

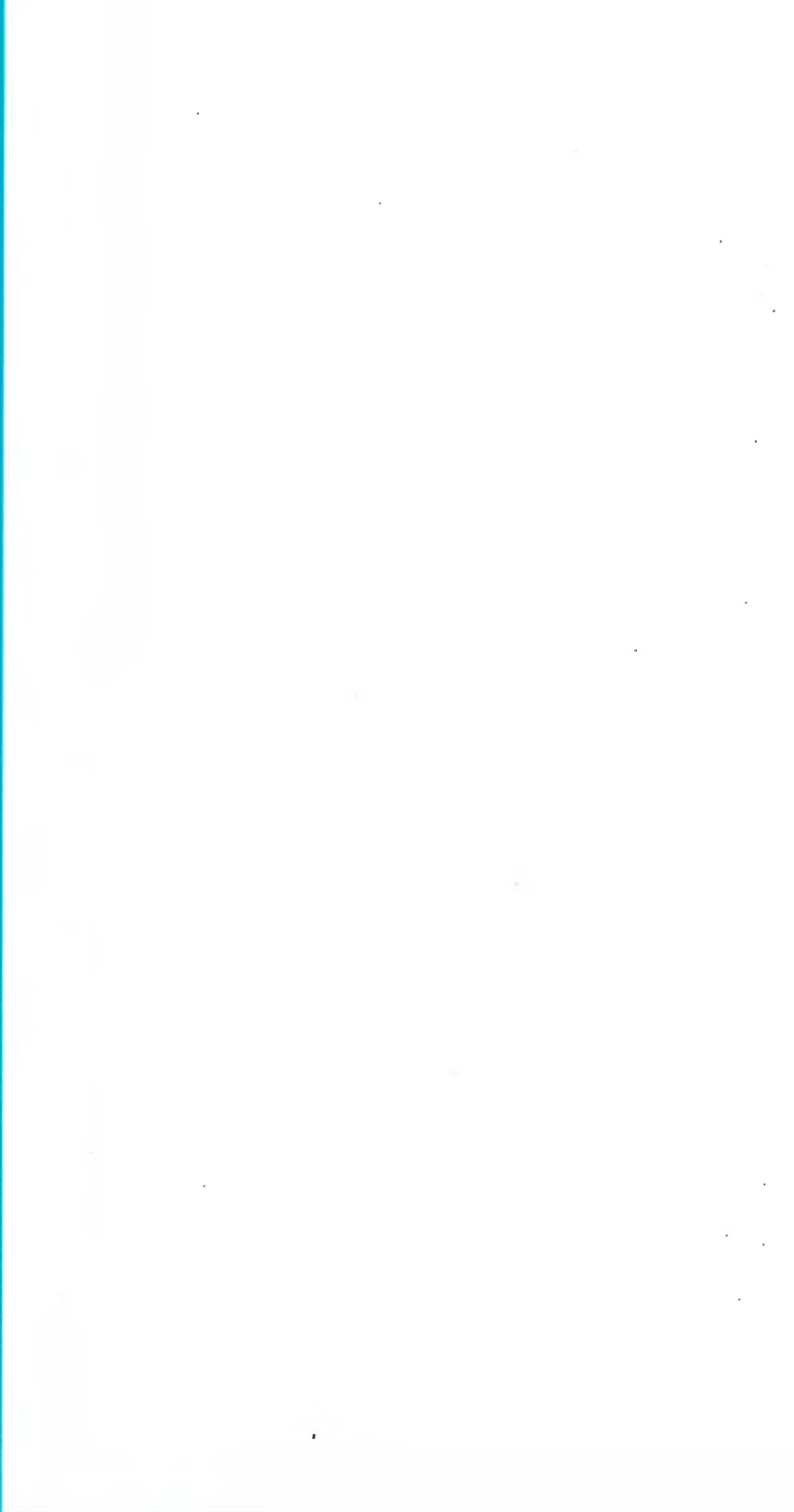
**POLISH ACADEMY OF SCIENCES
SYSTEMS RESEARCH INSTITUTE**

**STRATEGIC
REGIONAL
POLICY**

**A. STRASZAK AND J.W. OWSIŃSKI
EDITORS**

PART II

WARSAW 1985



SYSTEMS RESEARCH INSTITUTE
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STRATEGIC REGIONAL POLICY

Paradigms, Methods, Issues and Case Studies

A. Straszak and J.W. Owsinski
editors

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PART II

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IV. CASE STUDIES

STRATEGIC REGIONAL POLICY:
PLANNING THE REGIONAL LONG- AND MEDIUM-TERM DEVELOPMENT
The Tuscany Information and Model Systems

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INTRODUCTION

Regional planning has different connotations and traditions in different countries, and the intensity of regional planning efforts varies considerably between them. Differences are very considerable also among EEC countries (Williams, 1984) and basically depend on how political power is distributed among decision-making bodies at various geographic levels in a nation. Regional planning may be exercised mainly by the central government and its planning agencies, or by local and regional decision-making organizations. This paper focuses on information as an input to the planning activity and policy analysis of regional authorities. It does so from the perspective of open economic regions that are vulnerable to external influences. In particular, experience gained in the design of an information and forecasting system for the Tuscany region in Italy is here described (see also: Bianchi, Johansson, Snickars, 1984).

1 CHANGING CONDITIONS FOR REGIONAL PLANNING

1.1 Recent trends of regional development

The countries of Western Europe have all, in the postwar era, experienced a high degree of urbanisation. Some, like the UK, have been highly urbanised for a relatively long time, while others such as Italy and Greece have experienced this phenomenon much more recently. Nevertheless, it is generally true that urbanisation and industrialisation are typical of the EEC Countries. From these a many-fold pressure on land, for use, consumption and developments has followed. Pressure on land and territorial disparities have been responded by a great variety of regional and local planning efforts. This variety is apparent both in the systems of planning and their

associated legal procedures, and in the policies and priorities that are pursued.

In many industrialized nations the trend during recent decades has been a gradual replacement of local economic linkages by international ones. At the same time technical change has been labor-saving in the industrial sectors, while services have remained labor-intensive. Also, industry has increased its demand for technical and business services. As a consequence, in the postindustrial society a larger share of the employed population has become dependent on local and regional production.

Simultaneously, existing ties to industrial sectors imply prevailing indirect influences of world market changes on the local economy. Specialization and associated economies of scale have also led to an increased vulnerability of the local economy. In a global situation of technological transition, the developments mentioned above have increased the demand of local and regional authorities for information, and the scope of regional planning has increased: long term issues (more or less linked to "long waves analysis") must now be taken into consideration. (Bianchi, Casini, Maltinti, 1983).

1.2 Absence of a Theoretical Foundation

These trends are shared by several nations. The similarity is strong in spite of important national differences in the organization of local and regional planning. Other observations suggest that these trends are occurring throughout a major part of the industrialized world. As a result, regional authorities in many countries are experiencing increasing incompatibility between planning requirements and existing information systems.

Local and regional planning has traditionally had a weak analytic background. Practical relevance in a narrow sense has been used as a guideline at the expense of comprehensiveness and consistency. This may be

due to the following fundamental characteristics of regional planning and policy analysis as they are practised:

- . Planning strategies do not stem from analysis but rather from preconceptions
- . Policy generation does not rest on formal evaluation of alternative courses of action but rather on qualitative judgments
- . Policy implementation is not assessed by means of efficient monitoring procedures.

As a matter of fact there is often an Europewide increasing degree of public dissatisfaction with the outcome of planning policies at regional and local levels (Williams, 1984; Hudson, Lewis, 1982).

1.3 The Italian Situation

In Italy, things, as far as regional and local planning is concerned, are going even worse. The Italian Constitution (1948) says "The Republic is divided into Regions, Provinces and Municipalities" (article no. 114). Yet, Regional Councils were elected for the first time only in 1970. But the actual devolution of powers from national Government to regional ones took place just seven years after (Presidential Decree no. 616, 24.7.1977). Therefore it is easily understandable that in Italy not only regional planning but also regional government as such have so far a very short experience behind.

Nevertheless, given that Decree no. 616 compelled Regions to produce their own regional plans as reference frames for three year financial budgets, each Region has nowadays a written document more or less resembling to a plan.

Indeed these documents are pretty different in nature, ranging from formal developments plans to declaration of intents (Bianchi, 1979; Fiorelli, 1979).

A recent survey about the Italian experience of regional planning demonstrated the overall existence of many weakness points within plan making processes (Bianchi, 1982).

In a sense these technical shortcomings of regional planning process may be interpreted as information gaps: information on current status of the regional systems are not appropriately used to identify plan strategies; information are not specifically processed in order to compare (e.g.: via impact analysis) the expected outcomes of possible alternative policies; information about results of the implemented policies are not sistematically collected.

Insufficient and inappropriate use of information within public decision making has been phrased as "divorce between knowledge and government" (Bianchi, 1981). A "divorce" that cannot be attributed to the inadequacy of statistical data currently available.

Deeper reasons may be found in some general features of cultural and political traditions of Italy (Bianchi, 1982):

- politicians are more concerned about legal control and daily management than about medium term plans;
- the ruling class is more interested in conservation than in transformation policies;
- the political culture is still heavily affected by the hegemony of the philosophical, historical and legal heritage, so that quantitative analysis is seldom applied to decision making processes.

At any rate it is worthy to investigate whether the present data production praxis and the statistical system organization might influence the possibility to achieve a larger and better use of information within policy making (namely regional planning) even in the given context of "reluctance" to quantitative approaches. It will be done, briefly, in the next paragraph.

2 ORGANIZATION OF INFORMATION SUPPLY

Information processing by means of modern information technology is equally relevant for all planning concepts ranging over the rational, incremental, adaptive, and pure monitoring paradigms (Wilson 1980). However, the functions of models and the types of information generated by information systems will depend on the particular planning concept adopted.

So, the local and regional demand for information can vary, with respect to information content, over regions and over time within a region. This raises the question whether information collection and production should be regionalized or centralized.

2.1 Central, overall perspectives

In most countries today, decentralized, heterogenous demands for information from the regional planning levels are basically met by a centralized, homogenous supply. One should also note that the central government and related authorities also have a demand for regional information. From their point of view, regional homogeneity is a desirable property.

In Italy most regional data are provided by ISTAT (Italian National Institute of Statistics). There is a flow of questionnaires and instructions from the center to the periphery; the opposite flow mainly consists of collected data. Decisions about production, processing, and publication of data are made at the central level, due notice being made of the quality and relevance of the data at that level.

In Italy the feedback of information to the regional level (regional and local governments, local authorities, etc.) is rather meager. Currently, ISTAT annually handles about 180 surveys and more than 450 questionnaires. Thus a huge gathering of data (which are regionally specified in their original form) results in several thousands of published pages. Few of them report municipal data. Moreover, only in some cases are local respondents,

like authorities, allowed to keep the data they collect. Although ISTAT has recently been exhibiting a more liberal attitude, as far as access to basic data from local authorities is concerned, there is still a clear contradiction between the old, centrally oriented statistical system in the country and its more recent, decentralized government system, in which the number of decision centers has multiplied.

2.2 Options for Decentralization

While new planning ambitions have altered the pattern of demand for regional information, new communication technologies have transformed the conditions of processing and retrieving information. Each region may, in principle, look for an individually designed solution, since technically it is now possible to effect a complete decentralization of statistical information system. This does not imply that the responsibility for collecting microscale data should be transferred to regional agencies. However, there is a need to examine carefully various options.

The ability of regional authorities and statistical offices to operate and utilize advanced information systems varie considerably between different regions and municipalities. The development of systems for providing supporting information for comprehensive regional planning has been weak and fragmentary in Italy so far. From this perspective, the information system created for the Tuscany region perhaps breaks new ground.

But there is another and more crucial question to be raised: the lack, in Italy, of all the pre-requisites which have allowed other countries (i.e.: Great Britain, Germany, Sweden, ecc.) to achieve significant results within the regional and local planning domain.

These pre-requisites are:

- "play-rules", i.e. legal identification of necessary planning contents and compulsory planning procedures;

- professional teams within regional and local staff specifically devoted to analysis and planning activities;
- effective and working information systems;
- analytical instruments (say, models) as ordinary tools for projections, policy evaluation, monitoring.

The experience so far developed in Tuscany has been conceived as an attempt to overcome both information gaps and pre-requisites lack above mentioned.

3 PURPOSES OF REGIONAL INFORMATION SYSTEMS

The tensions between existing information systems and regional decision-making requirements are complicated. They relate both to the roles and objectives of analyses and methods for policy evaluation, and to the shortcomings of the official statistics service (reliability, updating, coverage, disaggregation, ecc.). Therefore, the tensions cannot be removed by a single measure. This problem may be illustrated from the viewpoint of a regional planning and information-processing body that provides back-ground information and analysis in the form of decision support for comprehensive regional economic planning (examples are derived from the Tuscan experience).

3.1 Interdependences between Information and Planning Systems

Statistical, information, and planning systems are coupled. For example, changes made in the second will have impacts on the third. Therefore, modification of the planning system cannot be considered independently of the initial information system.

The primary aim of information systems in regional planning has traditionally been to store data for multipurpose use in large computer systems. The data aspect has been stressed at the expense of planning relevance. This is the case in Italy and the observation can probably be

generally applied to other industrialized countries. Huge resources have been allocated to setting up, maintaining, and updating data bases. Considerable resources have also been allotted to developing streamlined tools for extracting arbitrary combinations of data in numerical or graphic form. These developments are partly explained by a persistent lack of contact between designers of information systems and planners using the information.

Table 1 illustrates observed or potential shifts in demand for information and decision support on the local and regional levels. These shifts are in contrast to the historical situation described above (and are specific targets of the planning information system for Tuscany).

Table 1
EMERGING TRENDS IN THE DESIGN OF INFORMATION SYSTEMS

From:	To:
-Large multipurpose data bases	-Selected strategic data
-Administrative data	-Policy-oriented information
-Relevant statistics of the most frequent events	-Pertinent information for causal analysis (and understanding)
-Quantitative data in tabular form	-Interpreted information and qualitative signals

3.2 Planning-oriented information processing and strategic applications

The main criticism of data-processing support given to local and regional governments during recent decades is that tactical rather than strategic applications have been given priority. Computer systems have been used for mass storage and bookkeeping rather than as active tools in the decision-making process.

Table 1 illustrates a transition to a situation in which computer technology has increased the potential for underpinning plan making with analysis. Does this have any implications for the future balance between market solutions and planning efforts? Market solutions need little centralized information but give rise to external effects that have to be coped with by the public

sector. This presupposes more efficient monitoring. Planning, on the other hand, needs more information to become efficient but may, with proper decision support, increase the possibility of internalizing the external effects in the plan-making process. Better information systems should increase the scope and pertinence of planning.

Improvements in the regional planning process may be achieved by addressing at least three control issues:

- the organization of useful data through selection from a variety of data bases needs to be ameliorated;
- tools for generating information from these special-purpose data bases must be constructed in such a way that they fit into the planning process (models for combined forecasting and scenario analysis may be of special interest);
- networks and other structures for dissemination of information must be constructed in order to speed up the technical phases of the planning process (this represents an integration of information processing and the planning process).

4 REGIONAL INFORMATION AND PLANNING SYSTEM MODELS

An example of a possible way of organizing a combined information and planning system for a regional economy can be given. Thus, in this context it is not made reference to a planning system in general terms but to a specific combination of the two components. The example stems from a collaborative effort between the Regional Institute for Economic Planning of Tuscany (IRPET) in Italy and the Integrated Regional and Urban Development Group of the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria. The complete information system is described by Bianchi

and Baglioni (1982) while the core of the planning system in the form of a set of regional economic models, is described by Cavalieri et al. (1983).

4.1 Specifying the System: Three Categories of Models

Within the regional information system for the economic planning of Tuscany three mayor components of the system have to be distinguished: the logical model, the functional model, and the information model.

The logical model (Fig. 1) identifies the logical components or phases of planning in terms of operational steps in the plan-making process as well as in terms of the content of the plan as written document. This model provides guidelines for plan preparation. The weakest links of the process involve the introduction of tools for effectively recording the state of the region, for generating policies, and for monitoring the consequences of policies.

The functional model (Fig. 2) describes interactions among various agents of the regional and local planning systems (regional government, regional agencies, local authorities, and sectoral bodies). During plan making and decision making those interactions take the form of (i) commands from the regional government to its departments, (ii) joint decisions between regional and local authorities, (iii) agreements between the regional government and higher levels of government, such as the state or the EEC, and (iv) bargaining between regional bodies and sectoral bodies, such as trade unions. Implementation may be direct, i.e. by regional departments or agencies, or indirect, by delegation of tanks to local authorities a other agencies. In those case information can be regarded as the only material circulating through the network of the planning system. The emphasis is on the two-way flow connecting centre and periphery. The bottom-up flow of data referring to processes and plan accomplishments is complemented by a top-down feedback of information in the form of forecasts, indicators, reports, and comparisons.

The information model does not relate to any specific decision-making unit or agency. The information function is diffused through the regional government departments and through agencies and offices of local authorities. There is, however, a special role to be played by the departments for statistics and information at the regional level as well as by the research institute or department in charge of overall regional planning. Figure 3 shows a configuration of the information model.

4.2 Sistem design and information tools

The setup of the information system illustrated in Figure 3 may be explained by reference to data flows, data stocks, and information tools.

Data flows, stemming from statistical surveys and administrative records, feed an update multipurpose data bases. The latter constitute a data pool contributed to by regional and local authorities and other public and private institutions, as well as by national statistical agencies. According to a set of criteria, data can be selected from multipurpose data bases and organized in working data bases. These data bases, together with data collected through specific surveys and field research, form data stocks, to be updated for retrieval and for further processing by means of information tools. These tools transform data into information that is useful for planners. They are used for analyzing data and produce various kinds of information, such as:

- a continous flow of information through "observatories" (or monitoring stations);
- a periodic information in the form of reports;
- a structural information from models supporting forecasting and impact analysis.

Observatories are the key components of the system. They rely upon small working teams in charge of organizing and maintaining sectoral data flows and files. They produce sets of indicators very frequently (sectoral trends

and policy performance); they also stimulate novel research when indicators show anomalous or surprising values compared with expected performance levels. Therefore, these observatories are an essential means of monitoring planning activities and results.

Reports normally contain analyses of trends of regional development in order to give annually a comprehensive view of the regional system; the reports also assess policy implementation and achievements. In this way, they contribute to monitoring functions. They consequently exert a positive impulse to the improvement of the information system as a whole, since they require the reporting group to mobilize every possible information resource.

Models represent the very core of the information system, and they are organized as a flexible linked system. That is, they are not formed into a rigid "supermodel" but, instead, are constructed as individual modules that can be connected with each other in various ways. The models can help in extending current trends and cycles into forecasts for different time horizons. Hence, historical, current, and projected information are looked upon in the same way within the information system. Of course, the models produce also results that are used for the reports and observatories. Signals about new developments may therefore originate both from working data bases and from model exercises. Over time, modules and their linkages may be renewed, and signals from the monitoring system may prompt the reorganization and refinement of some set of these sub-models.

5 OUTLINE OF THE REGIONAL MODEL SYSTEM

The core model of the Tuscany information system relies on the availability of recent regional input-output tables. These tables are derived by direct

survey methods, and this makes the input-output information more interesting than when direct data are not available. In contrast, the associated capital coefficient matrix (describing investment inputs and capacity outputs) has been derived only from national data (Westin et al. 1982).

In fact, the model system has a biregional input-output component as its core. The "regions" are Tuscany and the Rest of Italy; information about the latter has been obtained by combining data about the Tuscan economy and the national economy. The model system is also complemented by a national econometric model.

5.1 Overview of the Model System

The traits of the system of linked models may be summarized as follows.

- It is biased two-region system in the sense that, although both Tuscany and the rest of Italy are represented by complete economic models, the economy of Tuscany is modeled in more detail.
- The system contains a stronger emphasis on international trade than similar multiregional economic models.
- The public sector plays a more pertinent role than is found in the mainstream of this type of modeling. The public sector is represented both as a provider of public goods and services (including income transfers), and a supplier of public infrastructure.

Figure 4 illustrates the seven modules of the model system. To these must be added at least two further components that represent interregional trade links and regional-national-international links. These interregional and international relationships are of special importance to the Tuscany region in view of its openness and the significance of exports. The international aspect is concerned not only with exports of goods such as leather and

textile products, but also with exports of services such as international tourism in the region.

The core model of the system is the biregional input-output model, TIM, which provides, for both Tuscany and the rest of Italy, matrices of intermediate consumption and of interregional and international trade coefficients.

The export model, MEXT, is an export demand model, with a destination (importing country) as well as a commodity specification. This means that economic developments in the importing countries will have a direct influence on the economic performance of Tuscany. A certain degree of substitution between interregional and international exports is also possible.

The importance of the capacity concept for a regional economy has led to the indirect modeling of capacity creation (INVEST). This model operates on an annual basis. It is complemented by a five-year variant, which treats investments and capacity creation. The investments are transformed into exogenous annual inputs, yielding capacity limits that cannot be exceeded. Short-term bottlenecks or supply-demand tensions will then have to be resolved by interregional, or even international, trade adjustments.

The labor market model, LABOR, is not only tied to the production system through the labor input process. It also interacts with the population module through labor force participation and unemployment. These variables are determined by a simple form of labor market model that acts as a balancing mechanism between labor supply and demand.

The public sector model, MARGOT, and the private consumption component, CONSUM, are closely related because the disposable income policies effect the patterns of final demand both directly and indirectly. The private consumption model is based on the concepts proposed for the INFORUM system (Almon 1981), and has already been applied in the INTIMO model for Italy (Grassini 1982).

5.2 Exsting Features and Future Options

The model system is primarily intended for medium-term forecasting, policy evaluation, and planning. This is true, at least, for the version conceived and currently operated. In particular, it does not address long term problems of technological change.

The model system described here is intended to be a tool for consistent economic forecasting with regard to the regional economy of Tuscany. In the scenarios attained with solutions of the system, there is a consistency (i) between total demand and production capacity, (ii) between production and deliveries to consumption and investment, and (iii) between regional location of production capacity and the structure of regional trade.

The model system is also used for policy evaluation, and for monitoring structural change as well as imbalances in the Tuscan economy. In this fashion it may serve several purposes in the context of the larger information system (Bianchi, 1983). When used as a policy evaluation tool, forecasts are made conditional on policy options being exogenously inserted into the model system. The system could also be applied as a planning tool by introducing mechanisms for the selection of policy instruments/decisions that satisfy given performance criteria. The usefulness of this option depends on the room for such design deliberations in the actual planning process. Experience from other kinds of policy-applied modeling shows that such demands evolve as a natural stage in the development process. A modular design will prepare for such options.

6 CONCLUSIONS ABOUT MODELS AND INFORMATION PROCESSING

Even if the current operational version of SMART has not yet achieved its maximum performance it is already being applied for the purposes for which

it was conceived. Regional Planning, Production Activities and Budget Departments are so far its principal customers.

The model has been applied to studies on the regional economic structure, in many impact exercises, public health expenditure, public building projects, modifications of the exchange rates, tourists expenses, changes in the fiscal policy, evaluation of the import substitution; and in some forecasting uses, estimation of the regional needs of electric energy up until 1991, aimed at evaluating new projects for a power plant in Tuscany. All these exercises are fully described in the relevant paper. As far as structure analysis of Tuscan economy is concerned it is worthwhile to mention that:

- the analysis of the effects of regional export on regional economy (in terms of sectoral multipliers) has led to confirm and measure the extent to which regional exporting sectors are still characterized by low value added, high labor intensity and strong import dependence, for raw material inputs;
- splitting the demand effects into internal effects on Tuscany's economy, spill-over effects, from Tuscany to the Rest of Italy and feed-back effects, from the Rest of Italy to Tuscany, has made it possible to ascertain that the feed-back effects are in general low in Tuscany, whereas the spill-over effects from Tuscany to the Rest of Italy are considerable. The results are such that the regional multipliers, internal plus feed-back effects, are in many sectors fewer than one, showing the significant degree of openness of the regional economy, even in some specialized industries of the Tuscan industrial structure such as textiles and leather.

Impact analysis has been developed in order to evaluate economic effects of public choices and exogenous scenarios on sectoral production and employment. Specific exercises have been carried out in order to assess regional budget (1978-82) effects on production, employment, value added, foreign import, regional input, private consumption, public consumption, fixed investment, foreign export, regional export.

Similar analyses have been adopted to assess the effects of modification of the direct taxation and of the foreign import coefficients as a result of planned import substitution policies.

The use of the model system for forecasting purposes calls for much more caution on behalf of the analyst and -particularly- on behalf of the "final user" of the forecasts, given the current state of model system implementation. However some internal work has already been carried out also in this direction. But, once SMART has been also used with "external" effects, when it forecasted the electric energy requirements of Tuscany up until 1992 in order to obtain the future energy demand to compared with the regional supply capacity, and thus to test the plans of the National Energy Board which claims for new (maybe unnecessary) power plants in Tuscany.

Indeed, we may say, that SMART is already earning its daily bread (even if at the cost of the sweat of IRPET researchers' brow).

Some hints about possible future development of the Tuscany Case Study can already be drafted.

First of all, the model system will be improved by introducing the medium term module of private investment and the adjustment mechanism of interregional trade coefficients and by dealing with the present lack of price effects.

Secondly, the system must be arranged, as far as the interactive dialogue with the computer console and the readability of print-outs are concerned, in a form which is more suitable for the actual users, planners, officers, policy-makers.

But we may also begin by reviewing the general structure:

- sectorial features could be enriched; for instance, agriculture, tourism, energy would appear ready for tentative re-modelling;
- some spatial specification should be attempted: local labor markets and the transport system are appropriate examples for this.

However the task ahead consists mainly of increasingly active and

interactive cooperation between policy makers and their staff, in order to benefit from previous experience.

It means that the methodology must be developed so that regional policy makers can get better tools to cope with the essentially dynamic, uncertain, and interdependent factors regulating long term economic and technological growth and structural change.

The main conclusion to be derived from previous analysis, with regard to the long-term viability of information systems for regional planning, is that they need to be supplied with analytic capabilities. These should be developed to comprise forecasting, policy assessment, and planning models. Without such facilities, information systems will lose contact with planning after an initial phase of enthusiasm during development. On the other hand, regional economic models, statistical inference models, and other policy-relevant models need to be linked more closely to special-purpose information systems, otherwise their connection with planning will disappear soon after the construction phase. The latter brings about the necessary interaction between researchers and planners. However, this interaction will not continue without devices to ensure that further development is stimulated. Experiments such as the one described in this paper may indicate a viable way to proceed in this direction.

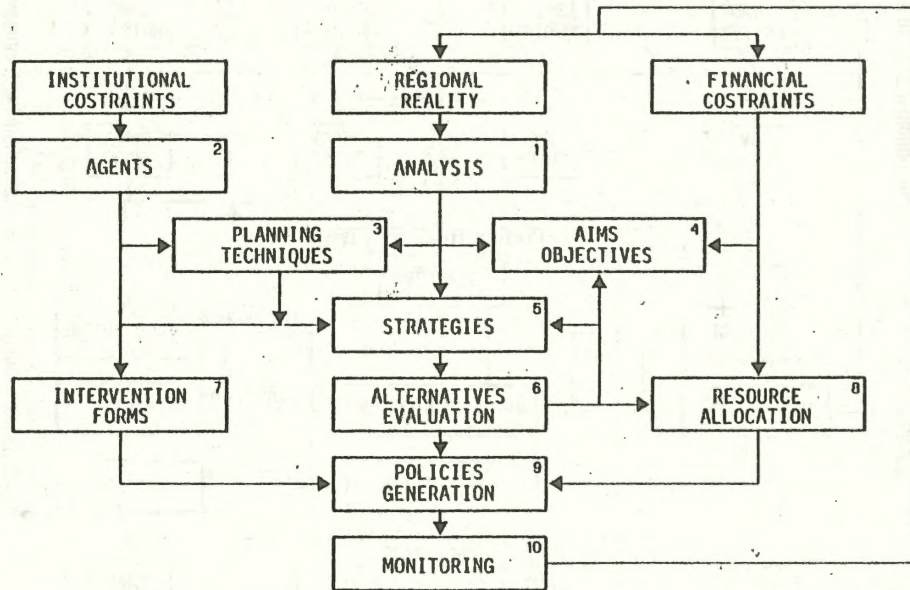


FIG. 1 PLANNING SYSTEM : LOGICAL MODEL

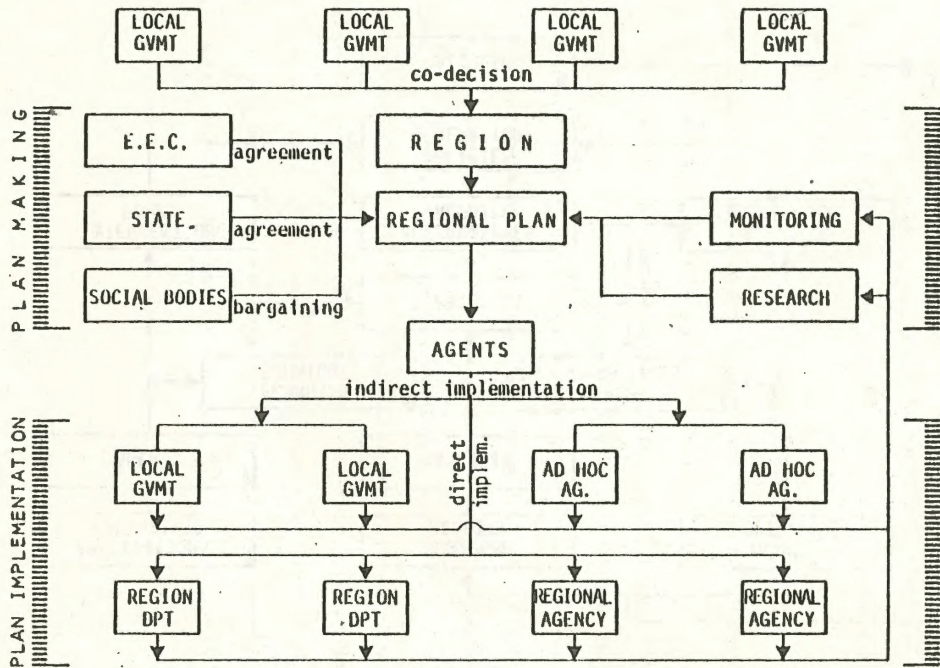


FIG. 2

PLANNING SYSTEM : FUNCTIONAL MODEL

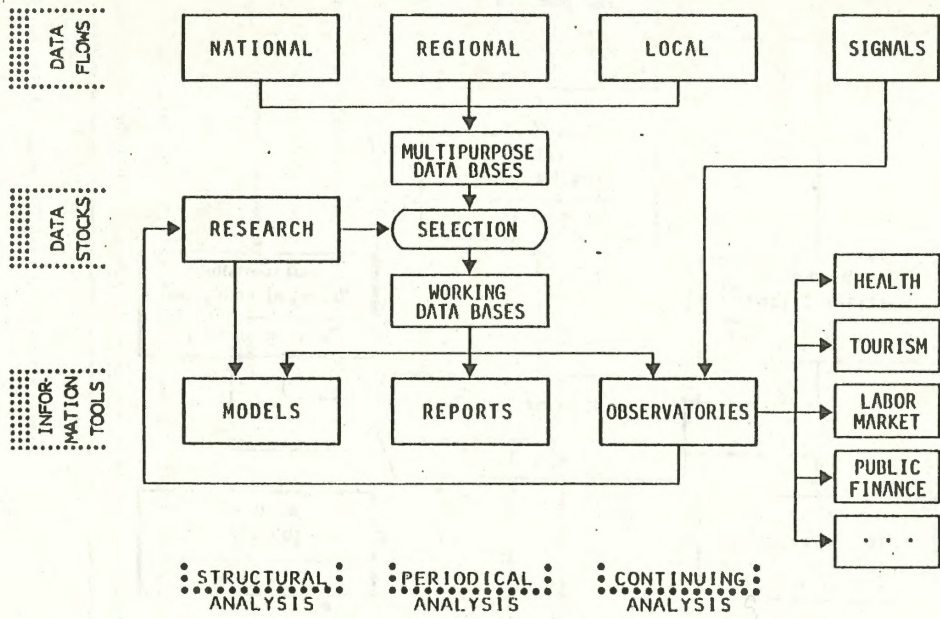


FIG. 3 PLANNING SYSTEM: INFORMATION MODEL.

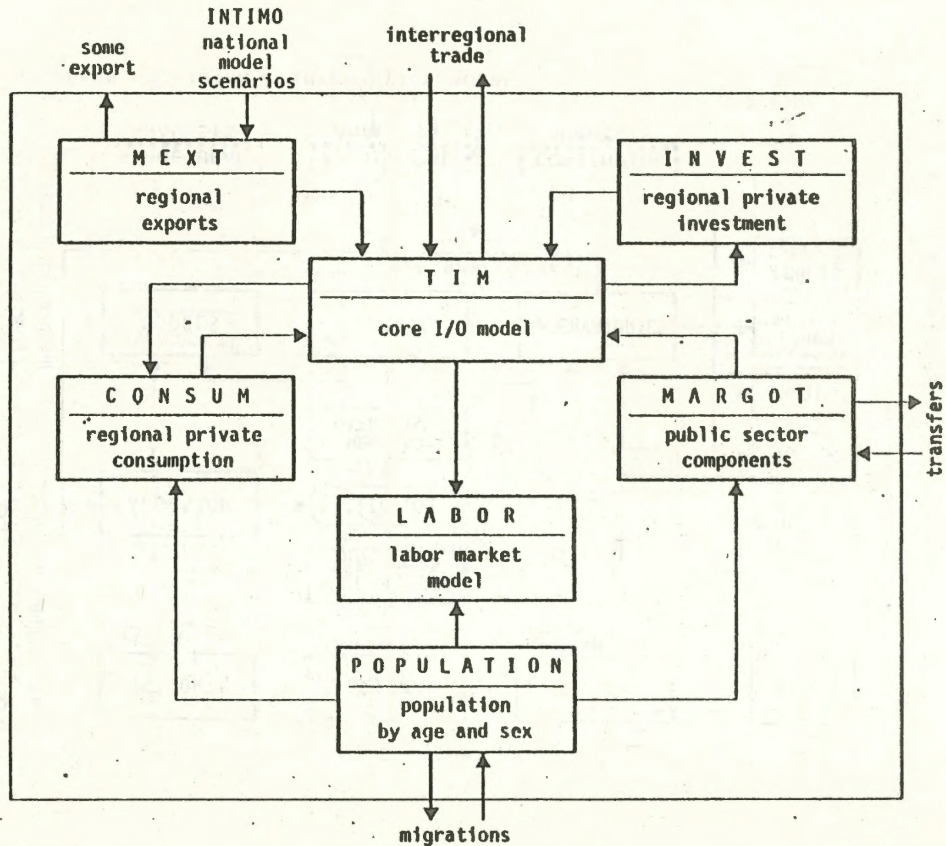


FIG. 4 STRUCTURE OF THE REGIONAL MODELS SYSTEM

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This draft paper is only for discussion as a part of a broader study still ongoing.

An earlier version of two paragraphs of this paper has been presented at a IIASA workshop (Laxenburg, December 1984).

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ADDITIONAL EXHIBITS

EXHIBIT 1

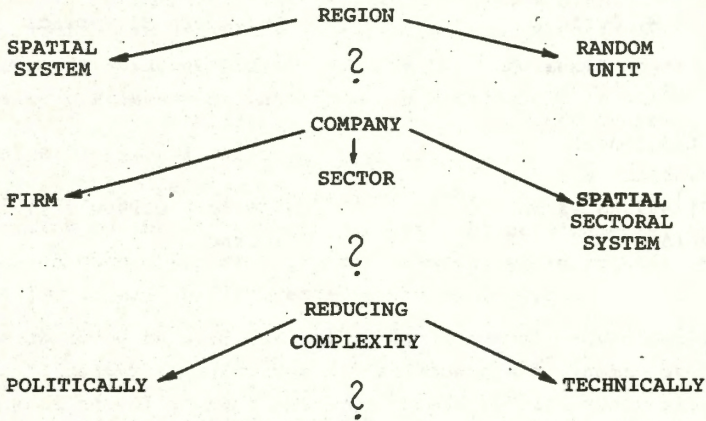
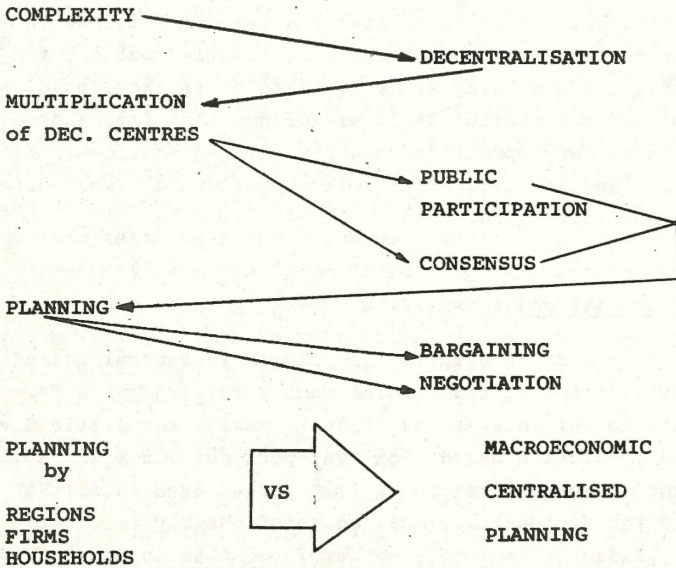


EXHIBIT 2



DISCUSSIONS

Paper by K.P. Moeller

Discussions participants: D. Boekemann, G. Bianchi, K.P. Moeller.

The question of long-term implications of the modelling study results was analysed, especially from the point of view of the demographic situation. Thus, possible changes of in-migration rates were discussed together with their impact on both employment and demand, and with their dependence upon the appropriate legal regulations. It turned out that the model can incorporate most of these aspects.

Another question concerned the input/output core model used in the modelling study. This model was said to contain 11 numerically distinguished sectors.

Paper by G. Bianchi

Discussion participants: R. Espejo, L. Lacko, U. Loeser,
G. Bianchi.

First question concerned the region definitions used, i.e. the distinction of "physical" and "random" spatial units. Thus, the latter ones may not refer to physical composition of space, and are often said to be formed arbitrary on some other premises, like e.g. states in the U.S.A. or regions in Italy, but irrespective of definitions such entities which are hierarchically located between the family and the state are to a large extent arbitrary determined.

Then the question on the kind of variables accounted for in factor analysis was asked. There were 40 variables such as: numbers of university professors and of R and D researchers, number of scientific journals, activity in promotion of international trade, etc.

The last point concerned the IRPRT's role in allocation of state funds to particular regions. Inasmuch as the allocation is a result of bargaining and negotiations, conflicts were said to be treated as a normal part of the planning procedure. Regional authorities are responsible for the conduct of negotiations,

and it is for their needs with that respect that IRPET prepares background information.

Paper by J.W. Owsinski

Discussion participants: T. Vasko, L. Kairiukštis, G. Bianchi,
S. Dresch, J. Owsinski.

First, the question of the scope of agricultural restructuring admitted for in the model and proposed in results was taken up. The model can incorporate both the production profile changes and the shares and cooperation rules of various producer types (state, cooperative and private farms). Of special importance is shaping of cooperation among the variously specializing producer types, which can importantly enhance both production and revenues. Another point of interest was optimum allocation of land among producers, involving different manners of land allocation.

Environmental problems were also looked at, i.e. whether the model in question considers forests and surface water resources, and the pollution effects. The model accounts, as it turned out, for surface water whenever it can be used for agricultural purposes, but leaves out forests. As far as additional pollution is concerned, generated by the power plants, it was taken into consideration through varying assumptions as to crop yields etc. In fact, additional pollution (emissions) proved to be lower than initially expected. As to the whole range of effects only a longer period of observation may allow firmer statements to be made.

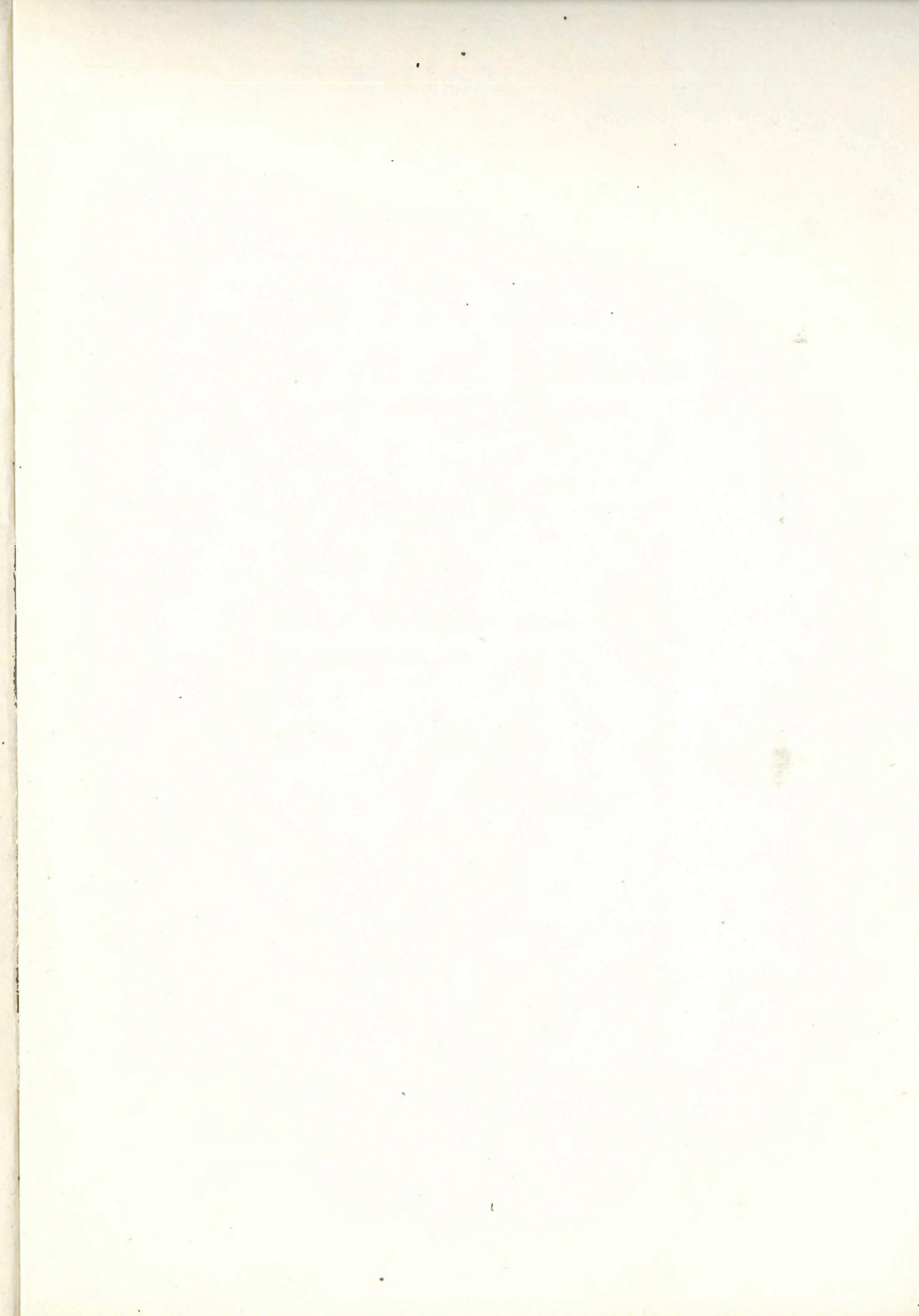
The case studied was said to be typical in some of its aspects (large-scale mining development, employment, infrastructure, land reclamation etc.), but also exceptional as to its magnitude. Hence, some experiences from Czechoslovakia, Fed. Rep. of Germany or German Dem. Rep. could be applied, but with very strict reservations.

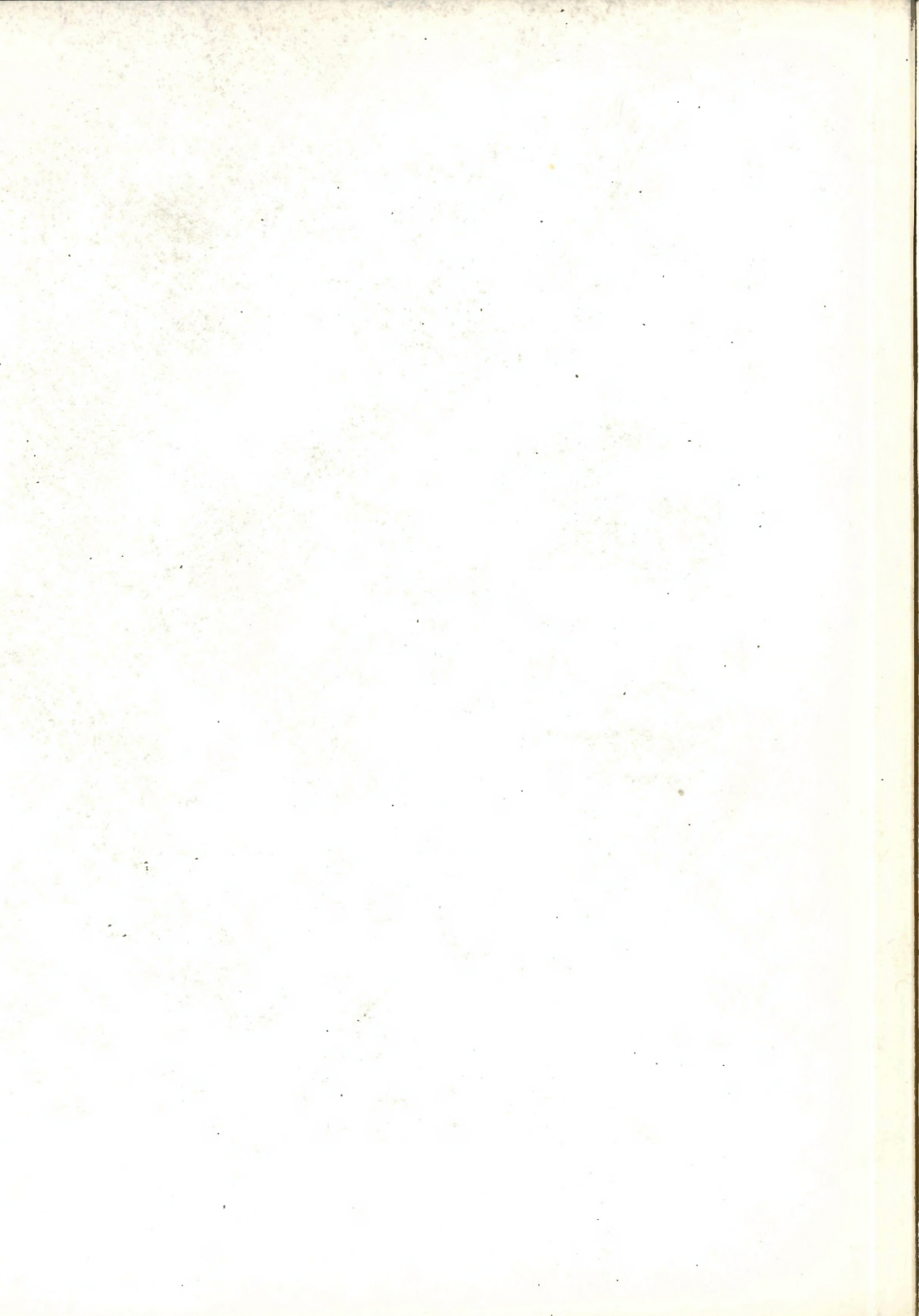
The final question concerned the role of the analysing group in the multi-party process. Quite naturally, being a technical one, it still has a very important bearing for the participants of this process. There is a variety of views on the subject and

the analysis could not but corroborate, at least partly, some of them.

Paper by T. Kawashima

This paper, as presented after the sessions, was not discussed.







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