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CZECHOSLOVAKIA: AN ECONOMIC REFORM IN EUROPEAN CONTEXT

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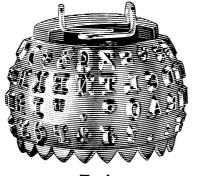
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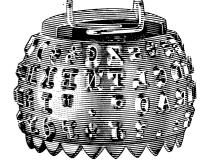
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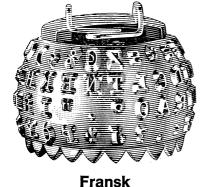
Sosialøkonomisk Samfunn har med virkning fra dette nummer tilsatt Per Steina som redaktør av *Sosialøkonomen* sammen med de nåværende redaktører, Erling S. Andersen og Åge Sørsveen. Per Steina er cand. oecon. fra 1966 og arbeider i Pengepolitisk avdeling i Norges Bank.



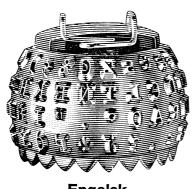




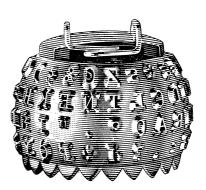
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An Economic Reform in European Context*)

By JAN PLEVA

In presenting this paper, my intention is briefly to discuss the backround and meaning of the Economic Reform at present¹) being carried out in Czechoslovakia, with its broader implications for, and mutual relations to, the whole system of social life. Broadly taken we intend to test Czechoslovakia's share in European civilisation at the present stage of development — or at least her intentions.

The question is, how does the System of Economic Management in Czechoslovakia fit into the context of European democratization, how does it further fit those progressive elements that penetrate perennially European culture across all retrograde tendencies, and that have been Europe's contribution to the world's freedoms. Is it a negation of the past or a development of the best that the past gave us?

It would seem to me that the old motto of European progress (which so far could nowhere come to accomplishment) is «equal opportunity and fair play»: a free choice of working and living conditions under equal common conditions. This is not a narrow economic problem, but a human one, ie. to do away with all causes of inequality other than the differences in capability. And this I take for the motto of my address.

The Czechoslovak people is not numerous, and, historically as well as geographically, it has always lived in an exposed area in Europe. Whether it liked it or not, it has always been an active partner in creation of what is known as European culture: Petrarca, Shakespeare, Voltaire, Goethe, Tolstoj. High lights in its history are those periods when the Czech nation stood at the forefront of democratic struggles:

John Hus and the Hussites, Comenius, not only as a great teacher, but also as a social and political visionary. And we hope to continue in this noble tradition, though with possible risks and errors, since we decided to build a socialist society, and believe that it will be something to add to the European culture.

Centralised Administrative System.

After World War II, a system of managing the National Economy was implemented that is known as the Administrative System, and that was marked by a tight centralization of economic decision making, by a relatively detailed control of economic activities by the Central Plan, and an absence of value criteria. This process was accomplished roughly in late 40ies and early 50ies. Prices gradually lost their economic significance and played only a role of an accounting category. The stress was laid on quantitative physical targets and on physical balancing of needs and resources. Economic results, i.e. the relation between input and output, lost their meaning, and in fact could not even be measured.

In such a system, foreign trade came to be considered a balancing factor, a tool to procure raw materials and those manufactures that the home economy was unable to produce. The second function of foreign trade appeared to be the protection of the domestic economy from fluctuations of the world market. In this concept, the role of foreign trade as an active element influencing structural changes of the whole economy was suppressed, its turnover was minimized and, last but not least, the internal price system became divorced from the prices in international markets. Thus, economic calculus became impossible.

I do not intend to dwell here upon the causes. Suffice it to say that they were both domestic, consisting in lack of experience and dogmatic views on the validity of certain economic laws in socialism, and also international, under the influence of the Cold War and embargo. In all probability, this system — not

^{*)} Implications of the Scientific-Technical Revolution are based on work done by several research groups associated with the Czechoslovak Academy of Sciences and published in a number of papers. (See especially R. Richta and others, Civilisation at Crossroads, Prague 1966.) This is to acknowledge that the authorship of ideas is collective, deficiencies of interpretation rest with the author.

¹⁾ Redaktørens anmerkning: Manuskriptet er skrevet før Sovjet-Samveldets okkupasjon av Tsjekkoslovakia.

unlike a system of War Economy — was justified for the period of reconstruction. Unfortunately, it was left in operation long after it outlived itself.

Based on the preference of physical contents of economic activities over economic results, unable to measure economic efficiency, it opened the door to subjectivness in economic decisions and caused a graduel loss of interest in balanced and efficient development. Not the least of the drawbacks was growing replacement of entrepreneurial activities by bureaucratization. The whole system acquired a natural preference for separation from international economy.

The rate of growth of the Czechoslovak economy after the war was, until 1960, quite considerable, the yearly average growth of the gross industrial production approaching 8,7 %. Of course, this growth was of an extensive character, relying on an increase in employment and on construction of new plants that often were not up to the mark. Reconstruction of older works remained insufficient, efficiency of new construction kept decreasing; the increasing capital coefficient kept eating up the slowly rising productivity of labour. The model of extensive growth, favourable during the post-war era of latent growth potential, became highly inefficient. The lack of economic criteria and the disequilibrium between supply and demand were causing a lack of interest in technical development and innovations. The growing obsolescence of the economic structure showed a growing influence on the efficiency of foreign trade and led to a stagnation of economic growth especially in 1962—1963.

The world wide trends in scientific and technical development and innovation were demanding an intensification of international economic relations, the conditions of internal economy and the system of its management were preventing it. Thus both external and internal reasons were pointing to the necessity of change.

Scientific-Technical Revolution: its Implications.

For better or for worse, but irrevocably, Europe gave the world a civilisation that in last years has adopted the character of what became to be known as «the scientific-technical revolution», and about which no one knows exactly whether it leads. One thing is certain, however: it is a phenomenon that recognizes no frontiers, whether State or social systems, and mercilessly drives forward where the conditons are ripe, implying gigantic changes of material as well as of socio-political relations. Shortly, what is the matter?

The fast development of science and technology calls forth a corresponding development of means of production into quasi-in-dependent

production systems that eliminate man from the sphere of immediate production. At the same time new, hitherto unknown production factors, especially science and technology, penetrate directly into the production process.

A universal change of all production forces comes into being, the automation principle of production intercedes between man and nature, continuous production process takes place and places the man outside and above the production process propre. The activity of man is transferred to pre-production stages; cybernetics, chemistry, biology, nucleonics change not only the structure of production, but reach out into all spheres of civilization, of human life and relations much sharper than into production as such. In course of the Industrial Revolution man played the role of an appendix to the machine: in scientific technical revolution human activity is transferred to complicated technical activities. The science figures as an immediate prodution force and industry is being changed into an application of science. The realm of science and research is under way to become the main field of human activity, the very substance of science is undergoing a change. The development of production depends increasingly more on the state of science and technology than on the quanitity of machines, labour and capital. Up to a certain limit of development it was of advantage to concentrate maximum of means in the production propre. Today, the decisive role is played by the possibility to concentrate means in pre-production stages and in the growth of human element. Further progress of science and technology depends on the development of creative human forces: consequently, the development of man himself grows to the most effective way to increase production forces of the society. Man as a producer, but also man as an end in itself.

If social conditions will be favourable, we may expect that by the end of our century a new civilization base will have been created, which will change most proportions, forms and concepts of our present time. If such conditions will not be found, we may expect severe conflicts between the standing conditions and the implications of the scientific technical revolution.

The substance of the Industrial Revolution was in the progressively increasing reproduction of the capital, where technical means of production and the man were separated — a split structure of productive forces. That is how our socialist society took over. However, once a harmony bethween the social character of both production forces and production relations has been reached, the contradiction opens on a new level. The limited possibilities of the present structure of production forces, long working hours and limited ressources of this production get into conflict with the goals of a society that gives validity to a general broadening of life

for everybody. The problem of change of the whole structure of production forces, of the whole base of human civilization, becomes crucial.

It is here where the problem arises: will socialism be able to call forth a new productive iorce, the force of social universality which represents a potential base for a broader peneration of science into the production process, and under which conditions? The mechanical ndustrial production which so far represents the technical basis of socialism appears to be too narrow for the purpose. A general developnent of production as well as of capabilities and forces of each man is made possible, and at the same time necessary, only by the scientific technical revolution. Unless socialism will be able to realize it, great tensions will be generated in the society a disproportion between the levels of civilisation on one side, and of social changes on the other. This is the bond between social and technical aspects of progress couching on the change in character and division of labour, cultural revolution, and general standard of life.

Classical forms of capitalism changed through monopoly to State monopoly forms, where the State assists the growth of production by redistribution of profit and losses. A new element is the emergence of socialist States: for both systems, economic growth becomes a conditon sine qua non. Economic growth theories come into being. Future will be decided in production, technology, science, and, last not least, in the field of human and social progress.

At this stage, the incapability of a monopoly system to insure the growth of productivity over the horizon of primary profit on capital becomes apparent: the State must come to assistance with enormous outlays when the stinulus of profit fails. Research and development expenses in Western States are financed by the State by two thirds and more.

Under socialism, the motive power which is able to set the scientific technical revolution in notion is an enlargement of consumption, and of the very process of life for the whole community. At present, this is concretized in form of both material and moral interests, as against the opposite stimuli of profit and fear for existence. The socialist metamorphosis is not founded on suppression of economic profit (as far as it is derived from growing productivity of abour), but on suppressing the profit monopoly of the capital, uniting interest in profits and wages, and joining it to interest in growing productivity of labour.

The aim is not to suppress enterpreneurial activity, but to make it general on each step of social production (individual, group, centre). Shall we be able to achieve it?

Of course, the structure of interests stays lynamic only if it is based on objective eco-

nomic feed-back, this at present existing only under the form of market relations. Therefore, we accede to use of market, value relations and similar not only in amendment of past errors, but as an accomplishment of own socialist economic structure in response to changes in the sphere of production forces. We foresee a general interest of every working individual, group, and society as a whole, in the growth of productivity of the entire social labour (meaning not national income alone, but the whole living environment and way of life), and at the same time a dynamic structure of social interests, changing and increasing in response to the dynamic development of production forces.

It seems to us that the scientific technical revolution shifts the traditional characteristics of economic growth and alters the heretofore measures of civilization advancement. The decisive element of growth is constided at present by new technology, application of science tending to an absolute growth of productivity of labour, i.e. a decrease of all elements of labour bound in a given quantity of use production, whether it be fixed or circulating capital, labour paid or unpaid. Of course, economy of time remains to be an essential precondition of all economic progress.

Economy of time points out the «profit» in disposable time as a measure of time space for the development of human forces. In the period of industrialization, general growth was dependant on the amount of capital and labour; to-day, by means of science and technology, the most marked factor of civilisation ascent appears to be the growth of human forces: the most effective is the investment «into man himself».

It follows that the attainment of communism we do not see in simple changes of power, forms of ownership, or general growth of production. The very beginnings of the theory of scientific technical revolution seem to indicate that in front of us, there is a qualitative metamorphosis not less important than the change in ownership of means of production, and that this new revolution is bound to become the very substance of further development of socialism.

Conditions of Scientific Technical Revolution in Czechoslovakia.

In the period of 1948 to 1960, an industrialisation was in progress in Czechoslovakia which in principle (abstracting some deformations caused by both internal and external causes) accomplished the industrial revolution that had its course in highly industrialized countries. It was an extensive growth that was useful up to a point, but at the same time was growing obsolescent, was creating new problems and forming an inert structure of production and inert social structure, setting thus limits to its own

progress. There was a growing extensive demand for capital, labour, raw materials etc., science and the development of man were staying behind, growth of overall social productivity became unsatisfactory, quality of production remained on the prewar level, the effectivness of capital assets showed a decreasing tendency. As from 1958, the sources of extensive development were exhausted, necessity of qualitative changes in the structure of economy as well as in the structure of management was apparent. Eg. since 1955 to 1962, investment in industrial building grew to 261, in machines and technology to 232, and in science and research to 224 — the trend during the same period eg. in the United States being quite contrary.

Such disproportions cause difficulties not only at home, but also in international economic relations, as the relative productivity (compared with the foremost industrial nations) begins to lag behind, and thus, together with a stagnating structure of production, does not create the necessary capacity to increase the volume of international trade, so urgent for a small country. In 1965, the foreign trade turnover in Czechoslovakia was about 385 dolls. per capita, the similar item for members of the EFTA being approx. 630 dolls., and for some small countries still higher. Growing import requirements for raw materials do not leave sufficient room for ample exchange of manufactures and innovations, cooperation and specilization, which are inherent to the most developed nations. Exaggerated orientation towards quantitive targets is at the root of a high consumption of primary ressources of steel and coal per unit of Gross National Product, in years 1960—1965 this being about twice as high as in the US, FGR or Sweden.

These difficulties and disproportions go to show the undesirability of further linear development of economic proportions, the inability or traditional ways to master further progress, the necessity of orientation to the scientific technical revolution. The new requirements may be characterized as

- complex mechanisation and automation, structural changes in the whole economy
- more effective utilization of human labour and decrease in unqualified labour
- faster development of human creative forces, ie. the science.

Of course, this has its deep implications for volume and quality of international economic cooperation, for mutual influence of different national economies.

The former system of economic management in Czechoslovakia originated in the period of extensive growth, became rooted in years of the «cold war» and, consequently and of necessity, showed tendency towards autarchy. As such, it is not capable to master the turning point between industrialization and scientific

technical revolution, it is not up to the requirements even of the experimental stage of the new order of things. In spite of the fact that individual production complexes in Czechoslovakia are on a fairly high level, the degree of complex mechanisation and automation is low. Machinery — being the basic industry — depends on piece-work and short series in 70 % of production, with low industrial cooperation, without accomplished and elastic forms of automation. The production and application of automation elements as well as computerization of the production processes is very low compared eg. with the US or with Sweden. There are similar problems in chemistry, agriculture, services and transport.

In this connection we consider that the decisive element is the position of man in the production process. The old extensive form of industrialization leads to dissipation of human ressources, does not create room for all-round development of the labour force. A disproportionate amount of workers is employed in simple work, especially manipulation of materials, and similar conditions prevail in agriculture administration etc. Necessity arises to improve the structure of the national labour by «pushing» the bulk of labour towards higher qualified activities, into pre-production stages, into tertiary sector, to create preconditions for considerable reduction of working time, thus enabling further education, technical activity etc.

The administrative-directive system of management (as had been applied in Czechoslovakia) results however in limitation of active growth of human capacity, limits the field of «socialist entrepreneurship», lacks instruments to inflict penalty on obsolescence and appraise innovations, results in subjective deformation of economic categories and economic aims. Economic activity and social stimulation are replaced by a hypertrophy of inconsistent orders in the eyes of people, social activity loses character of a process in which they take part and which they themselves determine. One might say that their subjectivity is being pushed out of the circle of social activity. There appears a vicious circle, in which lack of movement in technology limits the development of creative human forces, and this, in its turn, deepens the backlag in science and technology.

It is necessary to break this circle in both directions — modern technology, and cultivation of human capacity. It is necessary to exploit the potential advantage of socialist production relations not by an administrative act, but by formation of actual and active human relations in every-day activities. We are trying to develop a new economic structure of society, a system of incentives and economic management, which would join all working people to the unfolding of the scientific technical revolution. The former directive system reduces the incentives of socialism to one single dimension

of quantity, is therefore unable to reach economic optimum and causes an extensive social movement that is interested in linear static development, and not in basic changes of quality in the broadest meaning of the word.

In scientific technical revolution, however, the substance of movement is in multidimensional dynamics of a universal stream of structural changes, necessitating dynamics to be built into social production relations directly. When introducing economic system of management in Czechoslovakia, the point is not in simple doing away with present shortcomings, but it is much deeper: it is in dynamism and deployment of the economic structure of socialism, corresponding to dynamic conditions of the coming civilisation.

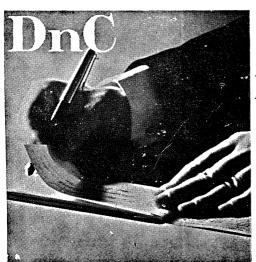
Necessity to change the System of Management.

It should then be understood that introducing a new system of economic management in Czechoslovakia (maybe it would be preferable to speak about search for new methods of functioning of the whole social system) the aim is not a narrow change of methods of management, let alone exchange of some directing organs. It is a deep social change originated — in our opinion — in broad changes of material conditions, called forth by the development of the European civilisation. It is not economy

alone, it is mode of action of entire society towards further democratic development in the widest sense. The goal is noble — which are the means to reach it?

Scientific discoveries and technological changes situate human life in dynamic position, and concurrently the whole field of human life enters the motion of civilisation in the quality of a new factor. At the rate that the science is becoming the central creative force, the development of creative forces of each human being gains the character of the decisive parameter in the development of civilization, same as so far it has been the quantity of capital and labour. The structure of human life is gaining new meaning and design, differing from the industrialisation era, and at the end transpires the man as an aim in itself.

Spontaneous development of technology is reduced to absurdity unless it is mastered by collective reason, it calls forth disproportions, wastage of production forces, frustration, devastation of nature, and finally of man himself. Society is threatened by a calamity unless general human development will gain an advance on the ever increasing stream of material technique, and unless it will find a basis for uniting the universe of civilisation and culture. So it seems that the scientific revolution must be identical with the greatest cultural revolution of human history. Creative forces and ta-



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lents of the working population have been used so far only in a partial degree: in a higher degree of their cultivation we see the only possible way to overtake older social systems.

At the top of present development, the production forces overtake the former contradiction between high level of needs and low level of production, general growth of needs turns into a condition of economic growth. At the same time the spectre of consumption for its own sake takes form, the danger of man becoming its slave, as an end in itself. Even if for lack of space we shall pass by the problems relating to the culture of labour, creation of livving environment, relations of nature, artificial milieu and its inhability, we still have in leading industrialized countries the apparent formality and impotence of political and civilian participation of labouring population in management of their own lives: a compression of human subjectivness, lack of its satisfaction, which seems to be the most consequantial problem of the present civilisation.

Conditions change however on the highest technical level. In automated production, decision making cannot be effective without an appropriate part being played by the operator. In the era of industrialisation, economy functioned — for better or for worse — in the way of a big mechanical machine, which was determined and with which it was possible to interfere at each step with foreseeable results. The scientific technical revolution puts before us a new situation: a complex of mutually interconnected and complex processes with internal automaticity, with feedback reaction of the whole system and non-ascertainability of certain parametres. We have there cybernatic systems, the functionning of which cannot be guaranteed by direct interference, but only by recognition of the system, by help of the theory of aleatory processes with indirect management. Modern production and social systems are so intricate that without a system of automatic processes they would change into a chaos. Their management cannot rely on direct interference with individual actions, but must rely on control by various regulators, on formation of «rules of the game», which will create conditions under which the system itself strives to the chosen target. In economies, these regulators will take the form of money, financial establishment, credit etc., acting in an acceptable symbiosis of plan and market.

It has been probably the worst trait of administrative management that it relegates the subjective personality to the second rank. Now, the future depends on whether socialism will succeed to work out a system of civilizer regulators, means and rules, which would objectively tune not only economical, but also social, psychic, and anthropological conditions to the growth of creative activity of man, his planned access to all-social management.

New dimensions, introduced into to motion by human individuals and groups are component part of social motion and must not be passed by. Regulation of regulators represents a higher form of social management than direct command, and is more suitable for more differentiated and faster motions. Only such method can turn modern civilisation into a planable and dirigeable process.

Economic System of Management: general.

I mentioned before that the directive administrative system of management came into being in Czechoslovakia in consequence of concurrent objective as well as subjective reasons: necessity to complete the industrial base on mechanical principle; consequences of the «cold war» that influenced also the ways of thinking; insufficient theoretical recognition of evolutionary laws of socialism; and others. After several years' discussion, a proposal takes shape for system of management of economy which would harmonize the union of plan and market, and which, among Cezchoslovak economists, is known as «the Economic System». Intending to return to its international implications, I have to outline at least the most important characteristics, derived, as I think, from the postulate of continuing evolution of economic democracy in new conditions as indicated.

At the beginning is the presumption that, in modern developed society, no central organ is able to recognize and realize the inherent potentialities of growth without the interest and share of all lower strata, especially enterprise. To this end, it is necessary to harmonize all essential elements of growth (volume of production, effectivness and profitability, growth of use value through innovating and technological advance) in microeconomic as well as in macroeconomic dimensions, with a perpetual tendency to coordination of individual, enterprise, and social interests. Thus the plan is not considered — as in the past — to be a complex of quantitative tasks and directives, but steps forth in the form of a hierarchy of social aims (targets), and ways and means of their attainment, the ways and means having the shape of economic instruments. I have in mind price, loan, interest, tax, credit, investment, etc. policy, exerting their influence in the environment of a regulated market mechanism. The term «market» denotes for us a field of economic activity of enterprises and of individuals, having in its scope the possibility of free decision, of course in the frame of certain economic conditions introduced by the central authority.

The influence of the central plan in microeconomics is limited; and in the same way the action that market may exert on macroeconomic structure: market in itself is unable to uncover the tendencies and necessities of longterm formation of macrostructure, cannot foretell the probable development of science and technology etc. Long-term plannel targets will always have a political character and implication in the sense that they do not originate directly from the economy, but from conceptions about the desirable development of the whole society. A system of plan and market means that the optimum economic growth should be realized through a combination of plan and concrete market relations.

In overall planning, we rely on medium-term plans and long-term prognoses, derived from analyses of demand (consumption, living standard, infrastructure etc.) and production factors (ressources of raw materials and energy, population, investments, technology etc). The present plan, which is considered as open, is oriented towards qualitative changes in production structure which would turn the tide of effectivness expecially in foreign trade, ie. in concrete comparison taking place at the contact of our and world eonomies. These plans have for greater part an indicative function as far as volume is concerned, and a function to form a desired economic environment for the behaviour of enterprises, «delimit the playground and the rules of the game» to start a transition to intensive way of development.

So far, inputs and outputs were prescribed to enterprises from above, their iniciative could be but small. Now, every enterprise is faced by the necessity to maximize its gross income (meaning receipts minus material costs minus depreciation) from which it is due to pay up taxes: on capital, on gross income, on wages and labour increment. In this way, enterprise should be induced to optimize the use of production factors. This needs of course a system of parametric prices setting objective relations a condition that is still missing and should be reached by help of foreign trade. The distribution of gross income after taxes depends on the decision of the enterprise itself, certain means being retained of course for reserve funds, capital construction, social funds etc. The basic principle is that all forms of wages should be bound to economic results. Payments are set down in cooperation between the management and the Trade Union and comprise two component parts: basic wages according to tariffs, and a share in gross income, paid out individually and differentiated in relation to economic merit.

Decision about the size of reward is closely connected with the decision about the future of the enterprise, ie. investment. This may be financed either by own means, or by help of banking credit, which is granted in a certain competition according to such criteria as effectivness, returnability etc. Generally considered, enterprise is free to decide, the State maintains of course a certain degree of influence,

and the possibility of own investment, in such cases as are decisive for the future development of the society: raw materials and energy, transport, development of new branches of industry and similar.

As I mentioned, interest of the enterprise to receive maximum gross and net income requires a rational price system. That is, prices should express the actual relation of production and market conditions, to be able to play a certain allocation function in formation of microstructure, and to react elastically to its changes. (It is understood that the informative potential of market prices is limited from long-term point of view). At this we aim by the construction of so-called two-channel price, which takes into consideration both capital as well as labour costing components. A transition to such a price system was carried out by a reform to 1st January, 1967, which also introduces three types of prices: fixed, limited, and free. It was only the first step, not too perfect, that did not yet try to solve other big problems: independent price systems in retail trade and in foreign trade. Further consecutive steps are being undertaken to their relative unification, or at least to introduce direct relations between prices received abroad, wholesale and retail prices. This is of course a longer process: the problem is not



FORSKER – TRANSPORTGEOGRAFI

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Dersom De er interessert i disse arbeidsoppgaver og er cand. real., cand. philol., sivil- eller sosialøkonom, kan vi tilby et ungt inspirerende miljø med gode videreutdanningsmuligheter.

Lønn efter kvalifikasjoner. Nærmere opplysninger ved forskningsleder Dag Bjørnland.

TRANSPORTØKONOMISK INSTITUTT

Norges Teknisk-Naturvitenskapelige Forskningsråd Stasjonsveien 4 - Oslo 3. Tlf. 60 82 80. the change of prices as such, but the change of the structure of production and consumption, on which prices must be based — ie. a certain investment policy.

This price unification should bring forth more freedom of intercourse between the producer, the consumer and the world market, that is a certain competition between the home and the world economy, and a closer integration into the stream of international scientific and technological progress. I have in mind especially a growth of specialization and industrial cooperation, direct relations between home and foreign enterprises, new forms of their cooperation.

In such circumstances, new importance is acquired by a planned central economic policy that should form and restore economic equlibrium at the optimum level of activity, which, as shown by experience, no market mechanism alone is able to safeguard. In this connection, it seems that the advantage of socialism should be the possibility of direct action and control in the redistribution of national income, and regulation of economic structure: however, the problem of ascertaining the all-social optimum cannot be considered as solved.

International Economic Relations.

Unbalanced development of the national economy in the past has been reflected, with particular urgency, in the field of foreign trade. Relatively fast growth of production (approx. % yearly) necessitated a corresponding growth of imports, above all in raw materials, but the unsuitable structure of production did not allow to increase effective exports in proportion. In this way, imports of raw materials grew two, and tree times faster than production, but the effectivness of exchange went down, during the last decade, by as much as 30 %: beginning of a vicious circle to increase the volume of production well high at any price, connected with the necessity to increase exports even faster. At the root of this phenomenon we find unsuitable structure of economy and break in the unity of movement of value and material — a break in the function of money. Foreign trade grows unbalanced both regarding the product mix (which is stationary), and the territorial distribution, this problem coming to the fore in hard currency areas. On the order of day are changes in microstructure, and changes in materials input in production, that would allow better to satisfy foreign markets, decrease the relative input of materials while creating conditions for an overall growth of turnover, and so to create room for an increased exhange of industrial products, cooperation and specialisation.

No need to stress that this can be reached only if the effectiveness of foreign trade will exert a considerable pressure on the structure of

our production, and so intermediatly on the structure of new investments, the effectivness of which should be measured in international trade. This is conditioned by a relative unification of internal and external price systems which would influence the income of enterprises and their interest in economic results of foreign trade operations. The road to this end has been started, and economic results of foreign trade and production activities of enterprises begin to influence one another. It is a big complex of economic problems, a Gordian knot, which, unfortunately, cannot be cut in one go the way Alexander the Great did it: in play come not only internal monetary and price systems, but also relations to other countries, international organisations, questions of foreign exchange, customs etc., somtimes quite delicate, requiring purposeful and consecutive solu-

New situation of the enterprise leads to some changes in institutional arrangement, gradual changes in organisation, allowing better to carry out new economic principles. Some of the bigger enterprises, especially in machinery industry established their own foreign trade organisations (so Skoda Works, Automobile Works); in other cases, existing Foreign Trade Corporations are being reorganised into limited companies, the shareholders of which are the biggest suppliers and customers (so in textile industry, leather industry etc.). Some more changes are under preparation. Special regard is being paid to the necessity of allowing the producer direct contact with countries abroad. Such are ig. the cases of preduction and licence cooperation with French firm Renault, cooperation with some Swedish firms etc.

We dare say that our concept of implications of scientific technical revolution is, in the realm of foreign trade, at present materialized in the notion that we must considerably increase its volume — say twice —, and that a substantial part of this increase must be reached in exchange of manufactures of all kind. Further, that we must specialize and cooperate with foremost modern technologies. This may become a pattern for considerable increase in turnover, both in ideas as in material goods, both in East and in West.

In Place of Summary — the European Context.

It is not my aim to create an impression that all is nice and tidy, and that all problems of Czechovak life have been solved. Quite contrary: the system of social management we hold as open, never all problems will be solved, as new ones appear on the surface all the time. It seems to me that we did not find the final solution for the mutual position of enterprise and central power, the relation between the management and the Trade Union, indeed the central problem of control of enterprise, of its

disposal (a question which in private ownership economy may seem clear, at least on the surface). And the solution of this problem may be decisive for the position of man in economic determination, therefore his identification with the enterprise and with the aims of the whole society.

There are some more theoretically unsolved questions of international implication: perspectives, trends and forms of economic integration of socialist countries, trends and forms of integration process in West Europe, cooperation of countries with varying economic levels, and other. Objective process of the scientific technical revolution has a general, all-human, allworld character, in long vista it seems to lead to a growing national and international integration of productive forces. This necessity comes to the fore as soon as the need for futher socialisation of productive forces ripens, irrespective of social order. There comes forward a pressure for international economic cooperation with the rising need to promote and extend development and control of cooperation, division of labour, and exchange of activities. In some cases the method of trial and error seems necessary.

It seems to me that the economic system of management in Czechoslovakia as a search for adaptation of the management of national economy, and indeed the whole society, to the requirements of a higher level of development of productive forces, is an addition to the evolution of European thought, and is creating a potential for a broader cooperation; and that we may describe it as a creation of active environmental conditions for growth of economic, scientific and cultural cooperation between countries with varying social systems.

It seems that the stability of any society depends on a certain degree of continuity in its development: the discontinuity of a social revolution is bound to cause a certain lability. It takes some time for it to find again the new level of equilibrium. Twenty years are not much in the life of a nation: new quality of social equilibrium is just what we are striving at.

Of course, it is well known that beside objective economic reasons, which are in the growth of productive forces, the origin of West European intetgrations is also due to political and military considerations, tending to create such integrations as a counterweight to the socialist world, to the «third world», and for a partnership with the United States. It would be out of place to dwell here on these points. But it may be appropriate to point out that the stream of ideas and material goods depends on the environment of international cooperation. If the world will be split asunder by warlike actions, our position will become very embarassing indeed.

Statistikkog markedskontor



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A/L Norske Boligbyggelags Landsforbund

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Om Sovjetsamveldets bistand til utviklingslandene¹⁾

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CAND. OECON. HANS FORBERG

Det foreligger lite litteratur om Sovjets bistand til utviklingslandene. Hovedårsaken til dette er at data er vanskelig tilgjengelige, både fra Sovjetsamveldet som givernasjon og fra de mottakende land. Professor Marshal I. Goldman har i sin bok «Soviet Foreign Aid» søkt å samle de opplysninger som foreligger om emnet. Hans kilder har vært, foruten den sparsomme litteratur som allerede eksisterer, besøk på en rekke russisk-finansierte hjelpeprosjekter rundt om i utviklingslandene og diskusjoner med offentlige tjenestemenn og en rekke u-hjelpeksperter rundt om i verden. Den militære bistand er så å si utelatt i boken, da opplysningene om denne er enda mer sparsomme enn den sivile.

I sin bok behandler også Goldman Sovjets bistandspolitikk overfor andre kommunistland og forholdsvis kort andre kommunistiske staters hjelpevirksomhet. I denne fremstillingen skal vi konsentrere oss om den bistandspolitikk som Sovjetsamveldet har drevet overfor de ikke-kommunistiske utviklingsland i Asia, Latin-Amerika og Afrika. Denne virksomhet har vakt stor interesse i de vestlige land, kanskje først og fremst på grunn av den store publisitet som kjempeprosjekter som Aswandammen og stålverket i Bhilai, India har fått.

Sovjet har i tiden 1954—1966 gitt samlet tilsagn om gaver og lån til utviklingsland til en verdi av tilsvarende ca. \$ 6 milliarder,

ifølge offentlige amerikanske kilder. (Tallet for 1966 er \$ 975 millioner.) De aktuelle overføringer år om annet ligger alltid en god del under hva det er gitt tilsagn om, slik at den kapital som i virkeligheten er blitt overført til u-land er langt mindre. Til sammenligning kan nevnes at amerikanske netto-kapitaloverføringer til u-land i tidsrommet 1956—66 var på ca. \$ 46 milliarder ifølge DAC-statistikken. (Tallet for 1966 er ca. \$ 4.6 milliarder.)

Den altoverveiende del av Sovjets u-hjelp er lånknyttet til bestemte prosjekter og bundet til kjøp av utstyr fra Sovjet. Vanlig amortiseringstid har vært 12 år, rentefot 2,5 % og tilbakebetaling i form av varer.

Sovjets u-hjelp kan føres tilbake til 1954. Koloniene hadde da begynt å frigjøre seg fra moderlandet, og russerne så en mulighet til å vinne innflytelse i de nye nasjoner. Samtidig vokste den russiske industri sterkt, slik at det kunne være viktig å prøve å finne nye markeder, i hvert fall på lang sikt. Den russiske eksport til u-land var \$ 32 mill. i 1950, mens importen beløp seg til \$ 93 mill. I 1965 var de samme tall \$ 908 mill. og \$ 844 mill., hvilket tilsvarer ca. 2 % av u-lands samlede handel.

Egypt.

I Egypt er det russiske hjelpeprogram særlig knyttet til byggingen av Aswan-dammen, et prosjekt som i manges øyne har skaffet sovjetisk u-hjelp en utbredt prestisje.²)

I det hendingsforløpet som leder opp til russisk overtagelse av Aswan-prosjektet ligger det en god porsjon internasjonal maktkamp, glødende nasjonalisme, militære konfrontasjoner og politisk spill.

 $^{^{1})}$ En oversikt vesentlig etter M. I. Goldman's bok «Soviet Foreign Aid», Praeger 1967.

²⁾ Professor Goldman sier (s. 62): «The Aswan Dam prosject more than anything else aroused the Egyptians and awakened the world to the emergence of the U.S.S.R. as a power in international economic affairs».

De første klare planene for prosjektet ble lagt allerede i 1947 av en egyptisk og en italiensk ingeniør. I 1952 ble det klart at USA ville bygge dammen sammen med Storbritannia og Verdensbanken. Samtidig ville Egypt også gjerne ha tak i amerikanske våpen. Dette var ikke amerikanerne særlig villige til å levere dem, med tanke på maktbalansen i Midt-Østen. Egypt henvendte seg da østover og fikk i 1955 løfte om tsjekkiske våpen. Dette gjorde amerikanerne svært betenkte; var det så at Egypt var på vei inn i kommunismen? Tross alt var amerikanerne imidlertid fremdeles villige til å være med på å finansiere Aswan-prosjektet. Etter deres beregninger ville omkostningene i fremmed valuta være \$ 70 millioner for det første byggetrinnet. Disse midler var å betrakte som gave til Egypt (\$ 56 mill. fra USA og \$ 14 mill. fra Storbritannia). For det andre byggetrinnet var det arrangert følgende lån: \$ 130 mill. fra USA, \$ 80 mill. fra Storbritannia og \$ 200 mill. fra Verdensbanken. Lånene skulle tilbakebetales på 40 år til en rentesats av 5 % p. a. Tilsammen var det altså beregnet omkostning i fremmed valuta på \$ 480 mill. Omkostningene i innenlandsk valuta var beregnet å være \$ 760 mill., som Egypt selv skulle sørge for.

Sovjetsamveldet opplyste at de også var interessert i å være med på å finansiere dammen. Imidlertid erklærte amerikanerne at russerne under ingen omstendigheter fikk være med på foretaket. Dette ble tatt ille opp av Egypt, som mente at en slik uttalelse krenket deres verdighet. Etter dette gikk forhandlingene mellom partene tregt, og amerikanerne fant det vanskeligere å støtte foretaket også fordi Egypt hadde unnlatt å ordne med erstatningsavtale overfor Sudan, som ville få store områder oversvømmet av damanlegget.

Den egyptiske ambassadør i Washington ville prøve å få litt fortgang i forhandlingene og opplyste utenriksminister Dulles om at Egypt hadde mottatt et ferdigsydd sovjetisk tilbud om å bygge hele dammen. Foster Dulles syntes han ble utsatt for utpressing og trakk øyeblikkelig det amerikanske tilbud tilbake. Nasser reagerte sterkt på dette, og som en direkte følge ble Suez-kanalen nasjonalisert med begrunnelse av at pengene skulle brukes til dam-prosjektet. Så fulgte invasjonen av israelske, britiske og franske tropper.

I Vesten var en spent på om Sovjet virkelig ville stå ved sitt ord. I januar 1958 fikk Egypt et sovjetisk lån tilsvarende \$ 175 mill. for flere prosjekter som ikke hadde noe med dammen å gjøre. Men endelig i oktober 1958 gikk Sovjet med på å skaffe til veie et lån på \$ 100 mill. for det første byggetrinnet på anlegget. Sovjet endret de opprinnelige planene slik at anleggsomkostningene ble senket med \$ 35 mill.

De var selvfølgelig klar over hvilken enorm betydning det hadde at de fikk gjennomført bygningsarbeidet på en tilfredsstillende måte, og satte følgelig veldige ressurser inn i arbeidet med å løse de store tekniske problemer.

Imidlertid syntes russerne å være motvillige til å finansiere andre byggetrinnet, men etter at vest-tyskerne hadde sagt seg interessert, gikk de med på å finansiere også dette.

Fullstendig finansieringsplan ble undertegnet 27. august 1960, og ser ut som følger:

	a Totale omkost- ninger Mill. \$	b Sovjets andel Mill. \$	b i % av a
Første byggetrinn	614	110	16,2
Andre og tredje bygge- trinn	551	225	40,8
Total	1 165	325	27,8

Dammen var beregnet ferdigbygget i 1970 og ville yte 2 700 000 kwh i elektrisk kraft og øke Egypts dyrkede areal med en tredjedel. Lånebetingelsene for det første russiske lån var 12 års tilbakebetalingstid fra et år etter fullførelsen av første byggetrinn, forutsatt dette ikke ble senere enn 1. januar 1964. Rentesatsen var 2,5 %, og rentene påløp fra den dato utstyret ble tatt i bruk. Tilbakebetalingen skulle fortrinnsvis skje i egyptiske pund for anskaffelse av egyptiske varer, særlig ris og bomull. Tilbakebetaling i form av varer er en vanlig passus ved sovjetiske hjelpeytelser. For å kunne si noe om hvor fordelaktig en slik fremgangsmåte er for mottakerlandet, må en også vite noe om den prispolitikk som følges, samt etterspørselsforholdene for angjeldende vare på andre markeder.

Det andre lån ble ydet på lignende betingelser. Løpetiden på de lån som opprinnelig skulle kommet fra vestlige kilder var lenger enn for de russiske, men på grunn av at det russiske alternativ krevet lavere anleggsomkostninger, på grunn av at tilbakebetalingen av dette lån ikke nødvendigvis skulle være i konvertibel valuta og at lånerenten var lavere, virket det russiske tilbudet mest fordelaktig på Egypt.

Selve byggearbeidet viste seg å inneholde mange uforutsette vanskeligheter for russerne. Transportmulighetene var ikke de beste for tungt utstyr opp til øvre Egypt. Russiske teknikere var ikke vant til slike høye temperaturer, og russiske maskiner var heller ikke konstruert for slike klimatiske forhold og tålte påkjenningene dårlig. Svenske trykkluftsbor, engelske lastebiler og amerikanske buldozere måtte innføres av Egypt for å få arbeidet unna.

På forhånd var det satt en grense for arbeidet med første byggetrinn til 15. mai 1964. Det var av stor betydning både økonomisk og propagandamessig å bli ferdig til den fastsatte tiden, og i 1963 ble arbeidsstokken øket fra ca.

 $15\,000$ til $34\,000,$ og antallet ansatte russere ble økt fra 800 til ca. $1\,800.$

I bestrebelsene med å få anlegget til fastsatt tid ble sikkerhetsforanstaltningene forsømt, og man regner med at minst 227 arbeidere mistet livet (derav flere sovjetrussere). Imidlertid ble arbeidet fullført innen tidsfristen³).

Det viste seg at Egypt skulle få vansker med tilbakebetalingen av de russiske lån. I 1964 forfalt \$ 2 mill. i renter og \$ 8,33 mill. i avdrag til Sovjet, som Egypt ikke klarte å betale tilbake dette året. Vanligvis vil det jo ta en tid før et nytt prosjekt beregnes å gi noen form for avkastning, og i 1964 var ennå ikke Aswananlegget begynt å kaste noe av seg, Tross dette erklærte Krustsiov samme år at Egypt ville få nytt lån på \$ 277 mill., som skulle skaffe ca. 10 % av de midler som trengtes for Egypts andre femårsplan.

Sovjets hjelp til Egypt har vist seg å være vellykket både fra et propagandamessig og et økonomisk synspunkt, slår Goldman fast, og den har skapt langt større goodwill enn det de vestlige hjelpeprogrammer har maktet.

Til og med juni 1965 er den russiske lånevirksomhet til Egypt følgende:

 Januar 1958
 \$ 175 mill.
 Industriprosjekter.

 Des. 27, 1958
 \$ 100 mill.
 Aswan-Dam.

 Aug. 28, 1960
 \$ 225 mill.
 Aswan-Dam.

 Juni 18, 1963
 \$ 44 mill.
 Industriprosjekter.

 Mai 24, 1964
 \$ 277 mill.
 Industriprosjekter.

I 1965 var hele det første lånetilsagnet, bortsett fra \$ 9 mill., utnyttet. Hvor meget som er blitt nyttet av de andre foreligger det ikke opplysninger om. I tillegg til sivile lån kommer militære lån til kanskje et lignende beløp.

Prosjekter som russisk bistand har muliggjort bygging av er f. eks. et koksverk ved Helwan — med en kapasitet på 280 000 tonn pr. år og med produksjon av adskillige biprodukter, stålverk, oljeraffinerier ved Suez og Alexandria, to bomullsspinnerier, radiofabrikker, termo-elektrisitetsverk, melkekonserveringsfabrikk (sammen med tsjekkerne) og et anlegg for tørking av løk (med Bulgaria). En viktig del av hjelpeprogrammet er opplæring av egyptiske teknikere og ingeniører.

India.

India er det land utenom østblokken som har mottatt størst sovjetisk bistand. Også her har russerne klart å skape stor goodwill for sin

3) Professor Goldman slår fast; s. 70: «Clearly this was an historical occasion and the Russians had done an impressive job».

hjelp og har maktet å tre frem som en sann hjelper av de fattige nasjoner.⁴)

Da India ble fritt, ville det prøve å bygge opp sin industri så hurtig som mulig. Langvarige forhandlinger ble ført med England og Tyskland om bygging av et stålverk, men uten resultat. Russerne tilbød seg imidlertid i 1955 å bygge et stålverk i Bhilai, ca. 800 km vest for Calcutta. Etter dette tilbudet fra Sovjet samtykket tyskerne i at de ville bygge et stålverk i Rourkela, ca. 350 km vest for Calcutta — og da britene tilbød seg å bygge et tredje stålverk i Durgapur (ca. 150 km nordvest for Calcutta), var bordet duket for internasjonal kappestrid om hvem som kunne bygge sin fabrikk hurtigst, best og mest effektiv.

I Bhilai valgte sovjetrusserne en enklere produksjonsmetode enn sine to «konkurrenter», noe som gjorde at også selve anleggsomkostningene ble lave og maskinene lettere å betjene. Sovjet satte sine fremste eksperter på jobben og ydet kreditt på meget gunstige vilkår i forhold til de vestlige land (2,5 % p. a. over 12 år og tilbakebetaling i rupees, mens rentesatsen var 4,5 % til 6,3 % på de vestlige lån og tilbakebetaling skulle skje i konvertibel valuta).

Russerne hevder at deres anlegg er billigst. Ifølge de indiske data er de totale omkostninger ved det engelske verket mindre enn ved det russiske, mens russerne var villige til å skaffe mer fremmed valuta.

Bhalai ble ferdigbygget og produserte for full kapasitet ca. 2 år før de to andre. Hvilket av de tre prosjekter som er mest lønnsomt var det ennå da boken ble skrevet for tidlig å si noe særlig om. Imidlertid vant Sovjet en stor propagandaseier fordi de kom tidlig i gang med sin produksjon og brukte et stort antall indiske medarbeidere (og relativt få russere). Sovjet hadde riktignok noen vansker med innkjøringen av sitt anlegg, men de to andre anleggene hadde langt større vansker. Imidlertid hadde russerne langt flere arbeidsulykker ved sitt prosjekt.

Det tiltrakk seg stor oppmerksomhet da det i oktober 1963 kunne eksporteres 12 500 tonn jernbaneskinner til Sudan fra Bhilai. Det var den første eksportsending fra indisk stålindustri

Russerne hadde lykken med seg til sent i 1964. Da brøt to av smelteovnene sammen. Dette uhell medførte store tap for anlegget og la muligens en demper på den store prestisje som Bhilai hadde oppnådd.

India bestemte seg for å bygge et fjerde stålverk i Bokaro. Dette skulle være større enn de tre første, og det syntes naturlig at amerikanerne ville bygge det. Men til tross for at både ambassadør J. K. Galbraith og president Kennedy hadde gått inn for amerikansk finansiering av stålverket, anbefalte en amerikansk «steel mission» at anlegget ikke skulle finansieres og bygges av U.S.A. Det endte med at

⁴⁾ «Although the amount of Soviet aid is only about one-fifth of that of American aid, Russian activities in India seem to have had a greater impact on the consciousness of India and the world than has American aid». Op. cit; s. 85.

russerne påtok seg å bygge også dette stålverket.

Russerne endret de eksisterende byggeplaner slik at anlegget ville kreve mindre fremmed valuta og ville benytte mer av Indias egne ressurser, f. eks. ved at en rekke maskiner skulle leveres av en indisk maskinfabrikk i Ranehi. (Forøvrig bygget av russere og tsjekkere.) Det hadde vist seg vanskelig å finne marked for tungt utstyr fra fabrikken i Ranchi, slik at bestemmelsen om å bruke mest mulig maskiner fra denne bedrift til Bokaro ga gunstige ringvirkninger i Indias økonomi.

Russerne har vært med å bryte ned de vestlige oljekarteller i India. Oljen til India ble opprinnelig importert fra Midt-Østen, og oljeselskapene regnet seg rikelig profitt. Oljen kostet India mer enn \$ 200 mill. pr. år i konvertibel valuta.

I 1960 tilbød russerne olje til India til en pris som lå 25 cent pr. fat under den eksisterende pris. Dette tvang selskapene til å slå av prisen 27 cent pr. fat, men likevel godtok India det russiske tilbud. Da oljeselskapene nektet å raffinere og distribuere den russiske oljen, bestemte inderne seg for å bygge eget raffineri og distribusjonsapparat. Da det samme hendte på Cuba og Ceylon var resultatet her nasjonalisering av oljeindustrien.

Etter at vestlige geologer hadde foretatt boringer etter olje i India og ikke funnet noe, kom russerne etterpå og fant olje på de samme stedene (dette har hendt også i Britisk Guiana og Pakistan). Slike hendelser setter de store oljeselskaper i et noe underlig lys, noe som også slår tilbake på vestlig utviklingshjelp i alminnelighet.

I 1966 var det åtte områder i India hvor det ble utvunnet olje, nok til å dekke ca. $\frac{1}{3}$ av landets behov. Følgende oljeraffinerier er blitt bygget i India:

Sted	Bygger	Plan- lagt kapasitet (mill. tons)	An- leggs- (mill. \$ omk.)
Gauhati Barauni Koyali Cochin Madras og Haldia	Romania Sovjet Sovjet Phillips (US) Forskjellige vestlige firmaer	0,75 2,00 2,00 2,50 2,50	32 76 60 34 21—25

Som vi ser, dersom vi dividerer anleggsomkostninger med planlagt kapasitet, opererer de kommunistbygde anlegg med store anleggsomkostninger pr. tonn i forhold til de to siste. Dette er blitt sterkt kritisert, og tross billige lån (2,5 % rente, 7—12 års tilbakebetaling i lokal valuta) føler inderne at de østlige oljeraffinerier ble noe dyre. Om det lå en bevisst prispolitikk bak dette fra Sovjets side med forsøk på å utnytte en monopolsituasjon de fra først av hadde, er ikke godt å si.

De samlede russiske tilsagn om lån og gaver til India er i alt på \$ 1593 mill. pr. 31.12. 1966, iflg. offentlige amerikanske kilder.

For å balansere bildet en smule trekker Goldman frem endel kritikk som er kommet frem av den russiske hjelpeaktivitet i India. Det har ofte hendt at utstyr ikke er kommet frem i tide, mindre prosjekter er dårlig planlagt, og lånene er bundet til utstyr fra Russland — som ofte har vært av mindre bra kvalitet.

Sovjet har også ydet India militærhjelp. På grunn av det spente forhold mellom Pakistan og India, er denne hjelpen blitt sett på med svært ublide øyne av Pakistan. De andre østeuropeiske land har også ydet India ganske betydelig uhjelp. Offentlige amerikanske kilder anslår at gaver, lån og tilsagn om lån til India fra disse land til og med 1966 tilsvarer ca. \$ 345 mill. Mesteparten er kommet fra Tsjekkoslovakia.

I Sovjet er handel med u-land integrert som en viktig del av den økonomiske politikk overfor u-land. Med sine 230 millioner innbyggere er Sovjet et fristende marked for u-lands råvareeksport, og spesielt i u-land har en vært tilbøyelig til å tro at prisene på råvarer i statshandelsland vil holde seg mer stabile enn på verdensmarkedet.⁵)

Sovjet har erklært at de har avskaffet toll på varer fra u-land, men i et statshandelsland har jo dette liten mening — da både importøren og tolleren er en og samme instans. India er nå Sovjetunionens største ikke-kommunistiske handelspartner. Indisk eksport er for en stor del brukt til tilbakebetaling av lån. Dette kan imidlertid høres mer gunstig ut enn det i virkeligheten er.

Indiske industrivarer som russerne kjøper inneholder ofte høy importandel. Dette medfører at russerne blir tilbakebetalt i hvert fall delvis i hård valuta. Det har ofte hendt at russerne reeksporterer indiske varer på verdensmarkedet — og på den måten skaffer seg hård valuta. En slik fremgangsmåte vil selvfølgelig ødelegge indiske eksportmuligheter andre steder.

Afghanistan.

Afghanistan var landet hvor russisk hjelpevirksomhet startet. I 1927 bygget Sovjet en radiotelegraf og et bomullsspinneri til sin nabo i sør, skjønt det på dette tidspunkt ikke ble kalt u-hjelp. I januar 1954 fikk Afghanistan et lån på \$ 3,5 mill. til en kornsilo og en mølle, og på slutten av 1954 et nytt lån på \$ 2,1 mill. til

⁵) Ifølge en amerikansk undersøkelse er dette ikke riktig. Se Egon Neuberger: Is the USSR superior to the West as a Market for Primary Products? Review of Economics and Statistics. Aug. 1964.

bygging av en asfaltfabrikk for asfaltering av gatene i Kabul. Begge lånene i 1954 var på 3 % p. a. og tilbakebetaling over 8 år. For Afghanistan er Sovjet den største yter av utviklingshjelp. Opp til 1964 var de russiske tilsagn om lån og gaver til Afghanistan \$ 500 mill. sammenlignet med Amerikas \$ 275. Goldman mener at russerne her forsøker å bevise at de kan opprettholde meget gode og fredelige forbindelser med en nabo og at de kan oppmuntre til økonomisk vekst uten overdreven politisk innblanding. Det russiske hjelpeprogram i Afghanistan har også vært en suksess, med stort sett heldige og vel gjennomførte prosjekter. Det særpreger prosjektene at de er relativt store og har tiltrukket seg stor oppmerksomhet.

Et større lån på \$ 100 mill. kom i 1956, hvor renten var 2 % og tilbakebetalingstiden 30 år; altså meget gunstige betingelser, noe som henger sammen med Afghanistans dårlige tilbakebetalingsevne. En rekke prosjekter skulle finansieres ved dette lånet, f. eks. kraftverk, en elvehavn i Oxus River, tanker for lagring av olje og en vei gjennom Hindu Kush fjellene. Denne veien ble en stor seier for Sovjet da den ble åpnet i 1964. Den forbinder Kabul med nordlige deler av landet og er bygd i meget vanskelig fjellterreng. For å skaffe lokal valuta til sine prosjekter ble det ordnet med lån til innkjøp av sovjetrussiske forbruksvarer som ble solgt på det lokale marked. Sovjet har også sendt matvarehjelp som gave i form av korn og sukker ved feilslått høst i Afghanistan.

Ved geologiske undersøkelser er det funnet mange oljekilder, som nå blir utnyttet.

Russerne påtok seg å bygge en annen vei på 425 miles fra Herat til Kandahar, hvor størsteparten av omkostningene ble dekket i form av gaver. Denne veien vil møte en amerikanskbygget vei fra Kabul til Kandahar, altså et strålende — skjønt utilsiktet — eksempel på stormaktssamarbeid i et u-land.

Av Afghanistans første femårsplan 1956—61 ydet russerne ca. 70 % av det som trengtes i utenlandsk valuta. Også i andre femårsplaner var russerne meget med, blant annet med et atomkraftverk og utbygging og utnytting av naturgass-leier, hvor avdrag og rente (2,5 %) betales ved direkte leveranse av gass til Sovjet. Russerne har stort sett vært meget heldige med gjennomføringen av sine prosjekter i Afghanistan — i motsetning til amerikanerne, som har gjort en uheldig figur her. Som et eksempel på dette kan nevnes bygging av en stor, moderne amerikansk-finansiert flyplass i Kandahar, som måtte holdes stengt på grunn av at det ikke var mulig å få regelmessig tilgang på fly-brennstoff. Veien som brennstoffet skulle fraktes på ble ferdig lenge etter flyplassen. Russerne har i Afghanistan vist evner til å ta avgjørelser på stedet m. h. t. prosjekter og betingelser, mens amerikanerne her synes

å ha utvist for stor forsiktighet og vist liten evne til å tilpasse hjelpeprogrammet til den økonomiske situasjon i landet.

Indonesia.

Indonesia har mottatt ganske omfattende russisk hjelp, både sivil og militær, men sjelden har vel så meget penger kastet så lite av seg. Et lånetilbud på \$ 100 mill. ble gitt i september 1956 til 2,5 % rente med 12 års tilbakebetalingstid og en avdragsfri periode på 3 år. I tillegg til det kom 12 skip til et samlet kostende av \$ 12,5 mill. Et stålverk som skulle bygges ble etter indonesisk press lagt til Tjilegan. Stedet hadde ingen naturlige forutsetninger for et stålverk, slik at det måtte store ekstraomkostninger til for bygging av veier og tilførselslinjer av elektrisk kraft. Russisk utstyr ble liggende lenge og ruste i havnen i Djakarta fordi byggingsarbeidet ble meget forsinket. Utstyr til en statsfarm for risdyrking viste seg ubrukbart i Indonesia. En gjødningsfabrikk i Tjilatjap til \$ 9 mill. ble bygget etter at undersøkelser hadde vist at det var råstoff der. Da driften skulle settes i gang viste det seg at det likevel ikke var egnet råstoff på stedet. På grunn av slike uhell og overraskelser var ingen av de russiske prosjekter som skulle bli bygd med det første lånet ennå ferdige i 1966.

Selv om man på russisk hold hadde gjort nedslående erfaringer om arbeidet i Indonesia ble det innvilget et nytt lån på \$ 250 mill. i 1960. Pengene skulle bl. a. brukes til en atomreaktor (ca. \$ 2 mill.), geologiske undersøkelser (\$ 3 mill.), stålverk (\$ 166 mill.), gjødningfabrikker, hydroelektriske kraftverk og aluminiumsverk (\$ 120 mill.). De eneste russisk-finansierte prosjekter som er fullført er et oseanografisk forskningsinstitutt til \$ 5 mill., et kjempestort idrettsanlegg til \$ 12,5 mill. og atomreaktoren til \$ 2 mill. I tillegg til sivile lån har Indonesia mottatt store mengder militært utstyr fra Russland.

Kina har gitt Indonesia løfte om hjelp for ca. \$ 100 mill., men alt de hittil har levert er ris og tekstilartikler til en verdi av mellom \$ 11 mill. og \$ 26,5 mill. Andre øst-europeiske land har også vært involvert i Indonesia. Østtyskerne har f. eks. bygd sukkerraffineri og tilbudt å bygge trykkerier. Tsjekkerne har fullført en dekkfabrikk og et sukkerraffineri. Men uvanlig mange av de anlegg som er planlagt er enten bare halvferdige eller fremdeles på tegnebrettet. Blant annet fordi så lite kom ut av investeringene har det vært vanskelig for Indonesia å tilbakebetale renter og avdrag.

De problemer som russerne har møtt i Indonesia er delvis de samme som andre har møtt. Amerikanerne har imidlertid hatt noen vellykkede prosjekter her, men disse er bygget med relativt liten innsats fra Indonesias side. Dette viser at en metode som virker godt i ett u-land ikke behøver å virke godt i et annet.

Andre land.

Som det fremgår av tabellen har Sovjet-Samveldet ydet tilsagn om hjelp også til mange andre utviklingsland. I flere asiatiske og afrikanske land har russerne møtt betydelig «konkurranse» fra Kina, som også vil være med i kappløpet om u-landenes gunst. (Jfr. f. eks. Nepal, Kambodja, Ceylon, Kongo Br., Tanzania.)

Nasjoner med regimer som betraktes som «progressive» har mottatt relativt store hjelpetilsagn fra Sovjet. Dette gjelder land som

Algerie, Syria og Irak.

I Latin-Amerika har russisk bistandsvirksomhet vært forholdsvis beskjeden. I stedet har det vært gjort fremstøt på handelsfronten. Et bestemt mønster synes å danne seg når det gjelder Sovjets handelspolitikk overfor mange u-land, et mønster vi sannsynligvis i mange tilfelle også vil kunne finne dersom vi undersøkte andre store nasjoners handelspolitikk overfor mindre land. Sovjet kjøper store mengder av et lands eksportvarer og betaler med konvertibel valuta. Når eksportlandet synes å være blitt avhengig av det russiske marked, forsøker Sovjet å overtale det til å ta russiske varer i bytte. Dersom u-landene ikke finner andre markeder for sin eksport, blir de nødt til å kjøpe russiske varer, selv om andre importvarer hadde vært mer hensiktsmessige. På denne måten blir de gjort mer og mer avhengige av Sovjet i sin handel. Dette mønster kan en finne igien for flere land i Latin-Amerika, selv om ingen av disse land kan sies å være blitt «avhengige» av det russiske marked.

Hvilke motiver ligger bak, og hva har Sovjet oppnådd ved sin u-hjelp?

Det er både økonomiske, humanitære og politiske motiver som ligger bak den russiske u-hjelp, mener Goldman. Hva som er mest avgjørende i hvert enkelt tilfelle er ofte vanskelig å bringe på det rene. Imidlertid er det klart at en eller annen form for økonomisk vinning på kortere eller lengere sikt — har vært en meget viktig motivasjon i de fleste tilfelle hvor russerne har ydet u-hjelp. Da Sovjet for alvor tok opp forbindelsen med utviklingsland i 1954, var det opplagt av stor betydning at de på lengre sikt håpet å kunne opparbeide markeder for sin økende industri-produksjon, samt at de ønsket å sikre seg tilførsler av nødvendige råvarer fra disse land, som gummi, kopper, tinn, kakao, sukker. Da handelsforbindelsene med Kina ble sterkt beskåret i 1960, ble avsetningsproblemet aksentuert. Det var ikke lett å få utviklingsland til å kjøpe russiske industrivarer da det tradisjonelt var vestlige land som var leverandører av disse varer. For å komme inn på disse markeder har russerne da ofte benyttet seg av å yte bundne lån og å inngå omfattende varebytteavtaler.

Goldman mener at en skal huske på at også Sovjet gir hjelp ut fra rene humanitære motiver og at en derfor ikke alltid må lete etter handelspolitiske eller politiske grunner.

I den utstrekning den er politisk motivert tar Sovjets u-hjelp først og fremst sikte på å fremme nasjonen Sovjets innflytelse i disse land, samtidig som det også gir regjeringen prestisje innenlands å hjelpe de fattige nasjoner.

Det gjelder for russerne å skape en motvekt mot amerikansk og vestlig innflytelse i utviklingslandene. Deres prioritering er mer influert av om mottakerlandet er anti-vestlig enn av om det i sin innenrikspolitikk er prokommunistisk. Regimer med sterk anti-vestlig holdning, som f. eks. Egypt og Irak, har mottatt store beløp i sovjetrussisk hjelp, selv om det kommunistiske parti er forbudt i disse landene.

Etter at de kinesisk-russiske vennskap hadde kjølnet, var det tydelig at u-hjelp ble brukt både av Kina og Sovjet for å utbre nasjonal prestisje på den annen parts bekostning. Særlig foran det afro-asiatiske toppmøte som skulle holdes i Algerie i 1965, var det tydelig hvorledes Kina og Sovjet kjempet om u-lands støtte ved å tilby lån og gaver. Striden sto her om hvorvidt Sovjet skulle få rett til å delta på dette møtet eller ikke.

Som vi har sett har denne konkurransen mellom de to store kommunistmaktene særlig funnet sted i Asia, men den er også merkbar i flere afrikanske land. (Kinesiske lånetilsagn overgår russernes i Kongo (Brazzaville), Kenya og Tanzania.)

Kineserne prøver i sin propaganda ofte å mistenkeliggjøre russerne som ydere av hjelp til u-land, og stiller dem i klasse med amerikanerne og «andre imperialister». De hevder at afro-asiater må stole på egne krefter i sin økonomiske utvikling. Til dette er russerne snare til å minne kineserne om hva de selv har mottatt, og til dette kan russerne påpeke at av 108 prosiekter som kineserne har startet, er bare 10 ferdigbygde (midten av 1964), og siden da er ikke svært meget blitt gjort fra kinesernes side.

Det er klart at Kina prøver å gjøre Russland rangen stridig som givernasjon. Kina har manifestert sitt nærvær i mange u-land og vist at det akter å konkurrere med russerne og andre om innflytelse i disse land, selvom kineserne ennå ikke har maktet å bygge ferdig så mange prosjekter. Løfter om kinesisk hjelp vurderes derfor kanskje ikke lenger så høyt av u-landene.

Goldman mener at det russiske hjelpeprogram uten tvil har skaffet Sovjetsamveldet som nasjon mange venner blant landene i den tredje verden og øket dets internasjonale prestisje atskillig. Tilbakebetaling av de sovjetiske lån begynner imidlertid å bli et problem for

mange land. Militært utstyr og investeringer i kjempe-idrettsanlegg, statuer o. l. kaster lite av seg i form av økonomisk gevinst og legger beslag på sparsomme ressurser når det en dag skal betales for disse anskaffelser. Land som har store investeringer til slike formål har de største tilbakebetalingsvansker overfor Sovjet.

Russerne har i flere land bygd nøkkelprosjekter med stor betydning for den videre økonomiske utvikling i landene. Disse prosjekter er først og fremst innen industrisektoren. Det har hendt at deres byggemetoder åpenbart er enklere og billigere enn den som vestlige land ville benytte (Aswan). Disse store nøkkelprosjekter er ofte rene mønsteranlegg som administreres og drives med stor effektivitet. Det virker som de er tenkt å være reklamevindu for russisk u-hjelp og russisk teknologi overfor hele verden. Det er tydelig at disse «reklameprosjektene» har høy prioritet innen det russiske u-hjelpeprogram, mens prosjekter med lavere prioritet på langt nær viser de samme strålende resultater.

Hva som avgjør hvilken prioritet et prosjekt skal ha, nevner ikke Goldman noe om, men det er vel rimelig å anta at de prosjekter som ventes å gi høyest politisk og/eller økonomisk avkastning i en eller annen forstand, vil bli gitt høyest prioritet.

Russerne har en smidig u-hjelpsadministrasjon, som gjør det mulig på kort varsel å gå inn for et prosjekt dersom det av politiske eller andre grunner synes ønskelig. Da franskmennene trakk seg ut av Guinea, kunne russerne f. eks. så å si omgående sende tilsagn om bistand til Conakry. Denne smidighet giør det mulig å få større reklameeffekt ut av de midler som ytes i u-hjelp da den kan settes inn på det psykologisk riktige tidspunkt. Goldman mener at Vesten, og særlig amerikanerne, har meget å lære av russerne når det gjelder å ta hurtige avgjørelser i forbindelse med et prosjekt. Den amerikanske fremgangsmåte er ofte for besværlig og tidkrevende og kan virke irriterende i mange u-land.

Russerne har gjort meget for å øke kunnskapsnivået i de land hvor de har hatt prosjekter gående. Mange ungdommer fra disse land har fått teknisk opplæring ved de bedrifter som er anlagt, og mange studenter fra u-land får teknisk og annen opplæring i Sovjet. Det er en kjent sak at Sovjet har hatt uheldig erfaring med mange studenter som er gitt utdannelse f. eks. i Moskva (mange kommer tilbake som motstandere av det kommunistiske system), men Goldman mener at Sovjet ved sitt utdanningsprogram har overført en stor mengde kunnskap til u-landene, som er av stor betydning for deres økonomiske vekst.

Det største Sovjet hittil har oppnådd ved sitt hjelpeprogram er å øke interessen for utviklingshjelp i andre givernasjoner, sier Goldman. Som følge av at russerne begynte å søke innpass i den tredje verden ved kapitaloverførin-

ger, handelsavtaler, etc., syntes særlig amerikanerne (og senere kineserne) at de må følge opp denne utfordring ved å yte mer i u-hjelp. Dette virker kanskje igjen tilbake på den sovjetiske u-hjelps omfang. Som et eksempel nevnes India, hvor amerikanske kapitaloverføringer i 1951 var på \$ 4,5 mill. — øket til \$ 87 mill. i 1954 og over \$ 100 mill. i 1959. Amerikanske offentlige netto-overføringer til India lå gjennomsnittlig på ca. \$ 650 mill. pr. år i perioden 1960—65 ifølge DAC-statistikk.

Sovjets utviklingshjelp har også gjort nøytralitet til et mulig alternativ for utviklingslandene. Disse land er ikke lenger utelukkende avhengige av Vesten for å få tilført utenlandsk kapital for sin økonomiske utvikling og finne avsetningsmuligheter for sin eksport. Dette gjør det mulig for dem å føre en mer selvstendig politikk — både uten- og innenriks – og de fleste u-land har da også erklært seg «nøytrale» i striden mellom øst og vest.

Imidlertid har selvfølgelig ikke russerne greid seg helt uten å gjøre mistak i gjennomføringen av sitt u-hjelpprogram. Flere av de mest uproduktive investeringene, slik som de kostbare idrettsanleggene i Guinea, Mali og Indonesia, har ført til at klagende røster har reist seg i disse land over dårlig rådgivning fra russernes side. Prosjekter som ikke har topp-prioritering tar lang tid på å bli ferdige. For disse prosjekter hender det ofte at nødvendige materialer ikke kommer frem tidsnok, er av dårlig kvalitet eller blir det ved dårlig lagring.

Sovjet legger som før nevnt, særlig vekt på industrireising ved sin u-hjelppolitikk.6)

Mange av de industrianlegg Sovjet har bygget synes imidlertid å være altfor store i forhold til den etterspørsel produktene fra disse anlegg kan ventes å få. Russerne har en tendens til å bygge fabrikker mer etter forholdene i Sovjet enn etter forholdene i et utviklingsland. Dette mener Goldman henger sammen med at de ikke regner renten som en omkostning ved kapitalanvendelse på samme måte som vestlige land. De regner som regel en låneavgift på 2,5 %, men dette tilsvarer ikke den vanlige rente. Når kapitalen er «gratis», fristes planleggeren til å lage for store anlegg.

I det siste har det imidlertid vært tendenser til at rentesatsen på russiske lån til u-land har vært økende. Dette henger sammen med de økonomiske reformer som finner sted i Sovjet

Goldman finner det nytteløst å prøve å finne

Andre

Industri og geologiske undersøkelser	71 %
Jordbruk (inklusive irrigasjon)	7 %
Transport og kommunikasjon	9 %
Utdannelse, kultur, idretts- og helsevesen	4 %
Andre	9 %)

 $^{^6)}$ (Ifølge russiske kilder gjengitt i O.E.C.D.-dokument DD/TC/5237, mars 1967, er det følgende fordeling av russisk u-hjelp:

ut hvem som knytter flest betingelser ved sin u-hjelp, Øst eller Vest. Han sier: «No country likes to spend large sums of money for the benefit of another country only to see the recipient refuse to follow advice».

Imidlertid går han inn for at Vesten bør innta en mer positiv holdning overfor Sovjets uhjelp. Denne bistand medvirker tross alt til økonomisk fremgang i de land den kommer tilgode, og det er en vanlig oppfatning i de vestlige land at jo rikere et land blir, jo mindre sannsynlig er det at det vil bli kommunistisk.

Dersom et land ikke skulle lykkes i å skape en så hurtig økonomisk vekst som det hadde håpet, er det da flere rådgivernasjoner som vil måtte påta seg «skylden» for dette. Dessuten kan det virke heldig for mottakerlandet at flere parter konkurrerer om dets gunst ved å yte utviklingshjelp. Dermed kan en anta at givervolumet blir større og at de konkurrerende parter virkelig vil gå inn for å gjøre en best mulig jobb.

Til den sparsomme litteratur som finnes om Sovjets u-hjelp er Goldmans bok et nyttig bidrag, selv om den mange steder synes temmelig tendensiøs. Mange data som er benyttet er kanskje litt gamle, men på grunn av at opplysningene ofte er så vanskelig å få fatt på, kan en kanskje ikke vente å få helt fersk informasjon. Det har heller ikke lykkes Goldman å finne frem til nøyaktige tall for hvor meget russerne virkelig utbetaler eller yter i u-hjelp hvert år. Dette er foreløpig russernes egen hemmelighet.

Tabell: USA, Kina og Sovjetsamveldets tilsagn om utviklingshjelp 1946—1966¹) til utvalgte land. (Alle tall i millioner dollar)

		U. S	. A.	Kina	Sovjets amvel det	
	Total	«Mat for fred»	Gaver	Lån og gaver	Lån	Gaver
Afghanistan	295	84	154	28	377	150
Algeria	162	158	4	55-60	228	
Argentina	711	18	10		100	
Brasil	$2\ 518$	603	112		100	
Burma	111	46	26	8488	10—15	
Kambodja	256	3	253	55-60	12	6
Ceylon	91	68	16	31—41	30	
Kongo (Br.)	4		2	25	9	
Etiopia	150	15	68		100	2
Ghana	166	7	9	42	82	
Guinea	69	27	35	32	61—85	
India	5 882	2 753	385		8062)	
Indonesia	1345	289	222	100—108	367-375	
Iran	837	113	379	100 100	39	
Irak	53	25	19		183	
Kenya	36	14	17	18—28	3	
Laos	419	4	415	3)	4	
Mali	14	ī	10	20	61	
Marokko	484	192	19	_~	3)	
Nepal	86	44	37	4371	3	11
Pakistan	2 937	1 097	638	90	80—100	
Senegal	17	6	7		7	
Somalia	47	7	32	23	52	
Sudan	89	18	55		22	
Syria	83	63		16-20	237	
Tanzania	44	18	9	43	42	
Tunis	449	213	110	10	29	
Tyrkia	$2\ 120$	419	938		168—178	
U.A.R.	1 081	851	68	85	821	
Uganda	17	1	11	15	16	
Yemen	39	10	29	44-49	92	
Zambia	24	10	3	0,5	32	
Total	20 636	7 167	4 094	859—938	4 141—4 208	169

Kilde: Goldmans bok.

¹⁾ Tall for U.S.A. til midten av 1965.

²) I tillegg kommer \$ 800 mill. som det er gitt tilsagn om for den fjerde femårsplan.

³⁾ Størrelse ukjent.

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Some Financial Instruments and Efficiency Incentives in Educational Policy¹⁾

BY KJELL EIDE

I. Efficiency Concepts.

- 1. The term «efficiency» does not seem to have a unique, generally accepted meaning. A few words about the meanings of this term may, therefore, be a suitable introduction to this paper.
- 2. If we have a process in which one single type of output is produced by one single type of input, the number of input units needed to produce one unit of output constitutes a measure of what may be termed the technical efficiency of the process.
- 3. If one singel type of output is produced by more than one input factor, similar measures of technical efficiency can be established by relating output to the input of each factor. However, the value of each of these measures will depend on the actual input of other factors, none of them providing valid information about the *efficiency of the process as a whole*.
- 4. This «total» efficiency can only be measured if the values of all input factors can be reduced to a common denominator by the help of input prices or other general value indicators. By relating output to the total value of inputs, we obtain a measure of economic efficiency. In economic terms, this measure corresponds to unit costs.
- 5. If more than one type of output is produced by more than one type of input, unit costs can

be estimated for each type of output. However, such partial efficiency measures are not sufficient to describe the efficiency of the process as a whole. The values of various types of output must be reduced to a common denominator by the help of output prices or other general value indicators. Total output in this sense may then be related to total input, thus providing another economic efficiency measure. In economic terms, this measure is closely related to the concept of *profitability*.

6. In this paper, we shall be concerned with the two latter types of (economic) efficiency, relevant to processes with one-dimensional and multi-dimensional objectives functions respectively.

7. With efficiency concepts thus defined, increased efficiency can only be obtained through a more optimal composition of input factors. If the process involves interactions between several individuals or organizational units, increased efficiency implies that the behaviour of individual bodies participating in the process should show a higher degree of consistency with its objective(s).

II. Instruments and Incentives.

8. Changing the behaviour of individual bodies participating in a process means changing the premises upon which the decisions of such bodies are made. Measures intended to cause such changes will here be termed «policy instruments». To the extent that the use of such policy instruments causes a more optimal composition of input factors, thus increasing efficiency, we shall say that they act as *«efficiency incentives»*.

¹⁾ Utarbeidet for en OECD-konferanse om «Budgeting, Programme Analysis and Cost-Effectivewess in Education», Paris, April 1968.

- 9. Policy instruments may, of course, also be used in order to influence the total *scale* of the process, without changing the composition of input factors, or even causing a *less* optimal composition of such factors. In this case, policy instruments do not act as efficiency incentives.¹)
- 10. Within the administrative process, questions related to policy instruments may appear to belong exclusively to the field of policy implementation. In practice, however, the availability of adequate policy instruments is essential to the kind of planning assumed to *preceed* policy decisions. Failure to realize this has led to the lack of any real impact of many plans. Checking the consistency of desired courses of action with the policy instruments likely to be at hand is, in fact, a basic feature of the planning process.
- 11. Roughly speaking, policy instruments can be grouped under three headings: legal instruments, financial instruments and informative instruments.
- 12. In traditional public administration, legal instruments tend to be given a dominant role. An essential characteristic of such instruments is that they appear to offer possibilities for fixing exactly the immediate consequences of public intervention. Their drawbacks stem from lack of selectivity and flexibility. Often the use of legal instruments is felt as a substantial restriction of freedom of action, consequently they usually have to be accompanied by extensive controls.
- 13. Financial instruments can be made more flexible than legal instruments, influencing the behaviour of individuals without reducing their freedom of action to the same extent. Normally, controls are also less complicated. On the other hand, the impact of such instruments is often assumed to be more uncertain.
- 14. Informative instruments have not played a major role in traditional administration. Their impact is, of course, thought to be even more uncertain than that of financial instruments. They are, however, usually inexpensive and create less psychological resistance. Nor do they call for controls, although follow up studies would normally be desirable.
- 15. In terms of organization theory, the three types of policy instruments correspond to different ways of exerting authority. However, if the efficiency of various forms of authority is measured by their final impact upon behaviour, empirical evidence underlying organization theory points towards less simple conclusions

- than those indicated above. Legal instruments may, in certain cases, be practically without any effect, while the use of financial or information instruments may be an indispensable condition for policy implementation.
- 16. This is partly explained by the fact that the different ways of exerting authority are closely related to the distribution of decision-making power. A shift from legal to financial instruments is often though not necessarily associated with delegation of more authority to lower levels of a decision-making hierarchy. A further shift to information instruments would normally be regarded as another major step in the same direction.
- 17. It should then be borne in mind, that the «sum of authority» is not constant. Increased rationality within an organization as a whole, in relation to its general objectives, can logically be interpreted as an increase in the total amount of authority. Thus an increase in authority at lower levels may go well with maintenance of authority at the top level, the only loser being pure chance. Planning, in fact, draws its strongest rationale from this.
- 18. Efficient administration is based upon a carefully worked out interplay between the three above-mentioned types of policy instruments. To some extent they are *complementary*, in the sense that financial measures often reinforce legal instruments, while informative instruments may reinforce both legal and financial measures.
- 19. At the same time, one type of policy instrument may to a considerable extent be *substituted* for another. By and large, the trend in traditional public administration seems to be towards more extensive use of financial and informative instruments, possibly combined with an actual reduction in the use of legal instruments.²)
- 20. The following discussion of the potential use of financial instruments as a main steering mechanism in certain fields of policy must be viewed against this background. The main alternatives in those cases imply either more extensive use of legal instruments for policy implementation, or a basic change of policy. In this context, informative instruments are mainly thought of as possible means of reinforcing the financial measures in question.

¹⁾ Although in the latter case, a policy instrument may be said to act as a negative efficiency incentive.

²⁾ See for instance Eide: «The Planning Process», Proceedings of the Phi Delta Kappa Conference on Educational Planning in Minneapolis, November 1967.

III. Some Basic Features of Financial Policy Instruments.

- 21. The most frequently used of all financial instruments is the *subsidy*, and we shall here mainly deal with this instrument. Before going further into cases of actual application, we need, however, to recapitulate certain elementary rules³) connected with the use of subsidies.
- 22. The first such rule of this kind is that, by lowering prices, subsidies tend to cause a general *increase in the amount demanded*, and the demand for the subsidiced goods in particular on the part of those benefiting from the subsidies.
- 23. Consequently subsidies tend at least relatively speaking to twist the demand of the beneficiaries from non-subsidiced to subsidiced goods. The choice of goods to be subsidiced is therefore, a basic priority decision.
- 24. The demand functions of different beneficiaries vary widely. Consequently, the same subsidy will not have the same effect on their behaviour. If a similar effect on all beneficiaries is desired, *subsidies must be differentiated* according to the circumstances of individual beneficiaries.⁴)
- 25. Strongly differentiated subsidies may mean that actual prices become very low for some beneficiaries, thus increasing the risk for excessive use of resources. A way of avoiding this is to limit the subsidies to given consumption quotas for each beneficiary. Demand beyond these quotas would then have to be paid at the full price. This form of subsidy, therefore, tends to make demand approach the limit beyond which the subsidy no longer applies.
- 26. Subsidies based upon standard costs imply a premium on actual expenditure below the chosen standard and a penalty for expenditure above the standard level. Consequently, this form of subsidy acts as a general disincentive to reduced demand.
- 27. All the above-mentioned «rules» are well known from elementary economic theory. Stimulating demand, twisting demand, «harmonizing» individual demand functions, and operating double markets (rationing), all these have been extensively dealt with. However, there may still be aspects of these subjects related to the use of financial policy instruments which have not been fully explored.
- 28. Before embarking upon such an exploration, we may state explicitly one more elementary «rule» of economics, or perhaps rather of general logic: If we want to achieve a certain

number of non-identical objectives, we need at least the same number of non-identical policy instruments. This may appear obvious. However, the actual application of financial instruments provides an abundance of examples of violation of this rule, at least if we take seriously the wide range of policy objectives to which lip service is being paid.

B. CENTRAL GOVERNMENT SUBSIDIES TO LOCAL AUTHORITIES

I. Case Description.

- 29. In the first case chosen for examination⁵), we assume that financial instruments serve one particular objective,⁶) thus making our analysis an illustration of the use of financial instruments in a process with a *one-dimensional objectives function* (cfr. paragraph 6 above). Our prime purpose is to study the extent to which this objective can be left to financial instruments alone, or to what extent legal instruments have to be maintained.
- 30. The policy objective for consideration may be formulated as follows:

The same quality of educational supply in all parts of the country.

As an additional constraint, we shall assume that the total «amount» of education?) is to be «right» according to central government views.

31. The analysis is restricted to compulsory education. As a further simplification, we shall only deal with subsidies to local authorities related to the current costs of schools. Thus private costs and public expenditure for capital investment, transportation, accommodation and other transfers to individuals are excluded. These limitations have been adopted for practical reasons, since they save us from a number

³⁾ These rules should not be regarded as absolute. There are exceptions well known from economic theory, e.g. cases of positive correlation between price and demand. Such exceptions, however, should not be of major concern in this context.

⁴⁾ When subsidies are used as an instrument of educational policy, the attempt to achieve the same behavioural effect on all beneficiaries is often related to the concept of «equal opportunity».

⁵) In general terms, the case examined here corresponds to the actual situation for compulsory education in Norway.

⁶) Several other objectives do, of course, exist, the assumption in this context being that they should be served by other policy instruments.

⁷) The total «amount» of education is in this context assumed to imply its quality level as well as its quantitative aspects.

of problems of secondary importance in this context. In principle, however, the following analysis could have been applied to all types of educational costs.

32. In our case, the initial situation is characterized by the following use of policy instruments by central government:

Subsidies are given to local authorities according to their actual expenditures on teachers' salaries and to their fiscal capacity, the proportion of teacher salaries covered by subsidies varying from 25 % to 85 %.

The main factors determining the input of teacher services, such as the number of hours taught in full class, extra hours taught, class size, teaching obligations, teacher qualifications, teacher salaries etc. are regulated by legal means. Minimum limits are usually stated in strict legal terms, while maximum limits of the input of teacher services are often set in terms of quotas for subsidy, thus making use of the principle of «double markets».8)

- 33. Generally speaking, the total amount of education offered is mainly determined through legal measures. Only in a few cases (hours taught in full class, school size) are local decisions significantly influenced by financial instruments, and then usually within legally defined min./max. limits.
- 34. Equality of education is more strongly influenced by financial measures, but legal instruments also play an important role in this respect, mainly through the definition of minimum requirements.

II. Evaluation of the Present Subsidy System.

- 35. A critical examination of the steering mechanisms outlined above, bearing in mind the «rules» connected with subsidies, leads to the following conclusions:
- 36. Differentiated subsidies to local authorities according to expenditures on education imply a policy of stronger emphasis on equality in the supply of education than in the supply of other public services by local authorities. This twisting of the demand of local authorities towards education follows from general government ideas about the «right» amount of education, based at least partly upon assumptions concerning the «external economies» arising from activities in this sector.
- 37. The fact that government subsidies are tied to only a part of the educational expenditures of local authorities reduces the possible scope of differentiation according to fiscal capacity. The actual range of the subsidy for teacher salaries 25 % to 85 % is very

wide, approaching at the one end a situation in which the subsidy means little in terms of price reduction, and at the other end a situation in which local authorities can have teacher services free of charge.⁹) However, in relation to the total current costs of education, the maximum subsidy may still not be sufficient to outweigh differences in fiscal capacity. The restricted basis for the subsidy — chosen for practical reasons of control — may thus be irrational in relation to the equality objective.¹⁰)

- 38. Furthermore, the choice of teacher salaries as the basis for subsidy tends to twist the demand of local authorities towards this particular kind of educational input. Legal measures may limit the extent to which this demand is effectuated. It seems likely, however, that the present subsidy system does not encourage a more rational exploitation by local authorities of all possibilities for replacing teachers by other, unsubsidized types of inputs.
- 39. It is, of course, conceivable that the central government could attach higher priorities to certain types of educational input than local authorities tend to do. This would then justify a *selective* basis for subsidy. There is no reason to believe, however, that such a difference in priorities do exist as regards teachers in our particular case. The twisting of local authority demand thus tends to create irrational behaviour.
- 40. In another respect, however, central government may actually have a different priority as regards educational inputs than would usually be the case with local authorities. It may be more aware of the fact that in most fields of education, particularly at the higher levels, the input of pupils' time is an essential factor in education. To society, the cost connected with this factor may be substantian, 11) but to local school authorities it may appear to be nil. The twisting of demand arising from this may cause an excessive use of pupils' time, and a suboptimal use of other resources. From this

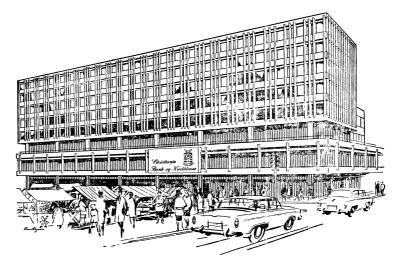
⁸⁾ These legal regulations are more or less «watertight», both in terms of a certain amount of legally admitted local freedom, and in terms of possibilities for minor «illegal» deviations escaping control.

 $^{^9}$) The fact that teachers pay about 20 % of their salary in taxes to the local authorities, indicates that maximum subsidy in fact *more* than covers actual teacher costs.

¹⁰⁾ Data on differences in fiscal capacity between local authorities in Norway indicate that this is actually the case.

¹¹⁾ The cost of pupils' time is, in fact, the biggest cost item at all levels in education above minimum working age.

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KUNSTSENTERET ER ÅPENT kl. 11.00—22.00 alle dager hele året. ADKOMST med buss 5 ganger i timen fra Rådhusgt./Kontraskjæret. situation emerges another part of the rationale for central government subsidies to local authorities in order to achieve the «right» amount of education.

- 41. The final critisism we shall raise against the present subsidy system concerns the relating of subsidies to the *actual* expenditure on teachers' salaries. In such a system, local authorities with high levels of subsidy have very little incentive to achieve an effective utilization of teachers within the limits set by legal regulations. In fact, the present system seems to exert a constant pressure upon those regulations.
- 42. Some of the problems involved in the present subsidy system can easily be solved. Choosing total current expenditures as the basis for subsidies would, for instance, both provide for a wider range of subsidy differentiation and remove the irrational twisting of local authority demand for different types of resources. Should the need arise for the central government to attach special priorities to the use of particular types of resources, it could always be met through a further differentiation of subsidies by type.
- 43. As mentioned above, problems related to the measuring and control of total current expenditures are raised by the suggested shift of basis for the subsidies. However, by and large, these problems can be solved through the introduction of standard costs as a basis for subsidy. There would still be statistical problems involved in the collection of data needed for choosing the level of standard costs. However, since standard costs do not have to be defined in terms of actually observed costs e.g. the present average the statistical requirements should not be overestimated.
- 44. Basing subsidies upon standard costs also solves the problem of excessive demand due to a low price. It would introduce a general incentive for local authorities for cost reductions, at least if the minimum level of subsidy were not too low.
- 45. It still remains to be examined to what extent such a system of financial instruments as indicated above can be substituted for present legal regulations. The main issue involved in this context is the *loss of selectivity* implied both by the application of standard costs and by the abolition of legal regulations.

III. Standard Costs as the Basis for Subsidies.

46. As a starting point, we shall assume that standard costs are calculated on the basis of chosen standard inputs of all major cost factors. To a great extent, those standards are

defined in real terms by the present system of legal requirements.

- 47. As long as actual expenditures constitute the basis for subsidies, cost variations due to the different conditions of individual local authorities are automatically taken into account. Standard costs as basis for subsidies mean that such variations are disregarded. Yet to a great extent, such variations arise from circumstances beyond the control of local authorities. The loss of selectivity implied by the use of standard costs may thus lead to a less optimal composition of inputs by local autorities, and consequently reduced efficiency in relation to the given objective.
- 48. In order to judge the extent to which this is the case, fairly detailed knowledge of the actual cost structure is needed.¹²) For each major cost factor, the range of actual variations should be estimated, and the degree of local control of such variations should be examined. In addition, the extent to which various factors are correlated, is of major interest in this context.
- 49. As a somewhat simplified illustration, we shall here only examine the following major cost factors:

Total number of pubils.

Grade distribution of pupils.

Hours taught in full class.

Extra hours.

Class size.

Teacher salaries.

Purchase of goods and services.

In addition. We shall look into the consequences of variations in the fiscal capacity of local authorities.

- 50. The total number of pupils is clearly a factor which cannot be disregarded when the basis for subsidies is determined. The minimum size of a primary school in Norway is 6 pupils, while the biggest schools have more than 1 000 pupils. As regards local authorities, the number of pupils in compulsory education within their districts varies from less than 100 to more than 60 000, due to reasons clearly beyond their control. Undere such circumstances a useful standard costs consept must obviously take the total number of pupils into account.
- 51. The grade distribution of pupils is relevant to the extent costs vary according to grade, and the grade distribution varies from one local authority to another. The average annual cost

¹²⁾ In the Norwegian case, detailed cost models have been worked out for primary and secondary education. For an illustration of certain aspects of such models, see K. Eide «The Demand for and Supply of Teachers. A Case Study in the Application of Teacher Demand and Supply Models in Norway.» OECD document, 1967.

per pupil ranges from 1600—1700 kr. in the owest grades to nearly 4000 kr. in the 9th grade. However, since we are concerned with compulsory education, the distribution of pupils according to grades varies much less. Significant deviations from the average are mainly found in areas with declining population (agricultural and fishery districts), with relatively nany pupils in the lower grades, and in areas with rapidly growing population (suburban districts), with relatively many pupils in the apper grades. Obviously, local authorities have no means for manipulating this distribution.

52. Deviations from the average grade distribution are closely correlated with variations in fiscal capacity. Disregarding such deviations, has therefore, an effect similar to that of a certain differentiation of subsidies according to fiscal capacity. The extent of this differentiation can be fairly accurately estimated.

53. At present, the number of hours taught in full class varies from $20\frac{1}{2}$ to 26 hours per week in grades 1 to 6, depending upon decisions by ocal authorities. According to the new nine-year comprehensive school Act, this span will be reduced to $21\frac{1}{2}$ — $24\frac{1}{2}$ hours. For the grades 7 to 9 there will be no variations in the number of hours taught in full class.

54. Since local authorities can regulate, within imits, the number of hours taught, the introduction of standard costs as the basis for subsidies may lead to a reduced use of this input factor. Whether the result will be a loss in efficiency depends upon the possible substitution of this factor by other input factors with at east an equally high marginal productivity.

55. The actual variations likely to remain in the number of hours taught in full class — will presumably be strongly correlated with the fiscal capacity of local authorities.

56. «Extra hours» is a cost factor including a number of rather different items: Hours taught in divided class, in remedial programmes, by teacher substitutes etc. It also includes the number of teaching hours lost due to the reduction in teaching obligations caused by administrative and other non-teaching duties.

57. Some of these cost items, such as teaching in divided class, the need for substitutes and reductions in teaching obligations, cannot be much influenced by local authorities. Nor do these items show systematic variations between local authorities, except for teaching in divided class, the extent of which depends upon school size. Consequently, subsidies based on standard costs are unlikely to influence significantly the actual behaviour of local authorities. However, they will have a certain impact

similar to that of subsidy differentiation according to school size structure. This differentiation will be negatively correlated with fiscal capacity, in the sense that wealthy local authorities are likely to benefit from a subsidy system based upon standard costs.

58. The amount of remedial teaching¹³) is to a considerable extent determined by local authorities. Standard costs as subsidy basis would then encourage a reduction in sush teaching. Since costs per pupil in remedial teaching are likely to be higher in districts with low fiscal capacity, the resulting variations will tend to be negatively correlated with this factor.

59. Class size as a function of the number of pupils in a school is strictly regulated by central government. The school size structure within a district, however, is controlled by local authorities, within the limits set by factors beyond their control (distribution of population, communication network etc.).

60. The range of variations in costs per pupil according to school size is considerable. Teacher costs, for instance, are $2\frac{1}{2}$ times higher in a small, non-graded primary school than in a school with full class-division according to grade. Variations between local authorities are somewhat smaller, but still quite significant, showing a close, negative, correlation with fiscal capacity.

61. Teachers' salaries are regulated by central government in terms of minimum qualification requirements and a common salary scale for the country as a whole. Labour market conditions, including the legal obligation of local authorities to engage the most qualified applicant, determine the actual structure of teachers' salaries.

62. Teachers' salaries in compulsory education vary mainly according to educational qualifications and the duration of service.¹⁴) The range is at present from about 21 000 kr. to 39 000 kr. per year. The range is narrower between different local authorities, but it is still very significant. The variations are strongly correlated with fiscal capacity.

63. The purchase of goods and services comprises a variety of cost items, mainly controlled by local authorities, but sometimes influenced by general central government regulations. Some items are negatively correlated

¹³) This «amount» varying not only according to the needs for such teaching, which may not show too big differences between districts, but primarily according to the way such teaching is organized.

¹⁴⁾ Other factors, such as special administrative or other professional duties, also play a certain role.

with fiscal capacity, others positively. Variations in total costs per pupil are thought to be significant, but not substantial.

64. Variations in *fiscal capacity* between local authorities depend mainly on the taxable income level, although central government subsidies — general or earmarked for non-educational purposes — play a certain role. Variations

in fiscal capacity are substantial, the wealthiest districts reaching a level about three times as high as the poorest. Equalization of the quality of educational supply is thus hardly possible without the differentiation of subsidies according to fiscal capacity.

65. The findings of this analysis may be summerized as follows:

Factors	Controlled by	Range of variations	Correlation with fiscal capacity	
Number of pupils	Exogenous factors	Substantial		
Grade distribution	» »	Significant	+	
Hours taught in full class	Central government Local authorities	Significant	+	
Extra hours in divided class by substitutes for remedial teaching deducted for administration	Central government Exogeous factors Local authorities Central government	Significant Small Significant Small	÷ 0 ÷ 0	
Class size	Central government Exogenous factors Local authorities	Significant	÷	
Teacher salaries	Central government Exogenous factors	Significant	+	
Purchase of goods and services	Mainly local authorities	Significant	+	
Fiscal capacity	Exogenous factors (Central government)	Substantial		

- 66. As mentioned above, subsidies based on standard costs will have to be differentiated according to the number of pupils and the fiscal primarily capacity of local authorities. Whether other factors can be disregarded without resulting in a significantly less optimal composition of inputs and consequent loss of efficiency, is dependent upon how closely such factors with significant variations are correlated with the two factors mentioned above.
- 67. If these correlations are high, subsidies can be based upon costs per pupil, differentiated primarily according to fiscal capacity. The latter factor, however, should be weighted by a coefficient depending upon other relevant factors, taking into account the extent to which such factors counteracts or reinforces the effects of variations in fiscal capacity upon the quality of educational supply.
- 68. The table above lists four factors of the former and three factors of the latter type. For each factor, it seems possible to estimate approximately how far the actual variations will cause a differentiation of subsidies according

- to fiscal capacity. The appropiate weighting of the fiscal capacity factor can then be estimated accordingly.
- 69. The degree of correlation of the various factors with fiscal capacity may not, however, be the only relevant question in this context. There may also be differences between central and local government as to their conception of the marginal productivity of various inputs. Central government may want to induce certain changes in the composition of inputs controlled primarily by local authorities. The factors in question will then have to be explicitly taken into account as a basis for the differentiation of subsidies.
- 70. The school size structure may serve as an example of this. It is quite conceivable that central government may wish to provide only a partial compensation for costs accruing from a particularly expansive school size structure, in order to push local authorities towards what central government considers to be more efficient structures. In our case, the actual subsidy system is, therefore, likely to include in-

formation about the school size structure of individual local authorities among the explicite criterions for subsidy differentiation.

- 71. In principle, the same may be the case with other factors, such as the numbers of hours taught in full class. But the chances may be better for the acceptance of standard factor costs as the basis for subsidies in these cases, 15) since the consequent loss of efficiency— as seen from the view point of central government— may not be regarded as significant.
- 72. Subsidies based on standard costs represent a strong incentive for local authorities to reduce the actual input of such factors which they control. Thus the change of subsidy system will tend to reduce the total supply of education by local authorities. Maintaining the «right» general quality level of compulsory education as judged by central government means, therefore, increasing the general level of subsidies.
- 73. In our special case, however, a constant upward shift at the local level in the demand for increased quality makes a rise in the subsidy level less likely. Instead, the indicated change in the subsidy system may replace an actual cut in the level of central government subsidies.

IV. Substituting Financial Instruments for Legal Measures.

- 74. Until now, our analysis has been based upon the assumption that the present system of legal regulations remains unchanged. We shall now examine the consequences of a substitution of financial instruments for such legal measures.
- 75. Clearly, the abolishment of central government restrictions on the use of various inputs would lead to a corresponding increase of control by local government. A distinction should be made between two types of consequences of such changes in the steering mechanism; the impact on the composition of input factors, and the impact on the total demand for education.
- 76. Changes in the composition of inputs will occur to the extent that local authorities use input factors beyond the present legal maximum or minimum limits. Apparently, this might lead to a loss in efficiency in terms of the general objectives of educational policy as viewed by central government. 16)
- 77. Whether such a loss in total efficiency will actually take place is partly dependent upon what may be termed the information/authority balance. Such a balance is achieved when the degree of authority over a certain type of

decisions at a certain level of administration is compatible with the access at that level to information relevant to such decisions. If there is reason to believe that such a balance is lacking, a change in the distribution of authority may lead to an increase in total efficiency.

- 78. In our case, it seems likely that a certain delegation of decision-making power from central government to local authorities may lead to an improved information/authority balance. This is partly due to the wide range in local conditions which cannot be taken into account when factor inputs are regulated by legal instruments.
- 79. Furthermore, factual knowledge about the marginal productivity of various inputs is often rather scarce. Variations in the composition of inputs according to somewhat different productivity assumptions may therefore not necessarily imply lower efficiency than a more strictly regulated composition. On the contrary, a systematic testing of alternative combinations of inputs may be essential for an increase in efficiency of the total process.
- 80. In addition, increased responsibility for the input composition at local levels (local authorities, individual schools) may be thought to have a constructive impact on such factors as motivation and pedagogical insight, thus indirectly contributing to an increase in total efficiency.¹⁷)
- 81. In practice, reduced use of legal instruments may well be introduced gradually. The range of local authority control may be expanded while still maintaining certain legally defined limits. How far one should go in this direction depends upon the assumed degree of consistency between objectives and assumptions about ends/means relationships at the central and local levels.
- 82. The use of standard costs as the basis for subsidies is likely to reduce the need for *maximum* limits of input factors (maximum number of teaching hours in full class, maximum

¹⁵⁾ A standard teacher salary, based on the estimated average, has actually been used for calculating the subsidy basis for compulsory education in recent years.

¹⁶) We have here dropped the assumption of education as a process with a one-dimensional objective function (cf. footnote 6)). Consequently, our efficiency concept is from now on the «total» efficiency of the educational process as a whole.

¹⁷⁾ The arguments put forward in paragraphs 77 to 80 in fact add up to the conclusion that an increase in the total «sum of authority» may be achieved by the suggested change in the system of policy instruments (cf. paragraph 17).

number of teaching hours in divided class, maximum reduction of teaching obligations due to non-teaching duties, minimum class size etc.). The general incentive for reducing factor input may, however, call for continued or even extended use of *minimum* limits.

- 83. This need for legally defined minimum inputs may be considerably reduced if local authorities are put under the general (legal) obligation to spend for educational purposes α sum corresponding at least to standard costs. Such a minimum limit would then relate not to any single input factor, but to the total costs calculated as the sum of all standard inputs.
- 84. Such a legal obligation by local authorities would be easy to control, and it would make major deviations from an optimal composition of inputs highly unlikely. Extended use of informative instruments might further reduce the need for legally defined limits.
- 85. As a conclusion to this part of our analysis, we suggest that a system of central government subsidies based on standard costs and differentiated according to a few major factors (primarily the number of pupils and fiscal capacity) can be introduced without a significant loss of efficiency in relation to the stated objective.
- 86. Furthermore, such a subsidy system may in our case to a great extent replace the present system of legal regulations of educational inputs. It seems likely that such a substitution would lead to a significant increase in total efficiency with regard to the general objective function of educational policy, obtained both through an improved information/authority balance, and an improved motivation and insight at the local level.
- 87. It should be noted, however, that these conclusions are drawn from factual information relating to one particular country. The results of a similar analysis for another country may not be the same.

C. PUBLIC SUPPORT FOR STUDENTS

I. Total and Partial Efficiency Impact.

- 88. Given our definition of policy objectives, our analysis of central government subsidies to local authorities illustrates a process with a one-dimensional objectives function. Our next example dealing with public support to students, is intended as an illustration of a process with a multi-dimensional objective function.
- 89. As mentioned in the introduction to this paper, measuring the total efficiency in this

latter case requires a set of value weights («output prices») to be attached to the components of the objective function. Only then can the different components be reduced to a common denominator, thus permitting the total efficiency to be measured.

- 90. In the following analysis, however, we shall not go as far as to attach such normative weights to the various potential components of an objective function for public support to students. We shall limit the analysis to an examination of the impact of various types of financial instruments upon each of the components of the objectives function. Thus, in terms of efficiency, we shall only discuss what we have previously termed the partial efficiency in relation to each component (§ 5).
- 91. Even if we thus leave the choice of value weight of the various components of the objective functions to be determined by the political preferences of the final decision-makers, certain conclusions may still be drawn directly from our analysis. If, for instance, a specific type of financial instruments shows the same impact as or a stronger impact than another type of instrument upon *all* measures of partial efficiency, the former instrument is preferable, irrespective of political preferences. 18)

II. Objectives for Public Support to Students.

- 92. A vast number of individual objectives components of an objectives function can be served by public support to students. In the following we have chosen for more systematic analysis five such objectives, which tend to appear fairly regularly in statements on policy in this field:
 - a. Stimulating demand for education in general.
 - b. Stimulating demand for education of particular groups.
 - c. Increasing the effective utilization of students' time.
 - d. Promoting student independence.
 - e. Improving the conditions of graduates.
- 93. Other possible objectives may be influenced by particular types of policy instruments. To the extent that this is the case, an attempt will be made in what follows to specify such effects. As to the five objectives chosen for general analysis, a few comments may be appropriate.
- 94. Stimulating demand for education is an objective often referred to as a reason for reducing the «price» of education to the indivi-

¹⁸) This kind of analysis is in a way parallell to the search for Pareto-optima in welfare theory.

lual. As mentioned above, the assumption hat, in welfare terms, considerable «external economies» arise from education, lies behind this argument (cf. paragraph 36). Still, in a given situation, it is the ideas of central government about the «right» amount of education of education which determine whether demand for education is to be further stimulated or perhaps moderated.

95. In this context, short term and long term objectives do not necessarily coincide. Even if in the long run, increased demand is regarded as desirable, the present demand may be found to exceed supply possibilities in the short term. Femporary measures to *reduce* demand may thus be called for.

96. The wish to stimulate the demand of particular groups does not necessarily coincide with a wish to increase demand in general. Primarily, this objective aims at a change in the composition of demand. The rationale for this may be a wish for increased social justice, for better utilization of talent resources or for both.

97. Even this objective may conceivably have a *negative* sign. There are at least historical evidence of policies based upon the view that equalization of educational opportunity has gone too far.²⁰)

98. More effective utilization of students' time may often be achieved through easing their financial situation. This should make it less tempting to combine studying with paid work, and thus reduce the duration of studies. It should also improve the students' welfare level, and consequently their working conditions during studies.

99. Even this objective may, however, raise certain doubts. Generous public support to students could conceivably reduce their motive for rapid completion of their studies. Furthermore, within a given educational budget, more support to students may be less effective in terms of total efficiency than greater input of other factors, e.g. teacher time. A more optimal composition of input factors does neither by any necessity require more support to students, nor less input of students' time.

100. Promoting students' independence appears to many groups, not least to the students themselves as a natural objective in supporting students. There is no doubt that the present system of financing education in most countries makes students more dependant than other youths of the same age upon their families, at least in economic terms. This may not be accepted as the best way of educating a nation's future intellectual elite.

101. Still, it cannot be denied that, to some groups, the maintenance of family ties may appear more important than the argument above. At least, such views have been put forward in somewhat similar contexts.²¹)

102. Improved conditions for graduates may be regarded as a side-effect of certain measures primarily intended to influence the situation of students. However, this could be regarded as an important objective in itself, as young graduates may be thought to need support. Often, such graduates start a family and must invest in housing at a time when study debts have to be repaid and their salaries are still fairly low. Making this particular burden easier to carry might be felt as a cause worthy of public support.

103. On the other hand, some groups may put more emphasis on the relatively generous life earnings of qualified graduates. They may then be more concerned with the need to support other low income groups which have no such chance of economic compensation in the later stages of their careers.

104. As shown above, all five objectives chosen for examination may in principle be given positive or negative value weights, depending upon political preferences. This should be borne in mind when, in the following analysis, the partial efficiency of various financial instruments is being examined in relation to each of these objectives. Thus a negative impact on the partial efficiency with respect to one of these objectives is desirable, if one prefers to attach a negative value weight to that particular objective.

III. Financial Instruments Applied in Public Support for Students.

105. Two basically different types of financial instruments will be examined here: subsidies and loans. Subsidies will be further divided into two groups according to who the prime receivers are; — the families of students or the students themselves. Two aspects of loans

¹⁹) The amount of education thought to be «right» in relation to other instruments applied to promote the general policy objectives of a country. This amount changes, of course, over time.

²⁰) There is some reason to suspect that similar views may still partly inspire for excessive fears of a decline in student quality as a necessary consequence of further democratization.

²¹) Thus the introduction of a general old age security scheme in Switzerland was strongly opposed some years ago on the ground of its assumed negative effects on family ties.

to students will be considered: their availability and the conditions attached to them.

106. In principle, the various types of instruments can be further subdivided in terms of the criterion according to which they are allocated.²²) The following criteria will be taken up for explicit examination:

Per capita.
Cost of study.
Needs.
Ability to repay.
Geographical origin.
Geographical destination.
Field of study.
Health condition.
Study performance.

- 107. Many more criterions could be, and have in fact been, applied as a basis for student support, such as sex, race, religion, political views etc. However, for practical reasons, a limit has to be set, and the criteria specified in the previous paragraph should be sufficient to illustrate most of the criteria normally forming the basis for support to students.
- 108. As a further limitation, for each type of instrument we shall only examine the most frequently used of the criteria specified above. In certain cases, however, it may be necessary to examine more carefully the measures applied, in order to identify the kind of criterion underlying the actual allocation.
- 109. Subsidies to families of students most frequently take the form of selective family allowances or tax concessions, based on the fact that the student constitute an economic burden for the family. Family allowances may be allocated according to needs²³) or per capita. Tax with increasing income, thus implying an allocation according to lack of needs or needs with a negative sign.
- 110. Free instruction, in the sense that institutional costs are paid from public funds, is in fact a subsidy allocated according to costs of study. However, since only institutional expenditures are taken into account, variations in costs due to different duration of studies are not fully compensated.
- 111. Free services for students, such as housing and meals, are often selective subsidies, primarily allocated on the basis of a distinction between residential and non-residential students. Free travel is a form of subsidy even more clearly based on the criterion of geographical origin of students. In a similar way, free health services constitute a subsidy according to the need for such services. In contrast, health insurance based on «businesslike» risk calcu-

- lations may easily amount to an allocation according to the *lack of need* for such services.
- 112. Correspondingly, loan availability based upon expected ability to repay, in accordance with «sound» banking principles, in fact means allocation of benefits according to the lack of need for such benefits.
- 113. Allocation according to geographical destination may take the form of subsidies committing the beneficiary to spend a certain time after graduation in specific geographical areas. It is being used in countries with peripheral, low income areas to which highly qualified manpower is not easily attracted.
- 114. In a similar way, allocation according to the *field of study* are used as a means of attracting students to fields which tend to be regarded as less attractive.
- 115. Lastly, allocations according to *study performance* aim at stimulating such performance. However, since high performance usually implies increased income opportunities, the effect of such a criterion will often be allocation according to *lack of needs*.

IV. Objectives and Instruments.

- 116. We shall now consider the objectives for student support, as set out in paragraph 92 above, in the light of the various policy instruments indicated in paragraphs 105 and 106. First, however, we shall need a basis for comparison.
- 117. Our starting point is the assumption that support for students is to be increased by a given sum. In order to judge what policy instruments to use, we shall compare the effects of various instruments with those of a per capita allocation to all students.
- 118. The conclusions of this analysis are summarized in the following table. Implicitly assuming that the value weights of the chosen objectives have positive signs, we indicate greater partial efficiency with reference to a particular objective by the sign +, and lower partial efficiency by the sign -. Consequently, the impact of a per capita allocation is indicated by 0 with reference to all the specified objectives.
- 119. To compare subsidies and loans, we shall take into account only the money value of such

 $^{^{22})}$ A comparison may be made with the basis for subsidies discussed in part B of this paper.

²³) The specific criteria may for instance be family income or the number of non-working children.

oan conditions which the student could not obtain in the regular credit market, including the estimated value of loan availability at the level of security offered by students.

120. Per capita allocation of subsidies to stulent families serve the same objectives as per capita subsidies to students. Since the family allowances are tied to the condition that the student actually does study, one would expect the impact on the demand for education to be the same. However, since such allowances are disposed of by the family, they might be assumed to have less effect upon the efficacy of studies, student independence and conditions of graduates.

121. Needs based allocation of subsidies to student families have the same relation to per capita based family allowances as needs based student subsidies to per capita subsidies. Demand for education may be expected to rise, not only in general terms²⁴), but even more on the part of low income groups. In relation to effectivity of studies, needs based allowances are likely to mean more to those receiving them than a per capita allocation. However, it

is difficult to say whether this advantage can outweigh the disadvantage due to the family disposal of the allowance. Correspondingly, a question-mark may be attached to the impact on conditions for graduates, while the loss in student independence due to family control of the subsidy remains.

122. Tax concessions clearly allocate a given amount in a way that provides for less demand for education than a per capita distribution. This is particularly the case with regard to low income groups. Since such subsidies are primarily given to those beneficiaries to whom

Objectives*).

Instruments	а	b	e	d	e	Additional objectives
Subsidies						
to student families Per capita Needs based Tax concessions	0 + —	0 + —	?			Equalizing family costs General social equalization Increasing net income differentials for student families
to students Per capita Free instruction Needs based Geographical origin Geographical destination. Field of study Health conditions Study performance	0 (—) + (+) (+) ? (+) ?	0 (—) + (+) (+) ? (+) ? 0 ?	0 + + (+) (+) ? (+) ? + + ?	0 0 0 0 	0 + + (+) (-) ? (+) ?	Freer choice between fields of study Increased social mobility Geographical equalization Better distribution of qualified manpower Better professional distribution of talent General imporvement of health Higher study achievment
Loans to students						Straining credit markets. Influen-
Availability Per capita Needs based Repayment ability	0 (—) (+) —	0 (—) (+) —	0 (—) (+) —	0 (—) 0 (—) (—)	0 (—) (+) —	cing student attitudes to inflation Reducing social mobility
Tax deductions				()		Increasing net income differentials for graduates
Low rent	0 ()	0 ()	0 (—)	0 ()	?	See loan availability
Amortization period	0 (—)	0 ()	0()	0 ()	?	» »
Amortization requirements Needs based	?	?	?	?	+	Social equalization

^{*)} See paragraph 92.

²⁴⁾ This is based on the assumption that demand structures are somewhat similar in various income groups. It is conceivable, however, that in certain countries, and related to certain types of education, demand structures may vary so strongly between different income groups (or perhaps rather social classes), that needs based subsidies do not increase demand. The demand for general secondary education in the Netherlands is said to have had such characteristics in recent years (see Ruiter «The Past and Future Inflow of Students into the Upper Levels of Education in the Netherlands» in Social Objectives in Educational Planning — OECD, Paris 1967).

they mean *least*, the impact upon efficacy must also be negative. In a similar way, even the two last objectives are less efficiently served by this instrument than by a per capita allocation.

123. Free instruction has, as mentioned previously, the effect of a subsidy allocated according to the institutional costs of studies. In relation to per capita subsidies, this instrument twists the demand for education towards more expensive studies, thus increasing the average cost per student. This would imply a certain negative impact upon the demand for education. On the other hand, by cutting particularly the highest educational costs, subsidies are consentrated where they may mean most to demand. Which tendency is the stronger, depends upon which demand is primarily directed towards a particular type of study or towards studying in general. If the latter is the case, the impact on demand is likely to remain negative. By cutting the highest costs, free instruction may, however, be more efficient than per capita subsidies with regard to study efficacy and conditions of graduates.

125. Subsidies based upon the geographical origin of students, such as special grants for students staying away from home, subsidised housing, meals and travel etc., tend to increase total costs of education. At the same time, subsidies are consentrated on those for whom costs are highest, and for whom cost reductions mean most. If, in addition, geographical distance from educational institutions is correlated with income, the final impact of such subsidies may be increased demand. Under such circumstances, the impact on the efficacy of studies of students and conditions of graduates would also be positive, while no impact on student independence would be expected.

126. The impact of subsidies according to geographical destination would only differ from that of per capita allocation to the extent that students likely to accept such subsidies show a systematic deviation in terms of needs. If so, they may increase efficiency in relation to the three first objectives. Student independence is likely to be reduced, and the conditions of graduates, although improved due to needs based allocation, would suffer from the restricted freedom of choice.

127. The impact of subsidies according to the field of study would be somewhat similar to that described in the previous paragraph. Conditions of graduates, however, would hardly be negatively affected in this case.

128. If bad health is assumed to show a random distribution between students, sub-

sidies in terms of *free health service* would have the same impact on demand as per capita subsidies. In terms of efficacy of studies, and possibly also of conditions of graduates, the former type of subsidies would be more efficient.

129. Subsidies according to study performance are intended to stimulate such performance. Even if in certain student milieu²⁵), doubts have been expressed as to the real impact of such measures, one might assume that they would lead to increased efficacy of study. Those qualifying for performance subsidies must be assumed to be more motivated for studies than the average student. Consequently, the effect of such subsidies upon the demand for education is likely to be negative. If, however, potential students from lower income groups have a higher ability level than the average²⁶), and consequently more chances to obtain performance subsidies, the negative effect upon the demand from such groups may be compensated. As to the conditions of graduates, performance subsidies, as indicated previously, are quite likely to imply an allocation according to lack of needs.

130. Loan availability based on needs or allocated equally to all students may be expected to have effects similaar to those of needs or per capita based subsidies.²⁷) It cannot be excluded, however, that loans — even on very generous terms — may meet a psychological resistance far beyond what seems rational from an economic point of view, in particular, among students from lower income groups. Their actual effect on demand from such groups may thus be less than the impact of what we would regard as subsidies of equal value.

131. Two more general issues have been raised in connection with the general availability of loans to students. First, equality between subsidies and loan benefits from the students, the point of view, may not correspond to judge-

²⁵) Norwegian student organizations have for instance tended to deny the potential efficacy impact of performance subsidies referring to its assumed negative effects on the student «collective».

²⁶) Higher ability level of students from low income groups may emerge from a far more rigorous selection. Norwegian data do not provide convincing evidence to this effect, but data from other countries may do so.

²⁷⁾ This does not mean, of course, that loans have the same effect «per krone» as a subsidy. However, comparing only the money value of special benefits attached to student loans with the money value of subsidies, (cf. paragraph 109), we have in a sense «defined away» perhaps the most important difference between the two basic types of support; that loans have to be repaid.

STILLING SOM KONSULENT

I Rasjonaliseringsdirektoratet er det ledig en stilling som konsulent I.

Den som ansettes vil få interessante og krevende oppgaver innen rasjonaliseringstjenesten på det administrative område, eventuelt også innen EDB-sektoren, alt etter utdannelse og kvalifikasjoner. Stillingen gir gode utviklings- og opplæringsmuligheter. Det kreves kjennskap til offentlig administrasjon. Konsulent I lønnes etter lønnsregulativets klasse 20 med bruttolønn kr 42 940.— pr. år, stigende til kr 45 690.—. Pensjonsinnskudd 2 % av regulativlønnen. Helseattest kan bli krevd.

Søknad med attestkopier sendes innen 11. november til

STATENS RASJONALISERINGSDIREKTORAT

OSLO DEP.

SKI KOMMUNE

I Ski kommune er, under forutsetning av kommunestyrets godkjenning, ved rådmannens kontor ledig engasjementsstilling i 2 år fra 1.1.1969 for økonom eller jurist, fortrinnsvis med erfaring fra offentlig forvaltning. Avlønningen blir etter lønnsklasse 23 med grunnlønn kr. 52 770,— og topplønn kr. 55 970,—. Anmodning om antesipert alderstillegg må settes fram i søknaden.

Arbeidsområdet vil bestå i saksbehandling samt arbeid med ervervelse, klargjøring og utparsellering av byggefelt, eventuelt også forretningsførselen for Ski Tomteselskap.

Familiebolig stilles til disposisjon som tjenestebolig.

Den som engasjeres, må kunne legge fram tilfredsstillende helseattest. Ski kommune har i dag ca. 13 000 innbyggere og er i sterk vekst. Med sin sentrale beliggenhet i Oslo-regionen står kommunen overfor store planleggings- og utbyggingsoppgaver. Arbeidet i kommunen er krevende, men interessant og gir gode utviklingsmuligheter i et trivelig miljø.

Søknad med bekreftede attestkopier sendes rådmannen i Ski innen 31. oktober 1968.

ments in terms of general finance policy.²⁸) Second, the fact that in some countries the overwhelming majority of the intellectual elite have obtained — through loan financing of studies — a personal interest in continued inflation, has been the cause of a certain amount of worry.²⁹) In choosing between subsidies or loans as policy instruments, such considerations may have an appropriate role to play.

132.Loans made available according to repayment ability — although by definition under more generous conditions than in the regular credit market — can be assumed to have effects similar to a subsidy based on lack of needs.

133. Tax concessions in connection with amortization of calculated study costs, actual repayment of loans, or the payment of interest on loans, are likely to have similar effects as tax concessions for student families (paragraph 122). However, to the extent that such subsidies are related to the real burden of debt, the relationship to lack of needs may be somewhat weaker. Still, if tax progression is significant, an equal per capita reduction of debts incurred through by previous subsidies is likely to be more efficient, even in terms of improving conditions for graduates.

134. Low rent and long armortization periods have effects similar to those of as loan availability, depending on the criteria used for allocating those benefits. It might perhaps be assumed that, if generous loan conditions are generally less efficient than student subsidies for objectives a—d, the opposite may possibly be the case with regard to the conditions of graduates.³⁰)

135. Generous amortization requirements, e.g., in terms of reducing actual repayment commitments, may have an even stronger effect on the conditions of graduates, in particular if such generosity is based upon the actual economic situation of the graduate.³¹) In this case, even the difference in the psychological reactions towards subsidies and loans may disappear.

136. The objectives and instruments taken usefor special emaximation here have been selected from official statements and actual practice of several countries. This is one of the reason why we have not based our analysis in the part of the paper upon actual data from an one country.

137. Another reason for this is the difficultic involved in obtaining comprehensive, offici statements as to the objectives public supportion students is intended to serve. It should I pointed out, however, that these difficultic may call for another type of analytical execise. Instead of asking what impact various is struments may have upon given objectives, the analysis may be reversed, asking what objectives are compatible with a given policy.

138. This kind of analysis might be quite r warding, and could be based on the type approach outlined in this paper. To the extentat objectives deduced from actual policies a pear to be in conflict with whatever offic statements may say on such objectives, this kind of analysis might provide rich for for further thought.

STYRER VI UTVIKLINGEN — ELLER STYRER DEN OSS?

Ved en beklagelig misforståelse ble kun et forkortet og foreløpig manuskript til Per Schreiner's foredrag på Yngre Nordiske Sosialøkonomers konferanse offentliggjort i forrige nr. av Sosialøkonomen. Interesserte kan ved hendvendelse til Sosialøkonomen's Redaksjon få særtrykk av det fullstendige foredrag.

 $^{^{28})}$ This implies, of course, a certain lack of constancy between the financial policy of governme and the policies of individual credit institutions.

²⁹⁾ This is, for instance, one of the official reaso why loans to students in Sweden do not carry inte est. Instead, repayment is adjusted to changes in t general price level.

 $^{^{30}}$) This assumption depends, however, on the inflence of subsidies upon the expenditure levels of st dents. If debts are reduced accordingly, generous loconditions will not be more efficient in improving t conditions of graduates.

³¹) Even in this case, Sweden may serve as an eample. The present regulations for loans to studer make the commitment for graduates to repay depedent upon a certain income level. If the income of graduate in a certain year is below this level (abothe average of workers' salaries), repayment is posponed, and eventually written off.

³²) Such conflicts are quite likely to stem from viol tions of the general rule about numbers of objectiv and instruments mentioned in paragraph 28 above.