is well known that, in contrast with more standard services, these have been enduringly perceived by most economists, until at least the mid-twentieth century, as zero-cost commodities. Buyers and sellers were assumed to get information, to deliberate and to negotiate about various kinds of transactions, but no specific cost was associated with such activities. Economic agents being assumed to choose what they consider the most advantageous to them, it would have been inconceivable in this context that these agents would drop the allegedly free benefits drawn from more information, more deliberation and more transactions. And, since searching for information, deliberating and negotiating can takes a great deal of time (not to mention various other correlative expenses) and since it is well known, at least since Benjamin Franklin, that ‘time is money’, assuming zero-cost for these desired benefits was tantamount to assuming that the activities that provide them were accomplished instantaneously. But to dispose instantaneously — without devoting any time or other kinds of resource to the acquisition of such a commodity — of all the information which might be economically relevant implies that all possible knowledge is already available or, put otherwise, it implies omniscience to start with. Similarly, to arrive instantaneously — without devoting any time or other kinds of resource to improve any aspect of the process —, on

any conceivable occasion, at the decision which would have resulted from a deliberation about the respective advantages of all possible alternatives implies perfect and unbounded rationality. Finally, to be in position to buy any conceivable kind of commodity at its correct price instantaneously — without devoting any time or other kinds of resource to negotiation — implies that everything is marketable to start with or, if one prefers, that what I will call ‘omnimarketability’ prevails. Accordingly, most traditional economic models have been designed in such a way that it describes omniscient and perfectly rational agents who are trading an indefinite amount of goods which are all readily available for exchange.

Each of these three features of traditional economic models is very well known. Rather than discussing further anyone of them in particular, what I would like to do is to show that there exists a parallel between the three phenomena involved and to explore to what extent they raised similar types of problems for economic analysis. In addition, I wish to inquire whether the conclusions drawn from the analysis of any one of these phenomena is applicable to the others. This parallel treatment will shed some light on the fact that the concept of cost has been increasingly overextended by economists during the second half of the 20th century. I will conclude by showing that, while it has made a better understanding of the workings of the market possible, the progressive extension of this concept, when taken beyond certain limits, tends paradoxically to destroy the very meaning of a market economy.

Various kinds of prohibitive costs

In fact, it was only when concerns were raised about the blatantly unrealistic character of each one of all-embracing attributes like omniscience, perfect rationality and omnimarketability that economists turned their attention to the specific costs associated

with information, deliberation and transaction. For an economist, indeed, if a commodity which is desired and considered important is bought in a far too limited quantity to satisfy the corresponding need, it is natural to conclude that potential buyers are refrained by a prohibitive cost. Thus, when it was pointed out that the prevalence of ignorance makes omniscience an extravagant and even preposterous postulate, some economists were inclined to conclude that if knowledge and information were severely limited, it was due to the *prohibitive cost of information*. It is true that it is possible to acquire more information by taking appropriate means, but such an acquisition imposes costs in money and time which can become so high that one can reasonably prefer to live with a limited amount of information than to acquire still more of it.² Similarly, when it was pointed out through evidence accumulated in empirical inquiries that people frequently behave in a way clearly at odds with what is expected from rational behaviour, some economists were led to explore the idea that such apparently irrational behaviour was largely due to the *prohibitive cost of supplementary deliberation*. It is true that it is possible by taking appropriate means to improve the quality of the deliberation which precedes important decisions, but such an improvement imposes costs in money and time which can become so high that one can reasonably prefer to shorten deliberation and be satisfied by the situation reached with the help of a 'bounded' rationality.³ These two first cases are closely related; information and deliberation have complementary functions in the process of arriving to the most advantageous situations. They are, however, conceptually quite different since information might be complete and not used given limitations affecting the required deliberation; conversely, deliberation might be perfect given the limited amount of information available. The third case to be considered here seems to be quite different, but it is also closely related to the first two. When it was pointed out that externalities were pervasive and that there were many things which cannot be bought and sold as marketable commodities, some economists concluded that such a resistance to marketability was due to the *prohibitive cost of transactions*. After all, it is possible, by engaging in costly

negotiations (like those required by the trade of pollution rights), to transform into marketable goods various situations which used to be associated with externalities⁴. Thus, the parallel can be illustrated by the following table.

	KNOWLEDGE	RATIONALITY	MARKET
Zero -cost model	omniscience	unbounded rationality	omnimarketability
Empirically Observed	ignorance	irrationality	externalities
Relevant Costs	information cost	deliberation cost	transaction cost
Prohi- bitive cost	limited information	bounded rationality	limited marketability

In these three cases, the economists's strategy was the same because the problems faced were similar. The core of this strategy was the claim that if real-world markets do not work as they should according to the ideal model of the market, this must be due to the fact that reaching the optimal point determined by the ideal model is costly and that anything which has a cost should not continue to be bought in cases where the benefit of an extra unit of it is overwhelmed by the cost incurred by obtaining it. By drawing attention to these costs, economists managed to explain the presence of ignorance, of irrationality and of externalities in such a way as to render these phenomena no longer a challenge to economic theory. Even if economic agents desire to get as much information

as they can, the cost of information can be such that it might be preferable to choose to remain ignorant to some degree. Even if economic agents tend to arrive at the best decision through a deliberation which bears on any relevant aspect of a question, the cost of deliberation can be such that it might be just wise to be happy with what a bounded rationality suggests (and consequently to take decisions which look irrational from a certain point of view). Even if economic agents tend to rely on economic transactions to buy any kind of benefits (like protection from pollution), the cost of organising this kind of transaction can be so high that it might be advantageous to decide not to buy such extremely costly commodities, leaving the market in a situation that old-fashioned economists (wrongly) used to present as 'external' to the market.

By proceeding this way, economists integrate into an all-embracing potential market all these features of the real world (ignorance, irrationality, externalities) which made most neoclassical models of the market so unrealistic. To some extent, this strategy seems justified. After all, it is true that there exist various kinds of costs. At the beginning of the 19th century, most economists were inclined to consider only production costs, but this was clearly revealed to be nonsense. How could one not count transportation costs? The cost of a commodity available at a given place cannot be the same as the cost of the same commodity available at its point of production in a distant country. But if it is so, why exclude distribution costs? The cost of a commodity available in small units at any place and at any time cannot be the same as the cost of the same commodity available as a part of a large lot only at the factory the day of its production. And what about advertising costs? As Stigler claimed (Stigler, 1961, pp. 220 and ff.), they should be seen as the price (frequently embodied in the market price of the commodity) of an efficient and economic transmission of useful information about commodities currently on sale.

The further expansion of the notion of cost

However, in order to insure the smooth functioning of a market which would realistically make room for the cumbersome features which are kept out of its ideal model, should we expand the notion of cost further to include anything which must be paid (be it money, time, psychological stress or other resources)? If one accepts this perspective, one can even be inclined to include into costs what must be spent in money, time and otherwise for physically and juridically *organising a market* for a given commodity. Accordingly, one will consider that the goods from which we can possibly get benefits but which are not presently on sale on an actual market — like most rights to pollute or to be protected from pollution — are just commodities for which a proper market has not yet been organised, apparently because the organising costs were prohibitive up to now. When Ronald Coase said that, in a world with zero transaction costs, farmers could buy protection against the sparking from trains passing their fields or, depending of the legal situation, railway companies could buy the right to damage their crops with their sparking, he suggested that *in the real world* the transaction costs for organising such markets were prohibitive to such a degree that these commodities *look* as if they were external to the market. For someone who thinks in such a way, anything — and especially any potential agreement — which can provide a benefit or avoid a nuisance can be considered as a potential commodity to eventually be sold on a potential market.

Among the costs incurred by the smooth workings of the market, one has to make room for information costs. It is true that by paying more and more it is possible to increase the information available. And, with more information, not only more goods could be made available but better decisions could be made about them. Buyers and sellers may engage in more or less costly searches for information concerning identity of

potential sellers and buyers or prices of commodities.⁵ Entrepreneurs can pay either an expert in a relevant domain or somebody who will retrieve useful information from libraries or other documentation centres. However, to increase information does not mean just getting the information which is already available in books or archives. When a company pays to get more information, it pays also for research. Such research tends naturally to include the discovery of new relevant knowledge which is usually just more difficult (and normally more costly) to attain than the knowledge which is currently available. When the detection of the 'available' knowledge requires sophisticated searching techniques and when the discovery of new knowledge supposes the gathering of various pieces of available knowledge, the difference between search and research becomes difficult to make. In this context, one can consider that all the possible knowledge which is to be discovered in future time is just made of commodities which can be acquired by incurring information costs which, of course, quickly become clearly prohibitive. When President Kennedy decided to put a man on the moon within ten years, he decided that the USA would incur the almost prohibitive cost of discovering the new knowledge required to realise such an ambitious project.

Be that as it may, even a fully-informed economic agent has to take decisions based on computation and deliberation. The more important the amount of information available is, the more lengthy are the computations and deliberations required to take the best decision. But computation and deliberation have a cost. The costs to pay include money and time but also what Gary Becker once called a 'psychic' cost (Becker, 1976, p. 7) since the stress caused by a long deliberation can easily exceed the money expenses involved. In any case, it is reasonable to think that by accepting to pay more and more in money, time and psychological stress, it is possible to increase the chance to reach a point which is closer and closer to an optimum given the constraints of the situation. For example, hiring a team of counsellors is probably an efficient way to take good decisions

and this is one of the means adopted by those who can incur the cost involved, but this would be an excessive and inaccessible cost for most people who would be content instead simply to weigh the pros and cons of a decision.

Thus, with these successive extensions of the notion of cost, virtually everything which happens in the world is integrated into an all-embracing market, but paradoxically enough the implications of this economic view of the world might be catastrophic for economic theory. Let me, from this point of view, consider successively transaction costs, deliberation costs and information costs.

Nullifying the notion of the market?

Inspired by Coase's paper on social cost, many economists proposed to extend the scope of transaction costs to let them include any possible cost which would be caused by the eventual transformation of any source of benefit into a marketable commodity. It is true that some pollution rights have even been implemented to deal with various situations and it is possible to negotiate them on a highly artificial market, but can we conclude from this that any benefit or any nuisance is marketable in principle with the help of similar devices? No doubt that Coase theorem is a splendid piece of theory, but, as constantly emphasised by its author, it works so well precisely because it postulates zero transaction costs. Paradoxically, the Theorem was the target of a considerable number of objections from those who overlook the fact that it claims to be valid only in a zero transaction cost world which, incidentally, is the 'world of modern economic theory' that Coase 'was hoping to persuade economists to leave'.⁶ My own reservation in relation to Coase — or more precisely to some interpretations of Coase's analyses — goes precisely in the opposite direction. For Coasians, the temptation was great to assign an economic cost to every kind of potential transactions, and especially to transactions which would be

required to build up a market where there was no market to begin with. However, the concept of 'cost' is a concept which only has an economic meaning within the framework of the market; therefore, it cannot be used (except metaphorically) outside this framework. And building up a market is an activity which is typically performed outside a pre-existing market.

For example, would it be sensible to say that the right to pollute with sparking or anything else, or the right to be protected from pollution are just commodities whose price in the real world includes transaction costs whose prohibitive character is responsible for the fact that these commodities are not actually exchanged on a market? Such was the view held by Carl Dahlman (Dahlman, 1979), a disciple of Ronald Coase. Once transaction costs have been placed on the same footing as the more familiar production and transportation costs, it seems normal to raise the same question which is raised concerning these kinds of costs. Why incur these costs if they are themselves larger than the benefits to be derived from an eventual transaction? After all, you might dream of owning a Ferrari, but if you consider that its price (made up essentially from production costs) is so high than the benefits expected from owning such a car would be overwhelmed by the inconveniences of paying such a cost, you could decide not to realise this dream without concluding for this reason that this absence of transaction corresponds to a situation which is not optimal. Dahlman's central idea was to apply such a consideration to transaction costs. If you suffer from being polluted, you might be ready to pay a substantial amount for being delivered from this nuisance, but since there is no pre-existing market which offers you this possibility, you cannot realise this desire unless you accept to incur the extremely high costs (in campaigning, organising, monitoring, etc.) which are required to *organise* such a market. If, in this situation, you choose not to engage in such a costly enterprise because the required costs exceed your potential gains,

there is no reason, according to Dahlman, not to conclude that the situation is optimal as it is.

An odd consequence of this way of thinking is that, once all transactions costs have been taken into account, *almost any static situation will look optimal*. If no transaction goes on to improve a situation, it is tempting to conclude that this is because the *costs* of an eventual transaction (for example, the cost of organising and monitoring would-be transactors) added to the payment involved in those eventual transactions make it unprofitable. If, for example, the railway company persists in polluting the crops even when the nuisance to farmers is greater than the benefit obtained by the company from doing so, it is, in one sense, because the ‘transaction’ costs (the cost of organising a substantial number of farmers, forcing them to reveal their true preferences and collecting the amount required to convince the railway company to reduce its operations or to adopt a less polluting technique, etc.) would be so great that, added to the amount of the bribe payable to the company, it *would* exceed the potential benefit to the farmers. Any situation whatsoever is optimal since any improvement would be implemented were its costs — including transaction costs and costs of any other type — low enough to make it socially profitable. It was just such a conclusion that Mishan anticipated with apprehension when he wrote in 1971 a rather ironic paper entitled ‘Pangloss on Pollution’ (Mishan, 1971). The reference to Dr. Pangloss, the pleasant champion of ‘the best of all possible worlds’ in Voltaire's *Candide*, was meant to suggest how the inclusion of transaction costs can dramatically change the analysis of pollution and transform into an optimal situation what was until then considered to be one of the most serious challenges to economists' confidence in the virtues of the market.

It might even be possible to push the matter still further by claiming that such an argument could make optimal any political situation whatsoever. Any dictatorial

government, even one particularly inimical to free market, could be justified by an extension of this argument apparently based on the functioning of the market. Dictatorial governments's activities interfere significantly with the consumption functions of its citizens by restricting their individual liberty. However, if the inconvenience suffered by these citizens was really that important, they could collectively bribe the government to reduce its liberty-limiting activities to an optimal amount. If they do not attempt to bribe the government, it is clearly because such transactions would involve costs (information costs, organisation costs, decision making costs and monitoring costs) which would be much higher than the benefits expected. Thus, paradoxically enough, it would make sense, according to this market view of the world, to characterise the situation in this dictatorial country as optimal as it is!⁷ Naturally, one might object to such an application of the transaction cost approach to a political (as opposed to an economic) situation. However, the *actual* relation between a railway company and the polluted farmers is not a typically economic relation and, consequently, it is not clear that alleged economic and political situations are really as different as they seem to be at first thought. As is well known, many prisoners do manage to bribe their jailers! And, after all, the application of economic analysis to political situations is, as is also well known, one of the major contributions of economic theory in recent decades. In any case, the goal of this comparison was not to suggest that political and economic situations are equivalent, but rather to dramatically illustrate that, if pushed to the limit, the overextension of the concept of cost destroys the very meaning of the concept of a market. If any kind of human interaction can be considered an optimal market situation, a market is no longer a particularly interesting structure.

Let us now consider the case of deliberation costs which naturally include computation costs and other associated costs. If these costs were extended to include any

possible cost incurred by someone managing to improve the quality of a decision, any decision whatsoever might be considered rational and even optimal since any apparently irrational move could be presented as the best decision given the marginal cost of extra deliberation. Naturally, one could object that a decision which turns out to have disastrous consequences could have been avoided with not such a costly extra amount of deliberation, but, even in this case, if the extra deliberation were not engaged in, it would normally be due to the quite rational (if not well informed) assessment according to which the estimated cost (mostly psychological cost in this case) of such extra deliberation was estimated to be larger than the *expected* disutility of the adopted course of action. Frank Knight had already presented such a conclusion as self-evident as early as 1921: 'It is evident that the rational thing to do is to be irrational, where deliberation and estimation cost more than they are worth'⁸ Many people (including very probably Frank Knight) may find that such a conclusion is not particularly catastrophic for economics, but it implies that optimisation itself turns out to be an almost contradictory notion since, in many situations which are far from being atypical, optimising implies refraining from optimising. Through an overextension of the notion of cost, the notion of optimisation (when all alleged costs are taken into account) loses its very meaning since, here again, any situation whatsoever might be presented as optimal, just because the cost required for arriving at a different and objectively more optimal situation was judged too high and, for this reason, sufficient to make the economically 'optimal' situation less optimal than the adopted one.

What about information costs?⁹ Since optimisation, and especially long term optimisation, may require not only vast knowledge of the present situation but also some knowledge of the future, including some knowledge of the state of science and technology in the future, it is difficult to draw the line between the cost of information about the present and the future states of the world. Pushed to its limits, the idea of

extending this kind of cost to include any expenses related to the acquisition (including the discovery) of any kind of useful information would virtually reduce technical progress to a simple choice between techniques since the discovery of new techniques would be considered just a matter of cost which might of course be quickly judged prohibitive. In such an extreme situation, it would be the notion of long-term optimisation which would tend to lose its meaning since any situation whatsoever would be considered optimal, in some sense, even in the long term, once one takes into account the prohibitive cost of the investments in further research and investigations which would allow to reach more immediately the long term optimal position of economic models. More precisely, it is the notion of knowledge and the notion of time which would lose their meaning for economics since, by this overextension of the notion of cost, the difference between the known and the unknown, and the difference between the respective knowledge of different periods, would tend to vanish. As far as I know, no economist has ever adopted such an extravagant position. As a general rule, the frontier between the known and the still unknown, present knowledge and future knowledge, has been respected. Instead of being absurdly extended to include the cost of acquiring all possible knowledge, the notion of information cost has remained limited to the already quite extreme cost of (eventually) acquiring all the presently available (relevant) knowledge.

Two notions of cost

I would like to argue that a frontier of this kind should be established in the two other cases discussed above. Instead of including the cost of all possible deliberation which could be done in order to optimise the result of a decision, only the cost actually incurred by an optimiser who choose to pay for means to improve the quality of a decision which are offered on sale — like the eventual hiring of the services of counsellors available on the market — should be included in what counts as a cost when it comes to discussing the

optimality of a decision. The estimated psychological cost of the extra deliberation which *might* have been made to reach a theoretical optimal point should not be considered when establishing this economically optimal point¹⁰. In proceeding this way, the notion of economic optimisation will find new life because it will no longer be true that any adopted position will be said to be optimal thanks to the accounting of these avoided psychological costs. Naturally, it would still be possible to say that it is *preferable* for any reason to adopt a position which is *not optimal* from the point of view of economic costs, but this sounds much more sensible than the view according to which any situation whatsoever could be said to be optimal.

It seems still more important to apply the same idea to transaction costs. Only actual transactions or actual negotiations to obtain a commodity which is *available* on some market should be considered as transaction costs. The cost of convincing a dictatorial government to change his mind is not an economic cost not because we are dealing with political matters but because there is no such thing as an available market for ways of governing. In political contexts, where power is held by the Mafia and where the price to pay for obtaining such and such decisions or such and such rights is fixed and well known, it would be quite correct to present as an economic cost the bribe or the 'tax' needing to be paid to obtain something. The problem with Dahlman's interpretation of Coase's views is not that they are applied to a domain which does not concern economics but that it refers to the creation of commodities which do not exist on an actual market. The problem is also that it suggests that buying such commodities is just a matter of negotiations similar to those which (at least implicitly) go on in any transaction. We must refrain from overextending the notion of the cost of transaction; not everything is a commodity, not every human relation is a market relation and not every situation where people refrain from searching new transactions is an optimal situation.

While it may be true that ‘there is no such thing as a free lunch’, it is not true that every kind of lunch is available and for sale on the market.

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To conclude, I would like to observe that the psychological (and moral) notion of a sacrifice should be distinguished from the economic notion of a cost; the same goes for the notion of harm. Any human activity requires sacrificing something and is thus harmful from some point of view, but it is not true that anything which is sacrificed in such a context can be exchanged on a market. It sounds more fruitful to say that there is no economics without some form of *actual* — and not only metaphorical — market. Once they are separated from the context of a market — a place where real commodities are *really* exchanged — economic concepts, and especially the concept of cost, tend to lose their very meaning and to become self-contradictory.

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² The idea that information has a cost which explains that people can rationally decide to stop their search for information was clearly discussed by Stigler in (Stigler, 1961).

³ As is well known, Herbert Simon developed the idea of a bounded rationality through most of his works; for a survey with an accent on the concept of deliberation cost, see (Conlisk,1996), for example, pp. 671 and ff.

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- ⁴ The literature on transaction costs and on internalisation of externalities through negotiations has been extremely abundant since the publication by Ronald Coase of his seminal paper (Coase, 1960). For a useful critical survey, see (Medema & Zerbe, 2000).
- ⁵ (Stigler, 1961). For an interesting discussion of the relations between Stigler's analysis and Simon's views on bounded rationality and costs related to deliberation, see (Mongin, 1986).
- ⁶ (Coase, 1988, p. 174); quoted by (Medema, 1995), pp. 1043 who frequently emphasises and documents this crucial fact.
- ⁷ I have discussed such an example in relation with Coase's theorem and Dahlman's paper in 'Learning from the debate on Externalities' in (Backhouse and *alia*, 1998, pp. 120-147).
- ⁸ Knight Frank, Risk, Uncertainty and Profit, 1921, quoted by (Conlisk, 1996, p. 686) ;
- ⁹ In some sense, information costs raise a problem similar to the one raised by deliberation costs, since one can argue that any situation is optimal given that the marginal cost of information is too high to justify further inquiry, but this effect is subordinated to the limitation of deliberation (which requires information). So I will consider here only the effect of overextending the notion of information costs per se (i.e., concerning the cost of information over all possible knowledge).
- ¹⁰ Jon Elster made a point which is akin to this when he denied that bounded rationality can be reduced to maximisation once the information costs (or more properly the deliberation costs) are taken into account. See (Elster, 1979, p. 136).

Quoted works:

Backhouse, Roger, Daniel Hausman, Uskali Mäki and Andrea Salanti (eds.), Economics and Methodology: Crossing Boundaries, London: Macmillan and New York: St. Martin's Press.

Becker, Gary (1976), The Economic Approach to Human Behavior, Chicago: The University of Chicago Press.

Coase, Ronald H. (1960), 'The problem of Social Cost', Journal of Law and Economics, 3, 1-44.

Coase, Ronald H. (1988), The Firm, the Market and the Law, Chicago: The University of Chicago Press.

Conlisk, John (1996), 'Why Bounded rationality?', Journal of Economic Literature, 34, 669-700.

Dahlman, C. J. (1979), 'The Problem of Externality', Journal of Law and Economics, 22, 141-162.

Elster, Jon (1979), Ulysses and the Sirens, Paris: Maison des sciences de l'homme and Cambridge: Cambridge University Press.

Medema, Steven G. (1995), 'Through a Glass Darkly or Just Wearing Dark Glasses? Posin, Coase, and the Coase Theorem', Tennessee Law Review, 62, 1041-1056.

Medema, Steven G. and Richard O. Zerbe Jr. (2000), 'The Coase Theorem', Encyclopedia of Law and Economics, Cheltenham: Elgar (Forthcoming)

Mishan, E. J. (1971), 'Pangloss on Pollution', Swedish Journal of Economics, 73, 113-120.

Mongin, Philippe (1986), 'Simon, Stigler et les théories de la rationalité limitée',

Rationality and society, Rationalité et société, London: SAGE, 25, 555-606.

Stigler, George (1961), 'The Economics of Information', Journal of Political Economy, 69,

213-225.