

THE PERCEPTION OF QUALITY SIGNS IN MACROECONOMIC PROCESSES

FERENC KOZMA

The economic history of humanity has been, the history of its chasing quantities. This is especially true for the last centuries of our history which were spent under the magic spell of modernization, industry and market. It is merely the honour I feel to homo sapiens that prevents me from comparing ourselves to a host of locusts, to say nothing of the very great difference between people and locusts shown also in the fact that the latter ones devour the vegetation of their living-space with equal intensity, they know nothing about the terminologies of 'the upper ten thousand (high society)' or 'the strata lagging behind'. But – perhaps – fortunately, we know them. If the whole population of the Earth ate the body of Mother Earth with as much intensity as dictated by the individual, business and state demands just as the claims and possibilities of the upper ten thousand, there would already be nothing left of it. However, by the fact that we have made the differences in the disposition of production factors and goods extremely unequal (the specific GDP-differences which did not reach the decimal order in the XIXth century, now exceed even the centesimal as well), there have been planted on our planet interest and potential differences of the kind that makes the race for the quarries of the lacerated body of Mother Earth a constraint. If mankind continues to progress in this way it will lead to its impossibility of performance. Either the Earth will be used up from beneath us or we will tear each other to pieces in our fight for the last bites of the partly-destroyed nature.

There would be a historic change, a 180-degree turn is needed: only by its accomplishment could the human race show that in relation to its adjustment to the imperatives of life it has arrived at the same level of development as, let us say, the rats have. If it fails to do so, it will not escape the fate of the dinosaurs.

These menaces that would even make a good prophesy of Esaias of the Bible are rather strange in the usual style of a statistical journal, I admit. I do not intend to frighten and I do not either wish to incite to do 'a mass penance'. I merely want to raise with all of its seriousness the problem choking all of us; that is we must always keep an eye in some ways on the processes taking place in the society in order to be able to understand them, to establish the means of the influence and corrections we need to carry out and to be able to put into action them reasonably if it becomes necessary. In the situation described above with prophetic ardour, we would first of all need to be able to perceive

qualities, the complicated syndromes of life, their feedback interrelations as well as the effects shown as a function of time together with their probable significance. Our present perceiving and measuring systems are not suitable, better to say they are not prepared for this task. Let me mention only the most important correlations.

A) Speaking of economic development we usually content ourselves with setting the specific GDP values side by side temporally or spatially; we do so being aware of the fact that time series of several years awfully distort even the quantitative relations and it is almost impossible to compare specific values set side by side of several economies despite the ingenious and estimable efforts. In other words the present stock of instruments is compelled to exist together with grave compromises even in the field of the measurement of pure quantities. In addition to that all of us know that 'the state of development' or 'the course of development' are far more complicated phenomena to be characterized by the more or less reliable indicators of the per capita economic performance of the population. Be the data producer or the data user very pretentious, they will complete this common indicator with some other ones like – let us say – that of the values of per capita savings, consumption, *R+D* expenses etc., in order to grade the per capita GDP index which in its globality is the average value of everything and the specialities of whose coming to being are secret. It is presumable then that the USD 30,000 per capita GDP-value of some desert OPEC-country might not mean the same degree of development as the miserable USD 4,000 to 6,000 GDP-values of the CEEC countries. What makes us nervous, unsatisfied and 'unhappy' is the fact that we are unable to make quality perceptible in another way than as points of transformation of quantitative changes. At the end of the XXth century, however, this is only in some cases and only very relatively true. In most of the cases it is simply not true: or if it is, we usually do not have the key of the criterion also conceivable quantitatively the arrival of which to the critical point would indicate that the change in the quality that we have been looking for, has taken place.

B) In order that mankind should not run towards its degradation, it will really have to make the former mentioned 180-degree turn in its behaviour. In the regions of the highest economic performances and at the same time of the highest consumptions – commonly called as the 'Centre' – we will have to reorganize the economic apparatus on the basis of an energy and raw-material saving and pollution free paradigm which is entirely different from our present approach or attitude and all these will require not only investment, but a quite different system of economic success criteria, reward and punishment mechanisms as well as impulses relating to the direction, the quality and the intensity of the economic activity. From the management of the enterprises and even from the economic policies of different levels it will require 'Credo'-s that differ entirely from the present ones. The garniture of production factors which still produces goods for the market of the consumer society in a hot contest with each other and surrounds these with clouds of services farther than the eye can reach will in all probability become iron scrap, a flock of botchers. It will have to be recreated on the basis of a brand-new paradigm. Simultaneously the specific quantity of the goods consumed by the Centre will probably have to be reduced radically while entirely restructuring consumption in order that the reduced volume should not bring about mass distress. Health and hygiene will come to the front on the one hand and education–knowledge–culture on the other hand. Comfort

and prestige will unanimously be subordinated to them whereas such values like e.g. social tolerance, existential and civil security, the right of the man to pursue a reasonable activity either for earning his living or for self-realization will dash forward. All these criteria will hardly be measurable by such indicators as e.g. 'per capita sales turnover of retail trade' or 'per capita expenses of the state budget on welfare and social allowances'. The prodigalism-free welfare the establishment of which we cannot avoid without assuming life-danger, will hardly be characterizable by some of its representative items taken at random and it will not be quantifiable in its complexity either. The economic structure which will be able to establish the basis for such a life quality will probably be measurable in all of its molecules: however, its capability for this task will not be shown by the mass of these molecules but by its structure and co-operation qualities i.e. by nothing but quality factors. This again will not be measurable by the traditional stock of instrument disponibles.

C) You must not shut your eyes to the fact that the World will only be able to carry out this change of the economic–social paradigm if meanwhile the Centre pays its historical debts back to the people in poverty should they be found even in the most highly developed economies (i.e. in the 'peripheral xenoliths/inclusions' of the Centre!) or, in the narrow sense, on the periphery. However, this closing-up is mainly a quantitative task in the course of which the fateful and secular backwardness in the specific GDP, consumption, savings, investments, *R+D*, nutrition, living space, comfort etc. should be eliminated. As mentioned above, this elimination is physically impossible by the extension of the way of life of the Centre on the peripheries. In other words: this process, if it will come to being at all, cannot be carried out by the formation, analysis and use as decision criteria of the traditional quantitative indicators: it would lead to catastrophe. This process full of quantitative criteria can also be controlled exclusively by the perception of quality: the complexly problems caused by the quality criteria will be as complicated as in case of the change of the economic paradigm within the Centre.

D) The 180 degree change of direction will go together with the failure of economic axioms. Let me mention an example of the most important ones only: it is the process chart according to which the production factor package penetrates to economy (to enterprises, national economies, world economy, it is all the same in this respect) where it changes into some sort of a saleable product the rentable production of which is the aim of being of the economy (workshop, enterprise, nation, world) and all those that fall out during the technological–logistical–consumption process are disturbing only to such an extent that they will have to be cleared away some time. The world in which humanity will be forced if it wants to survive, will not know the concept of waste.¹

To a huge extent, perhaps globally we will return to the factor management model which was common on the small farms even several hundred years ago according to which 'everything is good enough to be used for something' as a consequence of which the by-products, the waste or rubbish of a technological (service, consumption) process can be used as basic material of another process. In addition to the reduced and restructured consumption of the Centre and to the rational improvement of the life quality of the

¹ There was an anecdote on the Victorian age prognosis according to which London would be drowned in the horse dung in some years: but motor cars came in between and the prognosis failed. The inhabitants of London suffocate in the waste gas now.

periphery just closing up, this economic structure not producing rubbish will save Mother Earth from the fullest and irreversible evisceration and the society from people falling upon each-other's throats thus shortening their process of annihilation. This model is, however, a model of harmonic clinging to one another of nature and economy shorter. The so-called 'internals' and 'externals' do not separate here, there is no starting point on the basis of which you could measure them both individually and in their interaction. At present the situation is quite simple: the economic process comes to being if its expected result is rentable. The utilization of the waste must also be rentable, in particular on the basis of the same criteria as 'the target action'. If littering down is not rentable for a dairy-farm then the produced stable-litter will be fluid, it will flow into Lake Balaton and it will make the water eutrophic. If it is not worth for the dairy-farm processing the liquid stable-litter with zeolite, it will rather pay the fine sometimes but it will not produce a waste-free economic cycle like its small-farmer ancestor did. Finally, I apologize for the frivolous comparison, the entire society will 'have to drink as it has brewed' (namely the water of Lake Balaton in this example) because it either bathes in dirt or purifies the water of Lake Balaton (for a while) from the taxes paid. This is a huge problem and, given the present economic axioms, it is impossible to solve it. The removal of the waste-materials of technologies, organizations and families by their full-scale processing is not rentable, whatever we should do. In other words, the paradigm itself is wrong, it does not meet the requirements of the conditions of life of the end of the XXth century. Our observation system can in a way follow up the damages and it can provide excellent evidence to the one causing the damage why it is beyond his interest to help it and it can provide excellent evidence to the authorities on which basis they should collect money for fine which, after putting it into the large pot of the budget, they will then spend heaven knows for what purpose. Naturally, real damages can be estimated but it does not lead to the solution: another one will deem it in another way, it may even turn out that Lake Balaton should pay indemnification to the dairy farm.

E) The economic-social process the output (outflow) result of which is the reproduction of the living conditions of mankind will have to be planned. We must not give up the mechanisms of market economy, but we have to take notice of the fact that merely the market and the intervention of the economic policy sticking closely to the system of impulses of the market, i.e. the monetarism do not work in the life-saving direction: the market – sui generis – induces the process whose historical consequence has been this tendency of autolysis. The strategy of survival and further development will keep on the one hand the system of mechanism of the market in its dominant role as regulator of short-term economic and exchange processes and on the other hand, as an agent of strategic programs i.e. the society will recode its own ideas to the language of money to create the personal interestedness of the economic units and the producing-consuming persons in the performance of the strategy of survival and further development. Both spheres, i.e. the short-term, market dependent sphere and the long-term, conscious social plan dependent sphere will interact and function as each other's control. The strategic impact of social scale will be based on the repeated analyses of the economic-social processes, on their preestimations carried out from time to time and it will lead to elaboration of alternatives and varieties of actions controlling and correcting themselves continuously and to operating middle-term and short-term means packages of the economic

administration inducing their realization, respectively. Thus neither the Soviet-type balance systems of directives nor the request lists compiled by world-saving 'bel esprits' or by vote-hunting political parties should be understood by strategic planning.

Our traditional stock of instruments for perception and analysis is not capable of the formulation of such ideas comprehending great time spaces and a complicated system of correlations. The present state can be characterized either by some entirely aggregated and simplified indicators or by casually assembled ('holey') system of data, set up almost at random which is immobile i.e. the changing of the individual parameters does not reordinate the whole system as a consequence of which the various 'scenarios' can be performed only if you put contingent subjectiv statements or presumptions into that system. This does not relate to the input-output tables but these can be used to a rather limited extent just because of their sectoral character. Namely, strategic issues generally do not emerge in sectoral dimensions but either in units comprehending some segments of several sectors ('technical-economic cultures', groups of enterprises, vertica spanning over several sectors, partnerships comprehending lesser or greater aggregates of the national economy etc.) or in given factual projects of national economics or of smaller size. Let us say that the plan for a complex utilization of the bio-mass, produced by the living creatures of the country – a typical strategic theme of the national economy – is only conceivable very inexactly with the aid of the system of input-output tables. It is just as impossible to prepare a series of 'scenarios' for regional integration using this method: it is too general for the estimation of the values of the individual alternatives and/or varieties which can be the message of the calculations based upon it while its calculation results are too precise. But the matrix practically cannot be filled with dimensions other than sectoral ones.²

Do all these mean that in the work of strategic planning the operations with quantified pieces of information do not have reason for their existence? Is it not worth making calculations? This is obviously not the case: you will only have to get rid of your over-expectations concerning indicators, time series and comparisons. My practical experience makes me suspect as if this 'data fetishism' played the role of the 'unquestioning faith' replacing the responsible considerations and torturing decision-making dilemmas: what we had prognosticated on the basis of the processed data it usually did not come true, consequently the decision upon which we had based the situation and vision we stated with the help of our data, either proved to be entirely false or it needed time-wasting or expensive corrections. But it was not our fault, the data were incorrect. A serious, 'scientific' decision cannot be made but on the basis of quantitative criteria. It has come full circle. Next time we start to work with a mass of data of even more details and finer methodology: but the result is the same.

It is probable that the character of this work would require another basic conception: in our quality-centric world, while gathering, selecting and processing our data we should make an effort to perceive the qualitative features of the phenomena and processes just taking place directly before us.

² In my book entitled *Egyén, vállalat, állam* (Individual, Enterprise, State) published in 1984 (Kossuth Könyvkiadó, Budapest. 208 p.) I tried to outline a matrix describing the market relations of the enterprises, a matrix enabling to draw a map of the network of technical-economic cultures and an input-output system showing the market relations of intellectual products: now I know that it was an Utopian idea.

Even if we make sure of the reality or of the clamant necessity of that, we can hardly come up to it. We have no beaten track for it. For such an observation no routine has been formed yet. Everything has to be invented again, you have to start always from the zero point. This can be done in the research work but it by no means facilitates the work of the strategic planning workshops. Moreover, you have to calculate with aversion and antipathy: though the apparatus of the economic policy widely uses non-quantificated information but it is a practice to receive it 'from pocket' and to build it so into their conceptive activity. That is to say they exist together with the fact that the information of this type is sporadic and semi-legal. Science, however considers two kinds of sources authentic: one is the official figures in connection of which I have explained my scruples above, the other one is the statements of the other specialists. Everything existing besides them is at least suspicious. Great intelligence services have been compelled to obtain certain information by computer processing of huge masses of unofficial data originating from riff-raff sources and the results used to prove to be strikingly real.³

Naturally, you have to keep in mind that this method requires great technical erudition, a large number of assisting staff, methods of procession and evaluation other than the usual ones, that is it is not inexpensive at all. It by all means requires consideration if the workshops of economic strategy should not gradually build up the conditions for it either within their own organization or within the network of research institutes attached to them. The basic aim is to make it possible to observe quality and feed-backs at the points which have a strong influence on the key-points of the strategy without exposing strategies to evaluations of others who consider them under other conditions, from other points of view and driven by other interests. You should draw water from the Danube at the Black Forest and not somewhere at Adony (a little settlement in Hungary).

A considerable part of rough data can be obtained by the right way of inquiring on the one hand and by the intuitive abilities and large experience of the analysers on the other hand. These are by all means necessary because even computers processing thousand million elements of information spit out drivels if this intuition based on experience does not exist in the background of their selecting and processing programs. The computerized data processing can, however, provide only semi-products for strategic workshops. The phase of the analysis at which the normative statements must already be excluded, is further left to the living brains.

The series of possible responses are generally looking for an answer to the following three types of questions:

- what is the present situation?
- what this situation is expected to be?
- what will we be expected to do then?

Generally, you do not get a single answer to your questions. If it were not so, the world would be a quite simple 'gadget', indeed. On the other hand, every valuable re-

³ The CIA had used this method for the observation of the social and economic processes of the former Soviet Union, it subscribed to all of the publications of the press issued on the territory of this vast country and all of their articles were selected, systematized and evaluated by computer. In this way it could observe all events and processes which were omitted from the news services for whatever reason, even if not 'to five places of decimals' but to an extent of probability that at least helped the agency to form its opinion. Strategic planning generally does not need either a greater accuracy than that or if yes, it can be done by partial calculations.

sponse relating either to the estimate of situation, to prognoses or to possible actions, have to be weighed in a way from the point of view of our own interest, priorities and, especially in case of our prognoses, from the point of view of the chance of reality. Thus the three questions mentioned above are in a more precise drafting as follows:

- what is the chance of my seeing right what I call ‘situation’?
- how important is the given phenomenon in the system of my interests and expectations?
- how great is the chance of its taking place?
- to what extent does its ensuing have an influence on my future interests and expectations?
- how large is my freedom of action in the field of the given decision?
- what is the value of the given decision as compared to my optimal interests and expectations?

In other words, I do not evaluate mechanically the mass of collected, systematized, selected and preprocessed data, I do not become captive of the mass of information. I do not fall into the error against which the Chinese proverb warns: ‘When the finger shows the direction, the simple-minded stares at the finger.’ First of all I have to resign my mind to the fact that I cannot get the only right answer to any of my questions, I have to calculate with a series of ‘series of scenarios’ and I will have to systematize even them.

If I do not put some facilitating means into this process of decision-making, something that protects me from ‘phosphene’, I will be lost. Let me describe now what I generally do in such cases. Maybe, it is primitive as compared to the possible up-to-date solutions, it might be similar to the XVIIIth century trucks of mines running on wooden beams as rails as compared to the present express-trains. Nevertheless, I do not think it needless to introduce it because it can be applied even under conditions ‘as poor as a church mouse’ and because as a basic idea it can be built into the up-to-date evaluation systems as well.

In most cases the evaluation of the (systematized and preprocessed) data does not require more than being classified in one of the existing categories. If there were a much larger demand than that for the fineness of judgement, I would not be interested in its *quality* but in its *size*. This, however – as I have tried to convince the reader of it above – is a premature issue or an issue of a low order or it is simply disturbing or distractive, it is impossible to give an evaluable response to it.

If it is so, to determine it, it is perfectly enough to classify the fact (F), prognosis (P), decision, alternative, let us say, in five categories such as: positive at high degree, faintly positive, neutral, faintly negative and strongly negative. Just like a school-mistress would do. After her I have named this conception-systematizing method a ‘school-mistress method’. The individual ‘marks’ can have a lot of meanings: for example ‘faintly positive’ (a ‘good’ 4 mark where 5 is the best) may be ‘bigger’, ‘more favourable’, ‘more multiplying’ etc. than the average. Namely, it is moderately nearing the level that my interests and priorities require from the phenomenon or process in question. ‘Positive at high degree’ (a ‘very good’ mark) indicates the most favourable situation for me. ‘Neutral’ suggests an average, unchanging phenomenon without any characteristic features. According to the meaning the negative indications represent the unfavourable quality of the phenomenon observed.

At this point the ‘school-mistress method’ of comparison comes to an end. It is not advisable to approach the evaluation of a complex phenomenon by averaging.

Estimate of Situation and Prognosis of the Agrarium

Criteria	1978	1998	2018	
			F	P
Natural capacities	5	5	5	4
Oecological influence	2	3	3	3
Mechanical facilities	5	3	3	2
Generation level of facilities	5	3	4	2
State of applicability of facilities	5	2	3	1
Buildings, roads, plantations	4	2	3	2
Irrigation systems, water establishments, artificial channels	3	2	3	1
Land improvement	5	2	3	1
Seed-corn, propagation material, breeding material	5	3	3	2
Intensity of plough-land cultivation	4	3	3	2
Proportion of plough-land and horticulture	3	2	2	1
Intensity of horticulture	5	4	3	2
Harmony of plant cultivation and animal keeping	4	2	3	1
Intensity of animal keeping	3	3	3	2
Internal harmony of the structure of animal keeping	3	2	3	2
Harmony in animal keeping and folder production	5	5	5	3
Labour force capacities: quantity	2	5	4	5
Labour force capacities: qualifications, work morale	5	3	3	2
Seasonal fluctuation of employment	4	2	2	1
Research - development basis	5	2	2	1
Level of technical management	5	3	3	1
Level of business management	4	3	4	2
State of vocational training	5	4	3	2
Level of transport	3	3	4	3
Relation between trade and production	4	2	3	1
Dynamics of domestic demand: bulk commodities	4	2	2	1
Dynamics of domestic demand: quality goods	5	2	3	1
Producer price flexibility	3	2	2	2
Position in foreign markets: volume, security	5	2	2	1
Position in foreign markets: terms of trade, efficiency	4	2	2	1
input flexibility	2	2	2	1
Imports competition position of food-stuffs	5	2	2	1
Own accumulation ability of enterprises of the agrarium	4	1	1	1
Additional possibilities and conditions for raising of capital	4	1	2	1
Subvention possibilities	3	2	2	1
Income tax	3	4	3	2
Way of obtaining know-how from domestic research bases	5	2	3	1
Know-how transfer and acceptance: by industry	3	1	2	1
Way of obtaining know-how: from abroad	2	3	4	2
Internal division of the agrarium: production, processing, auxiliary plant	4	1	2	1
Size and structure of agricultural units	5	2	2	1
Relation between agriculture and background industry	4	1	3	1
Relation between agriculture and manufacturing	4	1	2	1
Relation between agrarium and settlements	5	3	4	2
Level of the economic political management of agriculture	4	2	3	1
Political status of the agrarium	5	2	3	1

Note: F – Fact;
P – Prognosis

For in the work of preparation of the estimate of situation, prognosis and strategy at national economic level you have 'to classify' thousands of data grouped and combined somehow. If you further average them you will approach to the indication 'without any characteristic feature' according to Gauss' rule of normal distribution. This is beyond reason and this is not even our aim. We are not interested in if the favourable or unfavourable features and prospects of our economy or society will finally come to the value of $\pm = 0$ but we are interested in what system the favourable and unfavourable situations taking shape at the factual points, the prospects and possible decisions will be merged.

Instead of averaging I rather suggest map making. Put the 'marks' of phenomena or processes being in relation of cause and effect or action and reaction or in some kind of functionality near each other, create 'heaps' of them, then put these heaps, too, near each other according to how they depend upon each other, what influence they have on each other, how they probably exclude each other. We can indicate the various 'marks' by different colours or shades. This seems to be a minor technical detail, but in reality it is a very important thing. Since, at the final evaluation what is generally needed is a so-called 'brain attack' i.e. a collective speculation rather than simple comprehension in keeping several hundreds or thousands of individual 'marks' in mind. It is impossible to conceive if you have to turn over all the time the leaves of an exercise-book of several dozens of pages and meanwhile with the help of your forefinger to look for, let me say, those 15 to 20 'marks' by which, the size of the agricultural workshop, the degree of mechanization-chemicalization, the food-preservation ability of the country and the development of the terms of trade of the international agricultural market may be characterized as situation, prognosis or series of preliminary decision-alternatives at the same time. If all these are at our disposal in form of curves, we can see and deem the details in their correlations during the considerations. If, for instance, the 'marks' of the agrarium show individually and as correlative groups as well as a whole the favourable colours or shades, they are characterized and dominated by these colours, then the quality and importance of the agriculture and food industry as a whole are considerable, their prospects are favourable.

In other words the strategic considerations will deviate to some of the agrarian-centric strategic variable. Without the 'school-mistress' method and curve we would lose our way in the labyrinth of numerical data of the traditional information system and we would have to miss a mass of information which cannot (or only in an unreliable way) be made numerical.

From what I have described in this essay you are requested, while preparing the macro-economic decisions, to take very seriously solely the presented problem, in other words the direct availability, perceivability as an unavoidable problem of the qualitative side and complexity, mutual determinedness being present in economic and social movements. The rest, 'school-mistress' and curves, are only illustrations and report on how I struggle to solve the problem because I cannot and do not want to avoid it. During these struggles I have found several times that my 'school-mistresses' and curves proved to be right. In spite of this I have a dream that with the aid of modern informatics more reliable methods based on wider fundamentals which can be better managed will be elaborated for the perception, processing and preliminary evaluation of the qualitative signs of macro-economic processes.