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Agricultural Policy and the Contribution of Agricultural Economics Research and Analysis

I have been asked to set down in this paper some thoughts on the kind of research and analysis which agricultural economists might engage in if their work is to be of value to policy-makers. This is a subject which lends itself to the expression of personal opinions and the views below are offered as a contribution to discussion at this conference and should not be taken to represent in any way the position of the Department in which I am employed.

This topic is regularly examined by both agricultural economists and policy-makers and it is perhaps significant that the Association has chosen it as one of the subject themes for this conference. In spite of the efforts of policy-makers and agricultural economists, the pressures on our agricultural policies are no less great today than hitherto – some would say more so – whilst political considerations are forcing policy-makers to devise solutions which are complex both administratively and in respect of their economic consequences. To help overcome these problems, policy-makers are receptive to ideas capable of incorporation into their schemes and because of their experience and understanding of the agricultural and food economy it is to agricultural economists that attention inevitably turns. Perhaps, however, agricultural economists, particularly those outside Government Service, are a little too far removed from the policy-making scene to have sufficient knowledge at the time of all the issues to make a positive impact and may often appear to play the role more of critics after the event than contributors. For their part, agricultural economists may feel that they are consulted too infrequently or too late in the day, are expected to devote too much of their time to longer term issues and when commissioned work is completed, are not encouraged, since the results may be barely discernible in the policies finally adopted. In order to give structure to discussion of this diffuse subject, I will first expand on these impressions of the present contribution of agricultural economists in the policy field and then go on to consider whether agricultural economists in the Universities and research units might play a more effective role, what the subject areas are where more effort might be concentrated and, finally, how

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best these contributions might be fed into the policy making network.

1. IMPRESSIONS OF THE CONTRIBUTION OF AGRICULTURAL ECONOMISTS

There are, of course, many policy-makers and possibly almost as many agricultural economists and the generalisations above inevitably conceal the exceptions. Even so, I suspect that many agricultural economists outside those employed full-time, or as consultants, by governments or international agencies, would accept that there exists a gulf between their own research work and the support, market management, farm structure and other schemes which pour from governments almost daily. From the policy-makers' standpoint, the fact that the process of policy-making is both complex and protracted, spreading over several months and even years – with numerous possible schemes considered only to be rejected – makes it difficult for him to assess *ex ante* the contribution of individuals from only one of the professions to the package which finally emerges.

Policy-makers will, however, readily acknowledge the value of the comprehensive statistical series available on farm incomes, production levels, the changing structure of the agricultural industry, and so forth; information which exists largely as a result of the efforts of agricultural economists over the years. The same is true of the more obvious parameters, such as demand elasticities and the forecasts and projections which derive from the models which agricultural economists have created and are striving to improve. Data of this kind are essential to the policy-maker and complement the information flowing from his day-to-day involvement with representatives of trade, food manufacturing and producer organisations and extension and budgetary experts.

Although the precise arrangements may vary from country to country, it generally falls to the policy group to ensure that assessments, of an empirical kind, are carried out on the consequences of adjusting those policies for which it has responsibility. Usually in each department, working methods have evolved for analysing this material which strike a balance, taking account of timetable limits, between the use of involved methodology and straightforward desk calculations. In this process, it seems self-evident that the contribution of agricultural economists is invaluable, although because of its indirect nature, this seldom gains any overt recognition. Where economists, usually those employed by governments, are themselves personally involved with the assessment exercise, a more direct link between the profession and policy formation can be assumed but, even here, much of the basic material utilised will derive from the work of non-government economists. In carrying out their analyses, government economists usually follow the methods developed in the universities such as for the measurement of effective protection, clearly relevant in the GATT context, and of the balance of payments and welfare and resource implications of different price support systems. This is a further area where agricultural economists have played, and are playing, an important indirect role.

It is not my impression, however, that policy-makers would be as categorical

in respect of the value of the larger statistical models. Most policy-makers, I believe, tend to regard the results from such constructions, particularly if they have not been tested over a lengthy period, with a good deal of suspicion and probably prefer to rely on their own experience and a less scientific approach. The difficulty is that whilst mathematical techniques have developed along with the computer and plenty of data about agriculture is there for processing, the models still seem reluctant to yield a range of plausible outputs. Confidence is not increased over-much when different result patterns emerge after adjustments have been made. Large scale models can, of course, help us to understand the relationships existing within the agricultural sector and indicate the broad impact of policy changes such as price and subsidy adjustments. But for them to provide more than an occasional back-up service, the policy-maker would, I think, demand to see how the model has performed over a period of time.

Turning to the question of published analyses relating to major policy issues, I would argue that, apart from occasional examples, policy decisions have not been greatly influenced by studies which analyse existing policies and go on to volunteer assessments of the economic consequences of feasible alternative policy options. Some economists here with longer experience than I may not accept this and I would concede that there are many examples of such work which are impressive. I can quote a domestic example of an analysis by Professor Britton of the United Kingdom Cereals Market and there are the reports of workshop-type exercises relating to commodity, structure and marketing issues. At the international level I will, for illustrative purposes, mention only the recent study by D. Gale Johnson on World Problems and Prospects, which included discussion of a proposed world grain reserves policy. Yet in spite of the substantial flow of published material of this kind, it is my impression, which admittedly derives largely from contact with the European scene, that there have been relatively few occasions when they can be linked to a change in the direction of policy – or have influenced retention of the status quo. Certainly this seems so in relation both to the number and scale of the policy issues and to the effort and volume of published material that are devoted, for example, to further refinement of statistical measuring techniques.

This is in contrast to the achievements of agricultural economists at the micro level. Where a problem has been clearly defined, whether it be in the field of the creation of new industries based on agriculture in the developing world or at the farm planning level, the profession has made a significant contribution. It is, therefore, somewhat disconcerting to arrive at the above conclusion in respect of the contribution at the macro level, particularly as remarkably close co-operation exists between agricultural economists, extension specialists, and others concerned with the industry – including policy-makers. Some years ago Wassily Leontief remarked that agricultural economics offered "... an exceptional example of a healthy balance between theoretical and empirical analysis and of the readiness of professional economists to co-operate with experts in neighbouring disciplines ...". This must surely remain valid, yet as I have suggested, one can turn to only a limited number of

influential studies into the aims and effects of policies pursued by governments and international organisations and offer alternatives. It is difficult to pinpoint why this seems to be so. Agricultural economists are kept fully stretched, the Journals have difficulty keeping pace with their output and their advice is widely sought both on an *ad hoc* basis and as consultants. Perhaps it is that when their attention focuses on the policy field, it tends to be devoted to the wider issues, such as the fundamentals of the EEC Common Agricultural Policy or developments in trade in agricultural and food products. The agricultural economist, positioned some distance from the canvas, is well placed to turn his attention to "over-view" studies of this kind and provide us with an impartial view. This is an important role and such work is often commissioned by governments and international organisations to indicate the direction policy might follow. Usually, however, these studies are too generalised to serve other purposes and by the time they arrive on the desk of the policy expert, grappling with his more specific problems, may be of only marginal value.

I have suggested in this survey of impressions that there are areas in the policy field where agricultural economists are making only a limited impact of a direct and clearly identifiable kind. This may be partly the fault of policy departments in failing to indicate clearly their requirements but it might be that economists themselves may choose to avoid too close an involvement with the policy area. It is the case, however, that policy-makers welcome and are able to make use of information from non-governmental sources on the benefits or costs flowing from existing policies, on the methods that might be used to measure these and, above all, ideas and suggestions about what is to follow. Agricultural economists working as individuals and as members of team projects, can obviously meet more of these demands but to do so, decisions would have to be made to address their work and present the results for this particular purpose. A massive switch of research effort is hardly called for, it is simply that a small number of economists might profitably turn their attention to this area to add to those who already do so.

2. POSSIBLE SUBJECT AREAS

Agricultural policy, like any other policy be it governmental or commercial, has a pyramidal structure. At the top we have the broad policy objectives and strategy, whilst in the next tier are the policies for the commodity groups, land development, capital, regions and so on, and further down the individual schemes which are the interface between the policy and farmers, traders and processors.

As regards the broad objectives of agricultural policies, there are striking similarities as between countries. Generally, as for example does the Treaty of Rome – which lays down the aims of the Common Agricultural Policy – they refer to the living standards of farmers, regard for consumers, efficiency, security of supplies and market stability. Where differences arise, it is in the emphasis given to thse diverse aims. Whilst it is for governments to decide on such priorities, economists can, of course, claim the right to examine the

overall policy with the aim of measuring, in terms of resource use within the economy, the implications of the particular balance that has been struck at a point in time. This, however, is taking us into the area of overall economic management and, whilst more precise knowledge is needed on the effect of, say, a change in the overall output of agriculture on activity in the food and other sectors and on economic growth, our attention might be better concentrated on less grand issues.

Within the agricultural sector most governments influence, and in several instances determine directly, the balance between the outputs of different commodities and of different regions. This is generally achieved via price or subsidy levels or by the fixing of production quotas. The difficult decisions reached on these matters are based on both economic and political criteria and it would seem unfruitful for agricultural economists in the universities and research units to attempt, via published work, to become involved in these annual exercises. However, study of the input/output pattern that has emerged as a result of these decisions and assessment of the economic implications would provide guidance on the priorities that might be followed in future and hence is an appropriate subject area. It is to assist with this work that further development of large scale models can be justified and indeed, why so much attention is devoted to them. But again, this is an example of wide ranging work, usually handled by small teams of economists, which tends already to be supported by governments and international bodies.

In the middle level of policy formation, i.e., for commodity groups and specific schemes which spread across the commodity boundaries, the greatest scope would seem to exist for agricultural economists to increase their contribution. To do so, however, the economist must specialise and acquire more than a superficial knowledge of the commodity group or subject area. In my view, the economist loses credibility with the policy-maker if in his published work he has ignored or overlooked factors to which the policy-maker has had to attach great weight. Conclusions and prescriptions which pass easily over political and legislative constraints, external trade rules and the practicalities of marketing and manufacturing, would not be regarded as helpful.

The economist does not, of course, have to become an authority on these matters, but concentration on, say, a commodity group enables him to communicate more fluently with the policy-maker and others concerned with the commodities, and his analyses will gain in plausibility. For example in my own particular field of interest, milk products, the policy-makers would not regard it as helpful to be confronted now with an analysis of the situation in the European Economic Community which simply prescribed a reduction in the target price of milk at the next price fixing round. The existing arrangements and the complexities of the problem are such that the Community is seeking ways of arriving at a satisfactory price level over a period of time. Consequently, the question is not whether prices should be reduced but rather, what array of measures might be implemented which would enable the price goal to be ultimately achieved.

For the agricultural economist to do his job effectively in cases such as this, a situation parallelled in most countries, he must, of course, concentrate on the task of measuring the effects of his prescriptions to set against those of

others. Knowledge of the commodity area would, however, enable him to place the results in perspective, as it would assist him to select the measures in the first place. And if it is no easy matter to devise solutions to be assessed even with a fair background knowledge of the commodity in question, it must be infinitely harder without it. I am, therefore, suggesting that rather more economists might concentrate on these commodity and other specific policy areas. Usually economists have little difficulty in criticising existing policies – the situation in Europe is not exceptional – and wider discussion of alternatives, which would presumably be more economically rational, must improve their chances of gaining acceptance. An example of this kind is that many countries now operate schemes to assist small-scale farmers to leave the industry and certainly the publications and seminars by economists some years ago, helped them gain acceptance. In those countries with large numbers of agricultural economists, these second tier policy areas are probably well covered but in the case of the Common Agricultural Policy, which is a relatively recent creation, there is a case for much more concentration on the parts as against the whole.

The detailed schemes which apply the commodity and other policies are subject to day-to-day adjustment. Changes of this kind derive from market pressures or the demands of farmers and food processors. Decisions are taken at short notice and it is unlikely that non-government economists can here make much of a contribution. The most that the economist can do is note the way policies are being operated and use this information as part of his data base.

At the implementation level there is, however, one area of considerable involvement by economists, namely farm planning, which is worth mentioning. Considerable effort has been devoted to the development of elaborate programming techniques for handling farm data and assumptions about future price levels. There are, however, relatively few reports of success stories on the use of the more complex systems, largely because they have not been found acceptable or usable by extension workers and farmers. By far the major part of planning advice continues to be based, in spite of the economists' efforts to produce computerised systems which embrace the whole farm situation, on the use of budgets, cash flows, loan repayments and other partial analyses. One therefore questions the need for able economists to devote their energies to further elaboration of techniques of doubtful acceptability by the end users. Without acceptability the exercises can hardly have been cost-effective.

The question, therefore, is whether agricultural economists should disengage from this area and leave it to the extension worker, as was the case some decades ago, after budget techniques had been pioneered and developed by agricultural economists.

3. DISSEMINATION OF RESULTS

The impact of studies by agricultural economists in the policy field is enhanced when reports are drafted with the non-specialist reader in mind, a dictum of which agricultural economists are fully aware as reference to workshop reports

will confirm. There is a place for description of the technical side of the analysis but as such material is largely for other economists to examine, it is best separated from the main messages which the economist wishes to transmit. Although obvious, it is worth stressing that the more succinct the report, the greater the chance it will be read at the higher levels in the policy-making hierarchy. Senior policy-makers are inundated with briefs and reports directly calling for their comment and little time is left to consider material not requiring their immediate attention. Apart from the definitive reports of studies, there is also a place for summaries published in non-academic journals and the presentation of the results in seminars. These are important additional outlets, generally well used already, which reach an audience different from the readership of the Journals of our agricultural economics societies.

An example of the difficulties faced in disseminating the work of agricultural economists which is of interest to policy-makers, is found in the European Economic Community. Economists in the member states are studying various features of this policy but as the reports may be in any one of five languages, the transmission of ideas is considerably restricted. As I have indicated, agricultural economists have the responsibility of dissecting this policy, the problems of which have both domestic and international repercussions, and producing constructive solutions to overcome them. And if their work is to have much impact across the Community, there is a clear need for a close identity of aims between economists and policy-makers and also between economists themselves in the various member states. In the latter context, it is of course up to agricultural economists in the EEC to organise their affairs accordingly and also to arrange for their findings to be made more readily accessible to policy-makers in the member states and in the central policy-making body. Although this example relates to a European problem, it nonetheless serves to illustrate that policy studies which are not made accessible to policy-makers themselves, or those who brief them, are largely irrelevant. If I may adapt the quotation, if agricultural economists do not contribute to the solutions, are they not part of the problem?

DISCUSSION OPENING – George Bublot, *Belgium*

In opening the discussion on Dr. Johnson's paper I feel some discomfort, not only because I have not been able to grasp it in the depth it deserves, but also because such an approach to the subject is not very familiar to agricultural economists. In basic terms, Dr. Johnson's paper is the fruit of a very great intellectual effort, an essay on the fundamental logic of decision-making. One can hardly help but agree with the six stages of decision-making behaviour suggested in the introduction.

But the distinction between the normative, positive and prescriptive dimensions of the problem does not appear as clearly as one would like. For example, the term "positive" seems to have been inspired by the title "positivism" given to the philosophical ideas of Auguste Comte. But in another human science – law – the term "positive" is the opposite of "natural". In algebra, "positive" is "greater than zero", and the opposite of "negative". There are

other interpretations of the word "positive" which it is not possible to dwell on here.

This little exercise in linguistics is, as far as the terms used are concerned, far from being over. It reveals different senses of a word between disciplines, and even in English and French usage. The sense in which these terms are used therefore needs to be defined.

To conclude this preliminary comment, I would only underline the need to study in depth, in addition to Dr. Johnson's text and the ideas he introduces, the numerous articles, papers and pieces of research cited as references, which formed the basis of his paper.

My second reflection is more pragmatic in scope, since it is inspired by the conditions in which the decisions of everyday life are taken. Let us consider, for example, the determination of an optimum production plan for a farm. It is a decision at the micro-level, well-known to agricultural economists, which can be reached by a variety of different techniques. But the carrying out of this decision implies a sequence of secondary decisions on how to use the available means to put that decision into effect. For example, the allotment of a particular area to a given crop has to be matched by second order decisions on production techniques to be used (choice of variety, fertilizers, timing of harvest . . .). This underlines both the pyramidal structure of decision-making, and the all-embracing, global nature of the whole make up of the decision itself together with the organization of the means by which it is carried out.

This examination of the rationality of a decision imposes on us the choice of an objective, which gives an aim to the decision. But this view considers rationality in its narrowest sense, as the best compromise between the available means and the aim pursued. On a larger scale rationality can be seen as the definition of the aims which conform to the scale of values of those who take the decisions, or those whom the decisions concern. Rationality in this context appears very subjective, tied to cultural and historical heritages, and totally outside the competence of the agricultural economist.

Agricultural decision-making can also be technical, economic or political. Technical decisions seem easy to take, since they are based on easily made observations or experiments, which are easy to carry out. Economic decisions have to bring in technical aspects, but because they involve the future, and as we can neither master nor know the factors in the future which affect them, they seem very difficult, because of their unavoidable association with uncertainty. Notwithstanding the importance of this latter factor and all the work which has been done on it, there is an ever-widening gap between the attempts made to define uncertainty and the extent to which it is actually taken into account.

Decision-making in the policy field involves other human factors besides the economic ones. It is elementary to state that land law, cultural heritage, pressure from certain groups, basic concepts of income distribution, or the role of the state in social life . . . influence political decisions and define the whole framework of social values into which economic decisions fit, the latter being completely subordinated.

In conclusion to this second point it seems to me that, to be operational in the field of decision-making, one must be aware from the very beginning of the actual conditions in which decisions are taken. This approach perfectly complements that adopted by Dr. Johnson. It may help to put decision-making in its place in the general context of human behaviour.

My third and last thought relates to the contribution which the economist can offer to the making of rational policy decisions. Here one cannot but agree with Dr. Johnson's views. The economist (1) will intervene as a participant in decision-taking, (2) will suggest research subjects, and (3) will be involved in interdisciplinary research.

It is fundamental in this context to remember that he will know the very wide range of methods which could contribute to a rational decision. In addition, these methods will be used to solve problems which correspond to the very object of the discipline of economics, i.e. the allocation of scarce resources which could have a variety of uses. This implies that the economist should be aware of the limits of his competence.

The task of the economist will always be incomplete, because the policy decision cannot be limited solely to its economic dimensions. But it can be made easier through liaison, or even better, co-operation, between the thinker, the theoretician or planner of the decision, and he who actually bears the responsibility for it.

At the academic level, the problems of decision-making could well form the subject of a university course. Is not decision-making the synthesis of all the constituents of human knowledge?

The many contributions to be presented on this theme during this conference should be, for agricultural economists such as ourselves, both an invaluable basis for consideration and research, and a stimulus to exploration in this very wide field.

DISCUSSION OPENING – Werner Zoehlnhoefer, *Fed. Rep. of Germany*

In his paper Prof. Johnson gives us a comprehensive review on how economists may contribute to rational decision-making in the field of agricultural policy. He does this by dividing up the decision-making process into different stages (which are, of course, separable only analytically) and by transcending the differences which may be due to the fact that there are various *kinds* of decision-makers.

By viewing decision-making as a process, Prof. Johnson certainly chooses an appropriate way of dealing with the subject. Treating decision-making as such – without making a difference between, e.g. governments on the one hand and private farmers on the other hand – seems to me less fortunate. It is true, in both cases choices are to be made, formally speaking. But the structure of interests involved, the kinds of information needed, the distribution of power and the decision rules – that means practically all factors conditioning structure and outcome of the decision-making processes – are quite different. The building up of the necessary consensus, for instance, is much more important and, at the same time, much more difficult in political than in

economic decision-making. As a consequence, the contributions which economists may be able to make to public decision-making should be quite distinct in *kind* and *perspective*, not only in amount.

Another difference I consider to be significant in dealing with the problem in question is that between routine decisions and innovative decisions. Again, I think, the informational needs connected with these basically different decisions are so distinct as to demand specific treatment. Quantitative decision models with maximizing behavior on the basis of a common denominator, for instance, may be a realistic and helpful approach to certain types of routine decision-making by private firms. By contrast, innovative decision-making by governments poses quite different problems and, therefore, calls for different contributions from economists.

Closely connected with these arguments is a more basic point: I refer to Prof. Johnson's concept of rationality. From what I understand, his decision-makers are all maximizing an objective function. They are, in other words, all supposed to possess a strictly ordered preference scheme and to collect as much information as is economically justified to make optimal decisions.

Meanwhile, however, representatives of a behavioral theory of decision-making, like Braybrooke and Lindblom[1], Herbert A. Simon[2] or Cyert and March[3] have argued quite convincingly – to me, at least – that maximizing is practical only under very restrictive conditions. Even in the area of private economic decision-making only routine decisions about well structured problems are susceptable to maximizing in an *economically meaningful* way and – accordingly – made by use of algorithms.

In general, however, comprehensive or *absolute rationality*, as Simon calls it, in a highly complex, uncertain and permanently changing environment exceeds men's computational capacities (including those of man-made computers). And, what is even more important, the search for optimal solutions presupposes a strict preference ordering, that means: a quite comprehensive and detailed consensus on values which is generally missing. In modern societies this is particularly true with respect to political decision-making where so many diverging interests and value orderings are involved.

If, then, public agencies do not and cannot make decisions according to the *synoptical ideal* of comprehensive rationality, as Braybrooke and Lindblom call it, the question arises, how rational decision-making by governments is possible at all.

Braybrooke and Lindblom argue that, as a rule, public decision-making – at least in a modern democracy – is characterized by a multitude of actors making decisions about matters of their respective competence which involve only incremental changes of policy. There is no comprehensive ex-ante co-ordination; the minimum of "negative" co-ordination (R. Jochimsen) necessary to secure gradual goal attainment is achieved by continuous processes of mutual adjustments among the different decision agencies.[4]

This so-called strategy of "*disjointed incrementalism*" has been criticized and further developed by Amitai Etzioni.[5] He shares the objections against the synoptic ideal. At the same time, however, he also finds the disjointed incrementalism to be unable to secure even the (limited) goal attainment

possible in a pluralistic society. Therefore, he suggests what he calls the strategy of *mixed scanning* for problem-solving. This strategy involves a multi-step approach to decision-making. At *first*, a global survey over possibly relevant problem dimensions and policy alternatives is designed to discover those areas which seem to be of primary importance. They, therefore, deserve closer scrutiny. In a *second* step, then, these problems and policy alternatives selected are to be studied in detail. The transition from global scanning to detailed analysis may, of course, go on more gradually, i.e. in many more steps.

At any rate, this sort of mixed scanning is supposed to allow rational decision-making without exceeding either men's limited computational capacities or society's limited consensus on values.

It is neither possible nor necessary to discuss the relationships between these strategies of decision-making and the contributions of economists to public choice in detail *here*. From a *global* point of view, it seems to me highly probable that, if decision-makers in general and public agencies in particular, for good reasons, are striving for *satisfactory* rather than *optimal* solutions to agricultural problems, the contributions of economists to rational decision-making will be somewhat *different* from what Prof. Johnson's models imply. *Some* kind of information he considers important may be quite *irrelevant*, while, at the same time, there will be *questions* of high significance to *policy-makers* which economists do not deal with – simply because of their inadequate concept of political decision-making. To mention only one but a very significant example of the latter sort of problems: Economists have so far hardly taken any notice of the fact that political decision-making is basically determined by the desire of the decision-makers to stay in office – up to and beyond the next general elections.[6]

Generally speaking, it seems probable that the contributions of economists to rational decision-making significantly depend on the strategy of decision which political decision-makers apply. As a consequence, economists are able to make their full contribution to rational decision-making only to the extent, to which they take into account the conditions, under which political decision-making takes place.

Therefore, I agree with Prof. Johnson that we do not need to abandon the neo-classical paradigm completely and replace it by some other. I definitely would argue, however, that marked paradigmatic changes in the direction indicated above will be essential, if economists are to fully use their potential of improving economic policy in general and agricultural policy in particular.

NOTES

[1] See D. Braybrooke and Ch. E. Lindblom, *A Strategy of Decision*, New York 1963.

[2] See Herbert A. Simon, *Models of Man*, New York and London 1957; *Administrative Behavior, A Study of Decision-Making Processes in Administrative Organizations*, 2nd ed., New York 1961.

[3] See R. M. Cyert and J. M. March, *A Behavioral Theory of the Firm*, Englewood Cliffs, N.J., 1963.

[4] See Ch. E. Lindblom, *The Intelligence of Democracy, Decision-Making through mutual Adjustment*, New York and London 1965.

[5] See A. Etzioni, *The Active Society, A Theory of Societal and Political Processes*, London and New York 1968.

[6] See A. Downs, *An Economic Theory of Democracy*, New York 1957; and G. Tullock, *The Politics of Bureaucracy*, Washington 1968.

Report of the General Discussion

Though there were numerous references to concepts and philosophies the greater part of the discussion centred on decision-making situations in the centrally planned countries, Europe and the Third World.

The view was expressed that Professor Johnson had not correctly presented the decision-making processes in socialist countries. It was emphasised that social and economic policy goals are basic and the elaboration of decision depends firmly on broadly based economic research, carried out in a network of research institutions; efficiency and consensus have an important place in the socialist practice. The definitions of these concepts attracted attention from other speakers. In some circumstances it appeared that efficiency was concerned with maximising food supply while minimizing costs but other factors were involved, too, and the criteria varied with the level in the structure of the decision-making.

In the EEC context there was some debate on whether Capstick's appraisal conveyed a balanced impression. The decisions in relation to the European milk policy were political decisions and these necessarily were of the nature of compromises between economic and political considerations and the individual policy tendencies of all the individual member countries. It was also pointed out that there were many agricultural economists advising the Commision, either as members of its advisory committees or through study programmes to which university staff contributed. In some cases, at least, the influence of agricultural economists was limited by their unduly narrow perspectives, either geographically, or over time. Furthermore, it was argued that the decision process, by taking a commodity approach along the Capstick's line, could be misleading, because commodity and structural issues interlock and decisions on the one necessarily imply decisions on the other whose implication should not be left out of account.

The developing country situation did not figure largely in the discussion. At present there seemed to be rather slight communication between agricultural economists and policy-decision-makers in these countries. It would increase if the decision-makers saw a role for economic analysis and if institutions were developed which concentrated on policy orentated research. Moreover, advisers must take account of the national philosophy of the country concerned. If self sufficiency or production by the masses – not mass production – were central to national policy the adviser must accept this situation and advise accordingly – if he wanted to be listened to.

What seemed to be the contention of politicians and civil servants, namely, that economists were ineffectual because they usually did not work on the problems which occupied policy-makers and, even if they did, they were poor communicators, started several lines of comment.

One simply argued that economists should not mould what they do to match what politicians see as the important current problems. It was for the economist, as economist, to identify key problems and not to compromise his professional purity by picking politically interesting issues. Perhaps one might associate with this view the argument that there was need for a section in large government services whose job it was to take the output from economic analysts and translate it into language to which decision-makers are accustomed. However, it was also argued that it was misconceived to think in terms of politicians having problems which economists could use their discipline to solve. If the politician was clear as to what the problem was, then he would not find it difficult to reach a solution consistent with practical politics. The economist's contribution was to consult with the politician and help him to identify the problems – then, unless specific requests for help were made, to leave him to solve them.

In still more basic terms it was argued that an economist is trained to treat decision-making as value neutral – but it is not. The desire to exercise the power of decision-making can both influence who makes decisions and what is decided. The issue in many countries is whether governments or private agencies should make decisions.

Arguably we should examine objectives other than economic and try to handle the resulting complex; but we may then be less able to be useful in other directions. Some speakers thought that economists may simply have to content themselves with pointing out the cost, in reduced efficiency, of giving weight to other than economic objectives – accepting that if they do, they may not greatly influence decisions.

Participants in the discussion included: J. A. Akinwumi, *Nigeria*; P. C. Baillet, *France*; P. C. Bansil, *Zambia*; H. F. Breimyer, *U.S.A.*; I. D. Carruthers, *U.K.*; R. Khan, *Pakistan*; V. I. Nazarenko, *U.S.S.R.*; P. C. van den Noort, *Netherlands*; D. Paarlberg, *U.S.A.*; J. F. van Riemsdijk, *Netherlands*; G. Schmitt, *Fed. Rep. of Germany*; F. G. Sturrock, *U.K.*

Glenn L. Johnson (in reply)

First I am very grateful to both the openers, Drs. Zohlnhoefer and Bublot, and the commentators from the floor. Their comments and suggestions are most helpful to me as I attempt to clarify my presentation. The need to clarify is evident from my agreement with comments purported to be in disagreement with me, but with which I do agree. Obviously, I have not communicated well.

The formulation presented in my paper is not based on an assumption of strictly ordered preference functions; hence, I cannot disagree with Zohlnhoefer who feels such an assumption is unwarranted. The normative data bank in Figure 1 along with the discussions of normative observation and analysis and the objectivity of normative knowledge indicate that preference functions emerge out of an interactive, iterative problem-solving process.

As to rationalism, much depends on how we define it. My assignment was to discuss "rational decision-making". To some, reliance on custom, habit,

tradition and "power covenants" when the cost of the errors made in so doing is less than the cost of making decisions is rational – to others, any reliance on tradition, custom, habit and authoritarian power distributions is irrational.

The comments on definitions of terms are well taken. I should have included the glossary I have published elsewhere.*

Of course there are hierarchies of problems and decisions. There are decisions about the amounts of information to acquire and analyse in solving a problem. There is an infinite regression of decisions about the decision rules to use in solving a hierarchy of problems. Also in execution there are sub-decisions, sub-subdecisions, etc., as to how to attain the prescriptions decided on in the decision-making step.

Decision-making to solve problems is not mechanical. Models of decision processes need not be mechanical and models need not be mechanically used. This is what interactive, iterative, adaptive decision-making is all about – interaction with people, singly, in groups, and combined into organizations. In problem-solving, interactions among investigators, administrators and affected people are important. In fact, they are a source of both positive and normative information and, especially, of creative innovative ideas as to possible problem-solving courses of action.

The observation that making a decision or participating in the making of a decision has value is crucial and important. Indeed, that value is a basic force behind women's liberation, worker alienation, student unrest, etc. The discussion on this point provides an example of how normative experiences provide normative primitives to use in transforming logical systems into objective descriptive normative knowledge.

Comments about feedbacks in planning Soviet farms are interesting and informative. Soviet accounts do provide much information to the "upstairs" from the "downstairs" and descriptions about how this is done is valuable. Yet there are questions about how certain kinds of normative and positive information flow in Soviet state farms in the absence of two important information systems: (1) the market price system and (2) an open political system. The Stalinist period is characterized by many Soviets as well as external observers as one in which it was difficult for ordinary "downstairs" Soviet citizens to send messages "upstairs". And, in Soviet agriculture, the problem was no less severe than in Soviet urban centres. I am very interested in Soviet mechanisms for transmitting to the "upstairs" the kind of information which goes upstairs through the market price mechanisms and the open political systems of, say, the Western European countries.

In closing, I am most grateful for the comments and criticisms I have received. I will use them both, to add clearly identified, clarifying comments and footnotes to my paper and in my future writing on this and related subjects.

* See G. L. Johnson and L. K. Zerby, pp. 11–12, cited in the paper, and G. E. Rossmiller, *et al.*, *Korean Agricultural Sector Analysis and Recommended Development Strategies*, Department of Agricultural Economics, Michigan State University, East Lansing, Michigan, 1972, pp. 34–5.

C. W. Capstick (in reply)

Various speakers have understood me to be implying that agricultural economists have not made a contribution in the policy field. On the contrary, I acknowledge that they have made many significant contributions. Rather, I was trying to underline the nature of the policy decision-makers' situation in relation to such contributions. The number of policy decisions which have to be made in a given time is very great. There are many commodities and many subsidiary policies. Administrators – like university economists – are very busy. They are each faced with a series of responsibilities. Communication between academic agricultural economists and policy decision-makers must take that into account.

The view has been expressed that governments do not sufficiently bring in agricultural economists where they might be useful. Perhaps that is so, but, in my view, the realities of the government process is such that if agricultural economists wait for highly positive government interest they will have to wait a long time. With the pressures as they are, administrators are just not in a position to sit back from current business and sketch out research projects whose results might be helpful in making decisions next year or the one after that. If they are to be heard where decisions are taken, agricultural economists must show that they have something pertinent to say.

It has been pointed out to me that there have been innumerable papers on milk problems in the EEC – with which I agree; that decisions have been taken quite at variance with these analyses; and the view expressed that I blame agricultural economists for the situation. I do not! Rather, I was trying to look farther ahead and hoping that agricultural economists would give a little attention to these problems in future. If their work is publicised the pointers will work their way through gradually and result in changed attitudes to the handling of problems. One of the problems is that the CAP is relatively new and perhaps agricultural economists have not yet adapted themselves to the breadth of the issues.

Finally, the difference in government philosophies was referred to. I did not refer to this. It would certainly take a long time for agricultural economists to change the direction of thought of a government which is intent on following its chosen line. They would certainly have to take the realities into account.