

LESSONS OF THE SOVIET ECONOMIC REFORM

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THE Soviet economic system as it existed on the eve of the September (1965) Plenum was basically the same as that created at the end of the 1920s. It was created because the alternative system, the market economy of the NEP period, was incompatible both with the political and social objectives of the Communist Party,¹ and also with the rapid development of heavy industry which the Party leaders aimed at.² The traditional Soviet economic system—"imperative planning" as it has come to be called—represented a rational answer to the problems which confronted the Soviet leaders at that time.³

The achievements of this system were very great:

(1) The level of capacity and output in the armaments industry were built up to such an extent that the Soviet Union was able to crush the German invader and become one of the two great powers. Stalin succeeded where Witte had failed.

(2) A high rate of economic growth was maintained for many years.

(3) A formerly backward country, with extensive illiteracy, poor medical treatment, limited opportunities for women, and a low level of technology, was transformed into a country with universal literacy, good medical services, equal opportunities for women, and modern technology. This transformation is especially noticeable in Central Asia, formerly on a par with Afghanistan and Persia, and now a part of the modern world.⁴

At the time when this system was adopted, orthodox economics was not interested in economic growth (the interesting Soviet discussion of the 1920s on economic growth was not echoed in the orthodox literature until the 1950s) and was concerned with allocating scarce resources among alternative ends in a world in which the end—full employment—was obvious, and the resources available in superabundance.

In the 1930s the successes (both real and imagined) of this economic system in the Soviet Union, combined with the failures of capitalism both in its dependencies and in the imperialist homelands themselves, led to the widespread belief that the Soviet economic system—"planning"—was the correct, socialist, solution to the question of economic organization.

The universal applicability of the Soviet model was first challenged by the theorists of capitalism,⁵ but their criticism had little popular or political impact. The question first moved from the lecture hall to the real world in Yugoslavia after Tito's break with Stalin, which led to a radical reconstruction of the Yugoslav economy. The issue was revived in 1956 in Poland, and led to a lively discussion. In the early 1960s the debate moved to the Soviet Union itself,⁶ the homeland of the imperative planning model.

In his classical attack on the rationality of socialism⁷ Barone argued that to compile a consistent plan in a socialist state would be exceedingly difficult and labour intensive, but might just be feasible, but that such a plan would be worse than that resulting from the free play of market forces under capitalism, because the latter would be optimal. Barone's point is central to the argument as to the respective economic merits of capitalism and socialism (it was raised by way of reply to the socialist critics of the rationality of capitalism),⁸ and the major effort of the sovietologists on the economic front has always been directed to finding facts from Soviet economic experience which corroborate it.⁹ What light does the Soviet experience throw on the rationality of non-capitalist forms of economic organization?

It is in principle desirable that an economy be run in an optimal way. Soviet economic plans in the era of imperative planning were not optimal. In 1959 Kantorovich expressed the view that if the resources available in the Soviet Union were used efficiently, output would rise by 30–50 per cent.¹⁰ There was no search for, and utilization of, techniques for solving optimization problems (linear programming was ignored in the Soviet Union, where it was discovered, until its usefulness was shown in the West), and methods of making rational economic choices, e.g. in the fields of capital investment and foreign trade, were neglected.

Currently big efforts are under way in the Soviet Union to introduce rational methods for making choices in such fields as investment and foreign trade, and major theoretical work is under way to design an optimally functioning multilevel economy,¹¹ and to use optimal planning techniques to solve particular, micro-problems.¹² The first of these developments is as yet only tentative. The second is far from complete even at the theoretical level. The third is not only a matter of calculation but also of implementation. The main lesson of the fiasco of the Cambridge Growth Project—National Plan was the uselessness of calculations of desired growth paths without a study of the obstacles to their fulfillment and ways of overcoming them. The imperative planning system often rendered nugatory efforts to improve economic efficiency. In an instructive article (*Izvestia* 4.12.64) Belkin and Birman wrote:

"Electronics has brought no really tangible benefit to the planning and management of the economy, mostly because the existing practice of management is not adapted to the devising and particularly the effecting of optimal decisions.

"Just one example. It is already widely known that the compilation of optimal schemes of freight shipment can yield a quite tangible saving. This is not a complicated task. Many articles and books have been written and not a few dissertations defended, but almost no freight is shipped by the optimal schemes. Why? Simply because the transport organizations are given plans based on ton kilometres, in the face of elementary common sense, while the optimal schemes reduce the number of these same ton kilometres. One can establish any number of computer centres, and conceive superb algorithms, but nothing will come of it as long as the transport organizations reckon plan fulfilment in ton kilometres."

It is in principle desirable that economic plans be consistent, that is, that on the macro level the planned output and planned consumption of every good be equal, and that on the micro level for each enterprise, at each point of time, the input requirements implicit in the output plan, and the supply plan, be equal. To ensure consistency Soviet planners have traditionally used "material balances",¹³ and now supplement this with input-output. These techniques are unable to ensure consistency (as a result of the huge dimensions of the problem, the lack of the necessary information, and the aggregation problem), and Soviet plans have always been inconsistent.

The sort of problems which arose under imperative planning, which orthodox economics predicted and which Soviet experience has confirmed were as follows:

(1) Enterprises often received plans long after the beginning of the period to which they referred. In addition plans were often changed during the period to which they referred. Furthermore enterprises often received conflicting plans from a multitude of higher authorities.

(2) The goods which enterprises need in order to produce their outputs are allocated to them by the "material-technical supply" system. This is a form of centralised administrative allocation of resources. Goods promised often fail to arrive on time, leading to the idleness of machines and men. (The underutilization of machinery is a serious economic problem in the USSR.)

As a result, in order to insulate themselves from the fallible supply system, enterprises often produced their own inputs, raising the cost of production by not benefiting from economies of scale, or integrated backwards in other ways," or accumulated large hoards of materials, which was convenient for the enterprise but costly for society.

(3) The question of whether output was useful, or wanted, or of good quality, was immaterial to enterprises. Their job was to fulfil the plan, not to worry about the vagaries of demand. As a result,

enterprises were forced to take unsuitable products, stocks of unwanted goods piled up, and wanted goods were not produced.

At the beginning of 1964 about two thousand million roubles of goods above the stock norms had accumulated in warehouses. These were mainly woollen and silk fabrics, clothing, footwear, sewing machines, and other goods in mediocre quality and obsolete styles.

(4) The plan instructed enterprise management to achieve specified values of a number of target variables. This often led to distortions.

When output is measured by the number of complete machines produced, there is a shortage of spare parts. When transport organizations are given plans in ton kilometres they ignore optimal transportation schemes. When chandeliers are measured in tons, they are unnecessarily heavy. Because geological surveying units receive plans in linear metres of drilling, they undertake work they know to be useless. When cloth was measured in linear metres, it was narrower than desirable. When the Stalingrad construction trust received a plan for metal used it deliberately wasted metal in order to fulfil the plan. . . .

The construction of many buildings and plants took far longer than planned because the indices of construction organizations were such that they found it undesirable to finish buildings.

(5) Because it was easier to fulfil and overfulfil plans if they were easy, and harder to fulfil them if they were difficult, during the process of planning and counterplanning it was customary for enterprise management to report to the planners that capacity output was less than it actually was, and that costs were greater than in fact they were. Another reason for this behaviour is that the enterprises knew that the planners would arbitrarily raise suggested output plans, and cut suggested cost plans. Consequently it was customary for some enterprises to be given tight plans, and others slack ones, both resulting in waste.

Furthermore, the wise Director, even if he were able to fulfil the plan 120 per cent, would be inclined to fulfil it say 104 per cent, because if he chose the first strategy he would get a very high target for the following period, but if he chose the second one, he would get a nice easy one. This is another source of waste.

(6) Innovations tended to cause headaches and be a nuisance. If a plant produces a new product there are sure to be complications, and at first there will be high costs and low productivity. Innovation was discouraged by a system that laid so much stress on quarterly plan fulfilment, and where prices were unrelated to utility.

(7) "Storming" at the end of the plan period, in order to achieve the plan on time, was common, and adversely affected quality.

Discerning Soviet buyers of record players look at the date stamp (on the back) and only buy those produced in the first half of the month.

(8) Planning was often subjective in that success often depended more on getting easy norms and an easy plan than on managerial and technical efficiency. For example we read about a shipyard with a newly appointed Director, a certain Mairov:

Not for nothing do they say at the shipyard that Mairov began to increase the per cent of plan fulfilment even before he reached Astrakhan. Indeed, as soon as he was appointed, the annual plan was reduced and the enterprise's output was revalued at higher prices. This cost the state much, but the enterprise climbed to a leading place in plan fulfilment."

(9) Enterprises applied for additional fixed capital without considering the prospective return. Extra fixed capital was useful because it cost nothing and facilitated increases in output and cost reductions.

For example, in 1965 a state farm on the virgin lands sent in an application for 10 tractors, although it already had 40 "unemployed" tractors.¹⁴

What Barone and Mises did not realize is that it is perfectly possible for an economy to function, and in many respects perform exceedingly well, even if the plans are inconsistent and micro irrationalities abound. This is the crucial point which Barone and Mises missed.

The planners themselves expect inconsistencies to arise, and when they do they switch reserves to the priority sectors and alter plans throughout the economy accordingly. Most enterprises produce this year very much what they produced last year, relying on the same suppliers. Enterprises rely on misreporting and representations to the centre to avoid impossible output plans. Shortages of scarce inputs are made good by illicit activities of a black market type.¹⁷ The planners were not much troubled by inconsistencies, as they were primarily concerned with strategic problems, for example the relationship of agriculture to industry, and the development of specific products (e.g. tanks), specific plants (e.g. the Dnieper and Bratsk hydro stations and the Magnitogorsk iron and steel complex), of specific programmes (e.g. the space programme) and of specific industries (e.g. oil). In all these their successes were striking. (It was the non-priority sectors that suffered from inconsistencies.)"

An important lesson of the economic experience of the world so far this century is that major structural changes in an economy in a short period of time, often requires central, administrative control of the economy. Such control may well lead to striking successes in a few priority sectors accompanied by irrationalities elsewhere in the economy. This was true of the German war economy in the First World War (which Lenin regarded as the economic half of socialism) and of the British war economy during the Second World War. It

may well be true of the crash programme needed in a developing country. It has certainly been true in the Soviet Union.

The traditional Soviet economic mechanism was very **effective** in the rapid thrusting forward of key sectors of the economy by central administrative action. The problem now being tackled is to combine this powerful mechanism with one encouraging rational decision making on the periphery.

The orthodox economists emphasized the irrational phenomena flourishing in the Soviet economy, ignored the fact that they were part of a system that was achieving very great successes in the fields in which the planners were interested, and contrasted the micro confusion of the Soviet economy with perfect competition, where resources are allocated optimally. This comparison takes on a very different appearance once we realize that the priority targets in the Soviet economy were rapidly being reached, that in real capitalist economies irrationalities also flourish (e.g. unemployment and monopolies), and that as a theoretical proposition about an idea perfectly competitive system (the "basic theorem of welfare economics") it has been refuted by counter-examples (e.g. increasing returns to scale, external effects, "perverse" types of preferences).⁴⁹

It became necessary to change this system because:

(1) The rate of economic growth and the efficiency of investment were falling. The official figures are as follows:

Annual rate of growth of selected macro-economic indices

	1951-55	1956-60	1961-64
	%	%	%
National income	11.4	9.2	6.4
Industrial production	13.2	10.4	8.6
Industrial fixed capital	8.75	9.3	9.8

Between 1951-55 and 1961-64 the annual average rate of increase of national income fell by 44 per cent, the annual rate of increase of industrial production fell by 35 per cent, and the incremental capital output ratio rose substantially (i.e. the efficiency of investment fell substantially). The cause of this slowdown is impossible to determine (how would one test the various theories?) but it is widely believed that the economic mechanism itself was becoming a retarding element.

(2) The priority sectors were multiplying. From 1953 agriculture, personal consumption, and the construction of housing, were regarded as important, hence the old distinction between inessential sectors where shortages and waste were disregarded, and priority sectors, became increasingly difficult to maintain.

The old system was not designed to tackle such tasks as the prompt delivery of necessary inputs to, say, the Dawn of Communism *kolkhoz*

in Pskov *oblast*, let alone the supply of women's shoes of the correct sizes and colours and of satisfactory quality to shoppers in the Sverdlovsk *raion* of Kharkov. Once these are regarded as important tasks, then it becomes necessary to redesign the system.

(3) As the economy becomes more and more complex, the existing methods and persons employed in the compilation of plans find it more and more difficult to cope. The problem is essentially threefold: collecting the necessary data, aggregation and disaggregation both by commodities and enterprises, and doing the necessary calculations in the time available. It is because the planners are simply unable to solve these problems that enterprises receive inconsistent plans long after the beginning of the "planned" period, only to have them altered subsequently. Academician Dorodnitsyn has calculated that the economy is now 1,600 times more complex than in 1928, but the techniques of planning are essentially the same. Glushkov has calculated that, at the present rate of development, by 1980 the entire adult population of the USSR will be engaged in planning!

The September (1965) Plenum introduced the following reforms:

(1) The administration of industry was reorganized on a sectoral rather than a regional basis, thus restoring the position which existed prior to 1957.

(2) Much greater independence was given to the enterprises.²⁰ The number of indices in enterprise plans fixed from above by the central planners, was drastically reduced. Now an enterprise will only have prescribed from above, indices for the volume of production sold (this replaces gross production with its notorious imperfections as the leading quantitative indicator), the quantities of the basic items in the product mix, the wages fund, the sum total of profit and the rate of profit, and payments to the state budget and grants from it. That this is a great reduction in the number of centrally prescribed indices can be seen from the fact that in the new list there is only one labour index—the wages fund—whereas formerly there were four—labour productivity, the number of workers, average wages, and the wages fund.

In addition to these indices the enterprises will have prescribed to them from above, the volume of centralized capital investment and the commissioning of new plant, the basic tasks for the introduction of new technology, and the plan for material technical supplies.

Furthermore, the importance attached to the profitability index was to be greatly increased. Kosygin remarked in his speech to the Plenum that "The volume of profit to a considerable degree characterizes the contribution of each enterprise to the net income of the country, directed to the expansion of production and the improvement of the welfare of the people". Prior to the September Plenum, profits, and

the rate of profit, were not a basic indicator and there were many planned loss enterprises.

The basic idea was that in order to eliminate the flagrant disregard for consumers' interests when enterprises were only interested in fulfilling the plan prescribed from above, directions from above would be greatly reduced, and enterprises would direct their efforts to the satisfaction of consumers' demand, guided by profitability. It was hoped to create a situation in which what was advantageous for society would be advantageous for individual enterprises. Whereas producers formerly produced bulky iron bedsteads in order to fulfil plans in tons, now it was hoped they would produce modern beds which consumers would prefer in order to make profits.

Under the new system much greater emphasis than before is placed on financial levers and an economic approach, and much less on natural indices and an engineering approach.

(3) To stimulate employees (both workers and managerial personnel) to greater efforts, every enterprise would have a fund, formed from the profits of the enterprise, which would be used to provide cash and kind (housing and nurseries) bonuses to those who had contributed to the success.²¹

Formerly only about half of all the enterprises had had such funds and their size had been very limited. The reform was to ensure that all enterprises had such funds, and that their size was greatly increased, so that the bonuses would be a substantial source of earnings and thus a real incentive.

(4) Under the old system there were many planned loss enterprises. The September Plenum envisaged a reform of the wholesale price system so as to allow the receipt of profit by every normally working enterprise.

(5) Enterprises are to pay the state interest on fixed capital employed.

(6) In the sphere of material-technical supplies Kosygin stated that it was intended to "develop wider connections between producer enterprises and consumer enterprises. It is essential gradually to make the transition to wholesale trade in separate types of materials and equipment."

(7) All enterprises are to have perspective plans, related on the one hand to the current plans of the enterprises, and on the other hand to the perspective plan of the state.

A striking feature of the speech in which the reform was set out was its great emphasis on the importance of technical progress.

The reform had two particularly encouraging features. Firstly it came after extensive public discussion of the problems facing the Soviet economy.

Secondly, it was preceded by a number of experiments, for example the experiment in which as from July 1 1964 two plants, the Bol-shevichka in Moscow and the Mayak in Gorky, began producing, not for the plan set from above, but in response to orders by trading organizations. As a result of the success of this experiment in "production for use" rather than "production for plan", from January 1, 1965 400 enterprises, accounting for one third of the enterprises in the shoe and garment industries were switched over to this system.

Both these features of the reform were in sharp contrast to the arbitrary, voluntaristic approach of Khrushchev to economic management.

It is now just over two years since the reforms were announced (these lines are being written in January 1968). What can be said about their success so far?

All enterprises throughout the Soviet Union did not begin to work in the new way immediately after the Plenum had issued its resolution. Enterprises had to have time to accustom themselves to new conditions. Forty-three enterprises went over to the new system as from January 1, 1966, another 200 as from April 1, 1966, another 430 as from July 1, 1966, and by October 1967 5,500 enterprises producing more than one-third of all industrial production, together with many non-industrial economic units, had gone over to it. Isolated statistics have been cited in favour of the thesis that the reform has been a success. For example Kursky²² cites the following data for 1966:

	<i>Enterprises working in the new conditions</i> %	<i>All industry</i> %
Increase in volume of production		
sold	more than 10	8.6
Increase in profit	c. 25	10
Increase in labour productivity	c. 8	5

Similarly the Chairman of Gosplan when presenting the plan for 1968 to the Supreme Soviet cited the following figures:

	<i>Average annual growth rates</i> 1961-65 %	1966-67 %
National income	5.7	7.2
Industrial production	8.6	9.4

Neither of these tables proves that the reforms are a success. It seems sensible to accept the view of Academician Fedorenko, the Director of the Central Economic Mathematical Institute, that we do not have the statistics necessary to judge the first steps of the reform, and that four or five years are necessary for the effects of the reforms to make themselves felt.²³

The reforms introduced by the September Plenum were far less radical than those now under way in Czechoslovakia and Hungary, have taken far longer to put into practice than was originally hoped, and are only the first step in an extensive programme of reforms, stretching over a number of years, that the situation demands. The chief problems which this process has already met and will encounter in the future are as follows:

(1) Some ministries are ignoring the reform and continue to issue their enterprises with very detailed plans in the old way, out of bureaucratic inertia.²⁴

The Soviet economy, bound up as it is with the daily life of c. 230 million persons, has an enormous inertia. The reforms introduced by the September Plenum have so far had only a limited impact on the economic life of the country.

(2) The reforms so far adopted have been far too limited to eliminate the problems of the old system. For example, enterprises have continued to receive impossible plans²⁵ and to receive plans long after the beginning of the "planned" period only to receive numerous alterations to them.²⁶ Enterprises are still finding that it pays to agree to plans that are less than the maximum possible.²⁷ Enterprises are still reluctant to innovate because of the temporary adverse effects of innovations on their indices.²⁸ Storming persists. Instructing enterprises to produce according to the orders of the trading organizations is very far from sufficient to ensure that consumers' requirements determine production programmes. Two Soviet journalists have described how ". . . the orders of trading organisations do not always precisely reflect demand, deviating from it in some cases by 30-40 per cent. Even these orders are far from fully fulfilled by industry. A sample survey of the delivery of goods to trading organizations in various towns indicated that suppliers often depart from the orders. For example, out of 174 styles of mens suits ordered, there arrived in the quantity ordered only 12 styles, 51 styles simply were not produced, and the remaining styles were produced in much smaller quantities than ordered."²⁹

The legacy of imperative planning, together with the sellers market, is such that contract discipline is very weak. The establishment of contract discipline requires the reduction of demand relative to supply until the sellers market is ended.

(3) "In the sphere of material-technical supplies we continue to have in essence a kind of 'rationing system' ", wrote Nemchinov in his famous *Kommunist* article, ". . . because of the imperfect system what happens is that on the one hand working capital is frozen, while on the other hand there is a constant shortage of material and technical supply goods." The present system of material-technical supplies is

such that goods often arrive late,"" causing idleness of machines and men, and when they do arrive, are often of unsatisfactory quality." This does not mean that the existence of this system is a sign of the irrationality of the planners. It is clear that the traditional material and technical supplies system is a very convenient and direct way of enforcing the priorities of the planners, and it may well be that the use of market methods and financial levers would not be so effective in the speedy accomplishment of priority tasks. The transition from the administrative allocation of resources to inter-enterprise trade is inseparably connected with the change in the objectives of the planners from the priority development of a few key sectors of the economy to rational decision making throughout the economy.

The late Academician Nemchinov and other economists have suggested replacing the material-technical supplies system by inter-enterprise trade. In the Soviet Union, unlike Hungary and Czechoslovakia, this suggestion has been rejected," although the material and technical supplies system has been reformed to give more importance to local supply organizations, whose functions are in many ways analogous to those of wholesalers and stockholders.

The present intention appears to be to improve the material-technical supplies system on the technical level. by applying the classical transport problem of linear programming to minimizing the cost of distribution of goods between plants, and on the economic level by increasing the financial sanctions attached to contract violation." In addition, a limited number of experiments, involving a very small proportion of the total turnover, in which material-technical supply is replaced by inter-enterprise trade, are taking place."

On the one hand, it is sometimes suggested that the defects of the material-technical supplies system are caused both by its inherent weaknesses (the men and data processing equipment available are unable to draw up consistent plans in the time available because of the huge dimensions of the task, the lack of much of the necessary information, and the aggregation problem) and also by the fact that the Soviet planners have always tried to run the economy at 105 per cent of capacity. It follows from the second half of this diagnosis that fundamental reform of the material-technical supplies system designed to eliminate its defects requires reducing the level of demand relative to that of supply in order to end the sellers market. This would involve a once and for all loss of output. (Whereas formerly the fact that in the USA there is always a margin of unused capacity was pointed to as a disadvantage of capitalism, its rational side is now becoming more appreciated.) Its effect on the rate of growth is uncertain. In view of this, it can be argued, it is not at all clear that the gains from replacing the administrative allocation of resources by inter-enterprise

trade would outweigh the losses, which explains, and possibly justifies, the conservatism of the planners.

On the other hand, it is clear that the administrative allocation of resources and the "deficit goods psychology" that goes with it, encourage enterprises to apply for, and often to acquire, more materials than are needed. To some extent, shortages are caused not by the requirements of the economy, but by the system of distributing circulating capital goods. In view of this, it is argued that the replacement of the material technical supplies system by inter-enterprise trade, far from foundering on acute shortages of everything, would in fact reduce consumption of goods. The experiments so far, for example, in the free sale of petroleum products in Voronezh oblast, lend support to this view, but it is doubtful whether the replacement of the administrative allocation of resources by inter-enterprise trade, by itself, would suffice to end the sellers market.

It has been suggested in the Soviet discussion, that instead of the present system by which orders are allocated to enterprises, enterprises should compete for orders. It is clear that this could be a powerful force stimulating improvements in quality, the reduction of costs, and —were prices to be freed—be a factor restraining general inflation.

(4) The stress on profit, and the increase in the autonomy of enterprises, has increased the importance of the price mechanism in the USSR. The replacement of the material-technical supplies system by inter-enterprise trade would still further increase its importance.

Under the old economic system prices throughout the economy were centrally determined and had only accounting and control functions, and were not widely used in choicemaking. Under the new system value categories are important,"? hence it becomes important who is to determine prices, and how they are to be determined. The September Plenum decided that the wholesale price system must be reformed so that enterprises pursuing profitability for themselves would act in a way profitable for society. The new price system was introduced, in broad outline, as from July 1, 1967.¹²

Nemchinov pointed out in his well known *Kommunist* article that:

The national economic plan cannot be internally consistent in all its parts and cannot be an optimal plan with just any kind of price system, but only with a *quite* definite price system that, amongst other things, fully corresponds to the volume indicators of the plan in the sense of balancing production and consumption and making efficient use of labour, equipment and natural resources. (My italics.)

The new Soviet *wholesale* prices are not of this type, and their use in choicemaking cannot be relied on to lead to optimal solutions

As a result of this, some *economists* have argued that prices, or at any rate some of them, should be left to negotiations between enter-

prises, i.e. that they should cease to be centrally determined, and left to market forces. This is an important feature of the Czechoslovak and Hungarian reforms, and was publicly advocated by the late Academician Nemchinov in the Soviet Union.

The idea that leaving prices to market forces will result in the optimal allocation of resources is a major part of orthodox economics. It has two forms, Walrasian and Marshallian.

In the Walrasian model, buyers and sellers shout out in the market the prices at which they would be willing to trade, but no trade is done at these hypothetical prices until equilibrium prices are reached, when trade commences (this process is known as *tâtonnement*). The reason for this curious sounding procedure was that Walras was well aware that even if equilibrium prices exist, whether or not they are attained, when trade takes place at non-equilibrium prices, depends on the reaction mechanism of the traders. The fact that an equilibrium price for the hog market can be calculated does not eliminate the hog cycle.

In the Marshallian model, the prices of products are parameters which the enterprises take as given. Yugoslav experience has shown, however, that if enterprises are given autonomy, and prices are left to the market, then enterprises tend to behave like textbook monopolists, which distorts the allocation of resources.

Theoretical discussion of price formation sometimes omits some important practical considerations.

In the capitalist countries, some commodities, e.g. some primary products, do have their prices determined in the market by supply and demand. It is precisely in these cases that special measures often have to be taken to "regulate" the market in order to insulate the incomes of producers from the prices of their products. Other commodities, e.g. many manufactured goods, have their prices fixed on a cost plus basis, which provides a satisfactory income for all the factors of production. Exchange rates in the West are fixed and not market determined, because the monetary authorities are of the opinion that market determination of exchange rates would lead to extensive oscillations which would hamper international trade. The Deputy Chairman of Gosplan was quite right to point out to advocates of "free" prices that even in capitalist countries, administered rather than "free" prices predominate;" and he would have been equally correct if he had added that where prices are determined in the market it is often necessary for governments to interfere in order to secure a satisfactory distribution of income, or stability.

It is no accident that orthodox economics concentrates on the determination of *relative* prices and ignores the determination of the *absolute* price level. Economic theory regards the price mechanism as

a tool of efficient resource allocation. Economic practice has shown that full employment in a market economy is liable to lead to chronic inflation. The Yugoslav inflation, which led to the devaluation of the dinar, and the difficulties of the Czech attempt to implement the Šik reform, show the danger of abandoning central price determination.

Another danger of Šik type reforms is that if the prices of "essentials" are fixed, and the prices of "luxuries" or "inessentials" allowed to fluctuate freely, there may well be a systematic misallocation of resources, as excessive resources are attracted to the "inessential" high profit sector. This was a notorious feature of the UK economy after World War II.

The new Soviet prices are non-optimal, and thus inadequate for guiding enterprises to optimal decisions. Reforms designed to improve the new price system, to steer the price formation system along an optimal channel between the Scylla of completely centralized price formation, and the Charybdis of the market determination of all prices, will require analytical skill to formulate, and practical skill to implement, of a very high order.

(5) The reform has created an incentive for enterprises to economize in the use of labour." During 1966, for enterprises operating the new system, the number of employees was less than the planned number, a unique experience in Soviet economic history. Some enterprises even reduced the absolute number of their workers." It is clearly necessary to organize measures for the retraining of workers, for the receipt of income by people between jobs, and the taking into account of labour availability in the siting of new industry.⁴⁰

(6) The confident Soviet reliance on material incentives is rather curious when it is contrasted with the decline in piecework in the advanced countries and such phenomena as "organizational slack" and "satisfaction".⁴¹

It is widely believed that the present generation of enterprise management does not have the training and experience necessary to take advantage of the ~~new~~ system, and that management education on the American pattern is a necessary complement to a system that increases the autonomy of enterprise management.

(7) The profitability of different enterprises in the same industry depends extensively on differences in natural conditions (e.g. mines in different coalfields), or quality of equipment (e.g. engineering plants). If nothing is done about this then workers in the favoured enterprises will receive much higher incomes than those in the unfavoured enterprises, though they will have done nothing to deserve this. On the other hand, if the whole of the "economic rent" is taken by the state on grounds of equity, then enterprises will have no incentive for efficiency (inefficiency will simply mean a smaller rent payment to the state).

(8) The abolition of the sovnarkhozy and the return of the industrial ministries will probably result in a lack of attention to regional factors (the regional planning commissions responsible for regional economic planning have no executive power).⁴¹

(9) Profit, like all the other success indicators tried out in the past, will undoubtedly turn out to have defects. For example, in the short run pursuit of profit enterprises may neglect innovations profitable in the long run (by which time the Director will be working elsewhere) or maintenance.

(10) The radical Czech and Hungarian reforms, still less the timid Soviet reforms, are no more likely than the practice of the capitalist countries, to result in consumers' sovereignty.⁴²

Without access to impartial comparative information on different products, producers are unable to make rational choices. Without a suitable economic and organizational structure it is not possible to give effect to such choices.

(11) In most industries the rate of interest which enterprises have to pay the state on their fixed capital has been fixed at 6 per cent, in some at 3 per cent. How to determine these rates, and whether they should be differentiated by industries, are controversial issues.

(12) The reform is largely concerned with increasing the autonomy of the individual enterprise. Many existing enterprises are not suitable as independent economic units, and there has been an extensive process of horizontal and vertical integration of small enterprises into larger combines and firms.⁴³ For example, Moscow's housebuilding combine No. 1 consists of 4 erecting organizations, 4 factories producing the necessary building materials, and a head office.⁴⁴ To find out at which level authority should rest in each industry, is a matter which can only be solved by extensive experimentation.

(13) Were investment to be decentralized, as in Yugoslavia, competition for investment resources between and among the various central investing organizations and the enterprises, might lead to a wasteful spreading of resources over incomplete, and in many cases undesirable, projects, with priority projects delayed.

(14) The most serious obstacle to economic reforms in the Soviet Union is the conservatism of the ruling circles and bureaucratic inertia.⁴⁵ When shortcomings became apparent, officialdom criticised, not the economic system, but particular officials. When the necessity for reforms is conceded, conservative organisations and officials struggle to reduce their scope. By the time reforms are ratified by the CC they hear only a limited resemblance to the proposals put forward by radical reformers. Once "reforms" are decreed by the CC officials and organisations strive to run things after the "reform" much as

they were run before it. Lopatnikov (*Kommunist* 1966 No. 10) has described the attitude of Soviet officials to something new.

"What does new mean? It is always a departure from something existing, recognised, approved. From the point of view of a government official this is always a 'violation' of established procedure."

The Soviet Union is faced with a number of economic problems caused by basic geographical facts, about which nothing can be done. For example, the climate is such that extensive resources have to be devoted to overcoming its effects, the size of the country is such that transport costs tend to be high, and the location of much of its agricultural land is such that even with a very efficient organization of agricultural production one would expect costs in agriculture to be higher than in, say, the United States.

The Soviet Union also faces a number of serious economic problems, over and above those discussed earlier, about which something can, and should, be done.

(1) Whereas about 70 per cent of the British national income goes to consumption, the Soviet figure is much lower because of the claims of defence and investment. Defence expenditure is undoubtedly a heavy burden, but it is difficult to see how it could be reduced in the present international situation. A prominent Soviet economist has publicly estimated that gross investment amounts to 35 per cent of the Soviet national income, and added that this figure is excessive and should be reduced.⁴⁷

(2) Traditionally the Soviet Union has had a "dual economy", with a state sector providing for the needs of defence, investment, the state apparatus and social consumption, and a private sector providing a major part of private consumption. Khrushchev's attack, in his later years in power, on the private sector, resulted in a considerable loss in potential output. One of the earliest measures of Khrushchev's successors was to reverse his constraints on private agricultural activities. It is widely thought that if the handicrafts, trade and agricultural activities of private persons were encouraged, a substantial improvement would be made to Soviet living standards. In Poland, where the State has been unable to run a restaurant successfully, a private person is permitted to try and run it.

As Joan Robinson has remarked, "For the authorities to come between a willing buyer and a willing seller is difficult, creates unpleasantness and sets up a state of hostility between the public and the administration which has far reaching ill effects. To check theft (say by workers from factories) is much easier if other kinds of economic crime, which the public sympathizes with, do not exist. The

supply and demand pricing system is thus a bulwark of freedom and public morality."⁴⁸

(3) Imperative planning is quite unsuitable for small enterprises. These are of two types, rural and urban. The CC and Council of Ministers have recently (*Izvestia* 26.9.67) adapted a resolution encouraging the collective and state farms to run auxiliary enterprises and workshops. This may prevent such stupidities as the arrest of a collective farm chairman who earned a collective farm 500,000 roubles a year by establishing a workshop producing cable terminals and knife switches.⁴⁹

Whereas 92.3 per cent of all industrial enterprises in Britain in 1961 employed less than 100 workers, in the Soviet Union in 1963 only 29.8 per cent of all industrial enterprises employed less than 100 workers. The USSR, with an industrial labour force almost three times that of Britain, has only about one-fifth as many industrial enterprises. This difference is largely accounted for by the fact that small enterprises do not fit into the imperative planning system. Thus we have the curious situation in which the economy is tailored to the needs of the planning system, rather than vice versa. Kvasha has suggested⁵⁰ that small scale industrial enterprises working for the market or as subcontractors, be organized as co-operative outside the planning system.

(4) The regional distribution of labour is irrational from the point of view of the needs of the economy.⁵¹

(5) The level of labour productivity in agriculture is very low, with an over large labour force producing an inadequate output.

The day when all Russian countryfolk will have running water, electricity, ten year schools and the same civil rights as townsfolk, is a very long way off.

(6) Providing jobs for all who want them is a major task of Soviet economic planning. The Soviet Union has extensive disguised unemployment, not only in agriculture but also in industry, and also a lack of jobs in small and medium towns, and a lack of female employment in some centres of heavy industry, e.g. the Kuzbass. (By Soviet standards Britain has a large pool of disguised unemployment, i.e. women who do not go out to work, in addition to its statistically recorded unemployment.)⁵²

(7) The system of distribution is grossly inadequate. It is not possible to buy a variety of fruit and vegetables in state shops the whole year round, not only because of the low level of output but also because of the wholly inadequate processing and distribution system. When there is a good harvest much of the output is wasted because of a lack of processing capacity.⁵³ A large proportion of the fruit and vegetables transported from Moldavia to Moscow is rotten on arrival. Stock con-

trol is something of which Soviet shop managers have a totally inadequate knowledge.

(8) The housing situation is very bad. Living space in Soviet cities is very cramped. A majority of Soviet citizens live in dwellings without running water. Comprehensive housing statistics for the USSR as a whole are not published.** The following table, however, illustrates the scale of the problem:

Some characteristics of the urban housing stock in the RSFSR

No. of square metres per person	6.1
	%
Dwellings with running water	43
Dwellings with sewerage	40
Dwellings with central heating	38
Dwellings with hot water supply	10
Dwellings with bath or shower	26
Dwellings with gas	26

Source ⁽⁸⁵⁾ p. 142.

The quality of the housing currently being built in Soviet cities compares unfavourably with the quality of the housing currently being built in Britain.

(9) The retail market in the USSR is characterized by suppressed inflation, that is at the prevailing level of prices aggregate demand for consumer goods exceeds the supply, and as a result there are long queues and numerous shortages. Although this is a great nuisance for consumers it is convenient for the planners, because it makes it easy to sell almost everything produced (and it is also convenient for those employees of the trading apparatus who earn substantial black market incomes as a result of it).

If the suppressed inflation were eliminated, not only would everyday life in the Soviet Union become more convenient, but considerable pressure would be created for enterprises to produce what consumers require.

(10) The Soviet Union could gain substantially from international trade. Complementary imports, such as cocoa, could form a useful addition to consumption. Competitive imports, such as computers and clothes would be both useful in themselves, and as a spur to increase the quality of the competing Soviet goods. Similarly exports, which have to compete on the world market, could also be a force raising the quality of Soviet goods. Soviet foreign trade is steadily increasing, but it is doubtful whether the Soviet Union is now taking optimal advantage of the international division of labour, and it is also doubtful whether the present economic and organizational structure of

foreign trade is capable of taking optimal advantage of the international division of labour.

A major social problem in the USSR is the irresponsibility of the administrative apparatus, leading both to an unwillingness at all levels to take responsibility for decisions, and to an arrogant treatment of the population by all officials from petty clerks upwards. The humiliations suffered by a citizen in the queue in front of the little window behind which the clerk sits, say in an OVIR* office, are most unpleasant. It is no accident that "The Inspector General" was running simultaneously in two theatres in Moscow in the Spring of 1967 and was seen by large and enthusiastic audiences.

From the point of view of the authorities, from the point of view of enlisting the support of the population in efforts to improve economic efficiency, Soviet society is faced with a serious problem of social morale:

" . . . the workers, as individuals, have their own opinion about the promises of their governments. Instead of working zealously and patiently, in the expectation of future benefits, they prefer to make what arrangements they can according to the old slogan "Every man for himself". Productivity interests them far less than the small private jobs they may be able to do outside their official work. Others are simply sceptical about the future and ceaselessly complain about the present. Hence that close and even threatening political climate which seems to prevail in some of the large enterprises. . . ."

Mass participation in efforts to improve the efficiency of the economic system requires both awareness of a collective endeavour and confidence in the future. * * *

The meaning and implications of the Soviet economic reform has been much discussed, and extensively misrepresented, in the West. Do the reforms indicate a triumph of "the market" over "planning"?

The Soviet Union already had, prior to the reform, markets for labour and consumer goods. The very modest reforms so far have made little difference. Were far reaching reforms, of the Sik-Nemchinov-Hungarian type to be introduced, a market for products circulating within the industrial sector would be created. The idea, however, is not to abandon the planned direction of the economy, but to cease the inefficient and unnecessary administrative controls over current economic transactions.⁵⁷ Even were the most radical reform proposals carried out, and there is no sign at present that they will be, very extensive powers would remain in the hands of the State.⁵⁸ Although no longer responsible for determining the current produc-

* OVIR is the Department of Visas and Registrations. These offices are an integral part of the internal passport system.

tion programmes of every enterprise, which would be left to the market, the State would be responsible for:

(1) Determining the strategy of development (e.g. the share of accumulation in the national income, and the relative proportions of private and social consumption) and exercising general oversight over the economy (e.g. by encouraging standardization, making allowance for the main trends in technical progress, and for the changing composition and skills of the labour force).

(2) Ensuring full employment.

(3) Co-ordinating investment plans (this is the main function of indicative planning). Accurate forecasts of the economic environment are of great help in the planning of industries with large investment programmes and long gestation periods, such as electricity and higher education.

(4) Ensuring the desired geographical distribution of economic activity.

(5) Ensuring the desired distribution of income. In the Soviet context this means in particular the distribution of income between town and country, and between regions of the USSR.

(6) Encourage the "manufacture" of technical progress (i.e. the organization of industrial research establishments) and facilitate its introduction on to the assembly lines, and ensure that foreign technical advances are known and utilized.

(7) Protect natural treasures. The desecration of Lake Baikal by wood processing plants is a glaring example of the difference between partial, and total, social costs.

Modern governments are distinguished from those of earlier periods, *inter alia*, by the fact that they have a more extensive list of economic objectives. For example, traditional governments are concerned only that revenue be sufficient for the State's consumption of goods and services. The *laissez faire* state has two objectives, to maintain the internal and external value of the currency. Present day Britain has additional objectives, full employment, economic growth, and regional development. A Socialist state would be concerned with the distribution of income, wealth and power. These objectives can be implemented by the use of administrative decisions, or by the use of the market mechanism, or by some combination of these. For example, full employment can be maintained by instructing each enterprise to fulfil a plan for the number of workers employed (the administrative method), or by relying on flexible money wages, choice of technique and the Pigou effect (the market method), or by maintaining the necessary level of aggregate demand (the utilization of the market by the planners!). In many cases the third method, the utilization of the market by the planners, with the planners taking the macro decisions

and the micro decisions left to the market, is the most efficient, allowing both the achievement of the goals of the state, and the satisfaction of the preferences of individuals.

The antithesis, either the market or planning, is a false one. What the Soviet reformers have in mind is to utilize the market, taking centrally those decisions that have to be taken centrally, but leaving as many decisions as possible, within the framework created by the planners, to the market. Similarly, indicative planning is often thought of as a way of improving the efficiency of the market by providing it with information about the future.

The preference system of society has a multistage or hierarchical nature. At one end of the hierarchy the state has objectives in such fields as regional development and the level of employment. In the middle, regions, firms and ministries have objectives. At the other end the individual members of society have preferences as to how they spend their income and time. (The objectives of the state are not necessarily independent of the preferences of individuals. They may be based on them. In this case, the objectives of the state reflect the preferences of individuals in fields where state action is required.) Decision making in a rational society would be arranged in such a way that all levels of the hierarchy could give effect to their preferences. If no decisions are made at the centre, then full employment will not result. If all decisions are made at the centre, then the preferences of individuals may be violated. In many cases the utilization of the market by the planners makes possible the harmonious fulfilment of the objectives of the centre and the preferences of the individual members of society. The fact that in an economy using the administrative method of maintaining full employment a worker may be employed in factory A where he makes no contribution to the national income, rather than in factory B where he would make a positive contribution to the national income, is a sign, not of the clash between planners' preferences and consumers' preferences, but of the inefficiency of administrative methods.

The market mechanism, which allows producers guided by profit to determine their own output programme, consumers constrained by their income to determine their own consumption, and where prices serve as a signalling system guiding the allocation of resources, is a very effective mechanism for the taking of rational decisions in the light of all the information available to society. To use the administrative method rather than the market method often necessitates the destruction of some of the information necessary for rational decision making. For example, when interenterprise trade is replaced by the material technical supplies system, the process of aggregating requirements for heterogeneous goods at specific places at specific times into

requirements for artificial homogenous goods, and then disaggregating requirements for the artificial homogenous goods into plans for specific goods to be produced at specific places, normally destroys some of the information necessary for the construction of rational plans."

In addition, to replace the market by administrative decision making means that transactions which could easily be settled by mutual agreement on the periphery, require approval by the centre. Some months ago the present author sent a trunk from Sheremetovo International Airport (Moscow) to London airport by airfreight. At first the airport officials refused to accept it on the ground that such a serious transaction required written approval from above, which I lacked. At length, after arguing for three hours, the officials relented. The crucial argument was that to accept the trunk would be profitable for the airport. Before the September Plenum, before the stress on profit and economic, as opposed to administrative, methods of management, the trunk would not have been accepted.

Furthermore, in general the use of market methods of persuading people to do things is to be preferred to the use of administrative methods. For example, one of the big economic problems of the USSR is the labour shortage in Siberia. Whether this should be tackled by economic or administrative methods is a controversial issue." It can scarcely be doubted that to force people to live in Siberia is retrograde, and that the correct solution is to improve living conditions in Siberia relative to those in other parts of the country. Perhaps the Scottish emigration problem should be "solved" by refusing Scots permission to leave Scotland and forcing Devonians to live there?

It would be unreasonable to expect one algorithm to be the most efficient way of solving all the problems of economic policy making, and all economists, from Fedorenko⁶¹ to Meade,⁶² following in the footsteps of Pigou, recognize that the market cannot be relied on in a large number of cases, for example where there is a large discrepancy between social and private costs, as in town planning, or where preferences are of the "perverse" types. It is doubtful whether the offer of wages would have attracted workers from West Africa to the Caribbean area in the eighteenth century. Similarly, it is possible to imagine a society in which socialist consciousness is more effective than wages in ensuring that necessary work is done.

It is sometimes suggested that the necessity of relying on market forces in a socialist society is only a transitional phase, and that it is desirable, and will soon be feasible, to compute an optimal plan for the entire economy, and run the Soviet economy as a single enterprise, all decisions in which will be made at the centre, using computers and mathematical models. This idea has been much discussed in the West, under the heading "perfect computation".

Mathematical models, mathematical methods, and computers have an important role to play in raising the efficiency of Soviet planning, though it is not that imagined by proponents of "perfect computation". Firstly, models of optimal planning furnish ideas useful for the understanding and improvement of economic systems. For example, the models constructed by Soviet mathematical economists have shown, the usefulness of a charge for fixed capital and of rent payments for land and natural resources, the rationality of taking decisions in a hierarchical way at the enterprises for each industry as a whole and for the economy as a whole, that within a suitable parametric framework the decisions taken by an autonomous enterprise will be those required by society, and the role of the price mechanism and of the market.⁶⁸ Some of these ideas have been put into practice, and the others have been much discussed.

Secondly, optimal planning methods have been used, and are being used to solve very many particular planning problems.

In the Soviet literature we find an extensive discussion, not of "perfect computation", but of "optimal planning". Many of those who discuss "optimal planning" regard it as a hierarchical concept. The centre works out the share of accumulation in the national income using a one sector growth model, and the relative proportions of the main sectors of the economy using a disaggregated inter-industry model. In this way a national perspective plan is compiled, which identifies the chief bottlenecks and provides a framework for the perspective plans of particular industries.

The separate industries each compile optimal perspective plans, which deal with such things as the location of enterprises, the capacity of enterprises, the particular technologies which will embody these capacities, the best use of deficit materials for which there are substitutes. . . . Considerable work is now under way in this field in the Soviet Union.⁶⁹

The separate enterprises each compile optimal perspective plans, and use the methods of operations research to ensure that their current plans are optimal.

Understood in this way, there is no contradiction between "optimal planning", a rational system of planning in which all decisions are optimal, and autonomy for enterprises, market relations between enterprises, and markets for labour and consumer goods.

Kantorovich has explained that:

" . . . the system of optimal planning by no means presupposes the full centralization of economic decisions. On the contrary, thanks to the fact that together with the optimal national economic plan a system of prices and valuations (output/capital norms, rent for land and raw materials, investment efficiency norms, and so on) consistent with it is compiled, the

possibility arises of taking decisions maximally consistent with the interests of the national economy in the localities. This is conducive to, the wide utilization of the initiatives of economic collectives, the possibility of mobilizing resources and uncovering reserves in the localities, allows the expansion of the rights of separate economic units, and the construction of a system of valuations and stimulation of the work of separate units, such that, that which is profitable for society as a whole is profitable also for every enterprise. In other words, such a system creates the theoretical basis for the solution of the problem of the combination of centralized management of the economy with wide rights and initiative in the localities on the basis of economic methods of control.⁶⁵

Similarly, Fedorenko, the head of the Institute which is working towards the introduction of optimal planning in the USSR has written that:

"Because the real social-economic system is so complicated that in principle it cannot be fully described, therefore a system of administrative control of it will always be relatively weak and inefficient, given the huge volume of production and the complexity and dynamism of the economy. The impossibility of determining all the factors and tendencies of economic development, without exception, is determined by the limited capacity of the channels of control. This is dictated both by the limited technical possibilities, and also by the limited economically justifiable expenses involved in creating the control system. In other words, the full formalization of the functioning of an economic system and the creation of a fully automated centralized system of planning and management of the national economy is unwarranted."⁶⁶

An integral part of optimal planning is the computer grid which is currently being developed in the Soviet Union to assist with data processing and plan calculations,"⁶⁷ a pilot project for which is being tried out in Estonia. The widespread use of computers will undoubtedly be of great help in improving the efficiency of economic decision making in the USSR, for example in engineering calculations, the administration of construction projects, the planning of material-technical supplies, and in the control of factories. To suppose, however, that this computer grid—when it is completed—will solve the Soviet Union's economic problems is on a par with suggesting that the post office's computer grid will solve Britain's economic problems.

The desirability of relying on the market as a means of distributing goods and services among consumers depends on the distribution of purchasing power among the population. Where this distribution is just, the market is, in general, an excellent method of distributing goods and services. Where it is not, the efficiency of the market is vitiated by equity considerations. It is for this reason that socialists have always advocated, for a society in which incomes are very unequally distributed, a free or subsidized distribution of basic services such as education, health and housing. In the Soviet Union, education,

health, housing, public transport, and an extensive network of nurseries and holiday camps for children, are provided free or at a very low price. Given the present distribution of purchasing power in Soviet society, any move in the direction of charging the free market price for these services would be a retrograde step. There have been no indications of such a move. Furthermore, a substantial increase in the minimum wage to take effect from January 1 1968 has been announced. Criticism of the reform on distributional grounds seems misguided. The reform is not concerned with changing the distribution of income among consumers, but with increasing the efficiency with which the nation's stock of assets is used.

The orthodox economists concentrated on the virtues of the market, when counterexamples were discovered referred to them as "exceptions"—*curiosa* to be mentioned in footnotes—and ignored the fact that the satisfaction of individual preferences in some fields, such as the level of employment, requires central action, and transformed an important, but far from all embracing proposition about economic organization into an ideology. Socialist economists, in justifiable reaction against the orthodox ideology, rejected the entire corpus of the orthodox teaching, including its rational kernel. It is this rational kernel which is now being rediscovered in Budapest, Prague, Leningrad, Moscow, and Novosibirsk.

It appears to be widely thought that the current Soviet economic reforms spell a reversion to capitalism. What is capitalist about a society in which the means of production are owned by the state, where there is no rentier class receiving income from property, and the basic direction of the economy is determined by the state, it is difficult to see. Perhaps socialism requires that goods should be produced that nobody wants and which merely moulder away in warehouses? Of course the Soviet Union is not a socialist society. But that is not because profits are being substituted for gross value of output, but because it is a society which lacks intellectual and political freedom, equality and self determination, and where political power is in the hands of a small self perpetuating oligarchy.

It has been argued that to "interest" enterprises or their employees in the profits they earn "is the introduction into a socialist economy of motivations which are foreign to it and which, if they are allowed to play too great a role, will prevent the very progress of socialism".⁶⁸ Similarly, Mandel, although regarding the use of material incentives as inevitable, finds it impossible to accept that measures which emphasize their role can be regarded as part of the march to socialism and communism, and is worried lest their extensive use might corrupt the socialist consciousness of the masses.⁶⁹

Four points can be made in response to this criticism: ■

(1) Undoubtedly the use of material incentives, rather than socialist consciousness, to achieve plan targets, is a non-socialist phenomenon as socialism has traditionally been understood.

(2) The use of material incentives has been practised in the Soviet Union for many years now. The result of the reforms is not that, for the first time, enterprises or their employees are materially interested in their results, but simply that the index to which their incentives are attached has been altered, a single synthetic index—profit—being substituted for a multiplicity of heterogeneous indices.

The suggestion to substitute profits for other indices has been made because experience has shown that the use of other indices leads to irrationalities, and economic theory suggests that profits are the best possible index of an enterprise's efficiency.

(3) The objection by socialists to the use of profit stems from the fact that in a capitalist society profits are the primary source of inequalities of income. When the means of production are not privately owned, this need not be so. It should not be **difficult** in such a society to devise a **financial** system such that profit serves to encourage the efficient allocation of resources, but does not lead to acute income inequalities. It is important to **distinguish** between profit as a guide to the efficient allocation of resources, and profit as the income of property owners. The reforms currently under way in the Soviet Union do create a Soviet analogue of the Western managerial bonus schemes, but they do not create any analogue of the functionless rentier shareholder.

(4) Socialists would be well advised to concentrate their critical attention not on the technical issue of which index enterprises should be instructed to maximize, but on the fundamental political fact that Soviet national economic plans are drawn up by a small self-appointed group, unresponsive to the wishes of the broad mass of consumers, and that Soviet enterprise plans are drawn up independently of the wishes of the **producers**.⁷¹

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The economic problems of the Soviet Union are primarily a matter for the Soviet people. Outsiders are more concerned with the general lessons that can be gleaned from the Soviet experience for rational economic policy making.

Soviet experience has shown that it is possible to have a society in **which** social choices are not made by the market method. It also shows that this is not a sufficient condition for rational decision making.

The experience of the Soviet Union has shown that if the state accepts economic growth and regional planning as objectives of economic policy, it can achieve striking successes in these fields. **Simi-**

larly, Soviet experience has shown that the rapid industrialization of a backward country is perfectly feasible. The main requirement is political will.

Soviet experience has shown that it is possible to have a society in which the means of production are owned by the state, and there is no income from property. It also shows that this is not a sufficient condition for an egalitarian distribution of income, wealth and power.

Soviet experience does not support the view that it would be possible to have a society with an egalitarian income distribution. Such a society may be feasible, but Soviet society, which is not an egalitarian society, can not be cited in support of this view. If anything, the historical experience of the Soviet Union supports the Liberal contention that there is an inherent clash between the claims of equity and efficiency.

Planning, that is the process in which goals are formulated and their consistency checked, a forecast of the future made, the implications of this forecast for the economic unit concerned considered, difficulties uncovered and resolved, and the plan of the unit implemented in the most efficient way, is an essential component of rational economic activity. This does not mean that it is necessary for the Government to issue every economic unit with detailed, mandatory instructions regulating its behaviour.

Planning of the traditional Soviet type is suitable for an economy with a limited range of well defined goals, e.g. a war economy or a developing country trying to break through to modernity.

In an economy without a small number of priority sectors, rational planning of the traditional Soviet type is both impossible and unnecessary.²¹

In any rational economy state action will play a major role in economic activity. The experience of the Soviet Union confirms the correctness of the orthodox doctrine that the market is a valuable allocative mechanism, and that its replacement by administrative decisions can lead to irrationalities. The efficient attainment of the objectives of economic policy making require a combination of administrative decision making and utilization of the market mechanism, the proportions in which the two methods are needed varying from objective to objective and from economy to economy.

Economic theory does not provide a set of optimal economic institutions applicable to all economies, independently of the objectives of policymakers and the concrete historical, social and technological milieu. A thorough understanding of economic theory may, however, provide ideas useful for improving the functioning of a particular economy facing particular problems.

The division of the world economy into three sectors, developing economies, Western-type economies and Soviet-type economies, has

important positive effects. The inhabitants of developing countries can learn that disastrous infant mortality rates, miserable life expectancy rates, inadequate diet, housing and holidays, are not inevitable. The inhabitants of Western-type economies can learn that the withering away of public transport, the atrophy of entire regions, mass unemployment, an international economic crisis caused by an inadequate international financial system, offensive advertisements, low rates of growth, byzantine tax rules, the commercial exploitation of communications and sex., the inadequate provision of education, pensions, medical services and nurseries to a substantial proportion of the population, are not inevitable. The inhabitants of Soviet-type economies can learn that low labour productivity in agriculture, a low share of consumption in the national income, irrational decision making by enterprise management, a chaotic distribution system, suppressed inflation in the retail market, and an inefficient system for allocating circulating capital goods, are not inevitable. Similarly, western-type economies can learn from Soviet experience of the dangers of the unnecessary replacement of the market mechanism by administrative decisions, and Soviet-type economies can learn from Western experience of the dangers of inflation if price fixing is left to the market, and of the danger of leaving international trade to individual firms.

The division of the world economy into antagonistic sectors also has unfortunate negative effects. In addition to the two existing irrational competitions, in armament; and conspicuous cosmic consumption, we now have a new one—the rate of growth of GNP. This competition takes no account of the fact that GNP, which penalizes the efficient economy, ignores facts such as dangers to life, noise and impure air, ignores the consumer surplus associated with such goods as oral contraceptives and antibiotics, regards all goods bought by consumers as consumption regardless of whether they are useful or thrown away because of poor quality, and ignores such goods as a civilized environment, accessibility to forest, lake and mountain, and leisure, is far from being a measure of welfare.

NOTES

1. The overwhelming majority of the Party would have endorsed Trotsky's criticism of the Bukharin-Stolypin policy. This policy, he wrote in 1929, might well yield economic fruits, but they would be "capitalist fruits which at no distant stage will lead to the political downfall of Soviet power". *Byulleten' Opozitsii* 1929, No.1-2, p. 22.
2. See M. Ellman, "The logic of collectivization", *Ost Europa Wirtschaft*, No. 3, 1965, and R. W. Davies, "Planning for rapid growth in the USSR", *Economics of planning*, No. 1-2, 1965.

See O. Lange, "The role of planning in a socialist economy", *Indian Economic Review*, August 1958.

See Nove and Newth, "The Soviet Middle East".

L. von Mises, "Economic calculation in the Socialist Commonwealth" in "Collectivist economic planning", ed. F. Hayek.

Important contributions to the debate were:

(a) E. G. Liberman's article in *Pravda*, September 9th 1962.

(b) "Snbazhat' ili torgovat'" *Ekonomicheskaya Gazeta*, No. 26. 1964, pp. 9-11.

(c) Aganbegyan's article, "K sozdaniiu optimal'noi sistemy planirovaniia i upravleniia narodnym khoziaistvom" *Vestnik Akademii Nauk SSSR*. 1964, No. 6.

(d) Trapeznikov's article in *Pravda*, August 17th 1964.

(e) Nemchinov's pamphlet, "O dal'neishem sovershenstvovanii planirovaniya i upravleniia narodnym khoziaistvom" 2nd ed. 1965. This includes the complete text of Nemchinov's article in *Kommunist*, No. 5, 1964.

(f) O. K. Antonov, "Dlya vsekh i dlya sebya", 1965.

(g) N. Ya. Petrakov, "Nekotorie aspekty diskussii ob ekonomicheskikh metodakh khoziaistvovaniya", 1966.

(h) V. Volkonski. "Ekonomiko-matematicheskie metody i teoriya planirovaniya narodnym khoziaistvom" in *Voprosy Ekonomiki*, No. 3, 1967.

7. E. Barone, "The Ministry of Production in the Collectivist State" in "Collectivist economic planning", ed. F. Hayek.

8. The rationality of capitalism is still under attack. See for example J. Robinson, "Economics: an awkward corner", and Sweezy and Baran, "Monopoly capital".

An early example is the already cited paper by Mises. A more recent one is A. Bergson, "The economics of Soviet planning".

10. L. V. Kantorovich, "The best use of economic resources", p. xxiii.

11. A classic paper is V. F. Pugachev, "Approximatsionnaya skhema mnogostupenchatogo optimal'nogo planirovaniya narodnogo khoziaistva" in "Ekonomiko-matematicheskie metody", vol. 2, ed. S. hl. Vishnev.

12. A survey of this field will be found in chapter 11 of A. L. Lurie, "O matematicheskikh metodax resheniya zadach na optimum pri planirovanii sotsialisticheskogo khoziaistva".

13. For an account of the use of material balances in Soviet planning see A. Ya. Emdin, "Metodologiya planirovaniya i organisatsiya material'no-tekhnicheskogo snabzheniya", 1966.

14. For some examples see O. Latsis, "Net isklucheniya bez pravila" *Novy Mir*, No. 4. 1967.

15. Quoted from B. Richman, "Soviet management", p. 162.

16. G. S. Lisichkin, "Plan i rinok", 1966 p. 60.

17. See J. Berliner, "Factory and manager in the USSR", 1957.

18. Cf. R. W. Davies. "The Soviet planning process for rapid industrialization", *Economics of Planning*, vol. 6, No. 1, 1966, pp. 65-67, and H. Hunter, "Optimum tautness in development planning", *Economic development and cultural change*, vol. 9, No. 4, Part 1, July 1961.

19. See M. Ellman, "Individual preferences and the market", *Economics of Planning*, vol. 6, No. 3, 1966.

20. The role of the enterprise in Soviet society is defined in the Statute on the Socialist State Industrial Enterprise (1965).
21. The rules governing these funds will be found in paragraphs 43-73 of the Methodological Instructions on the transition of enterprises, combines and industries to the new system of planning and economic stimulation. *Ekonomicheskaya Gazeta*, No. 50, 1966.
22. *Voprosy Ekonomiki*, No. 4, 1967.
23. N. Fedorenko, "Reforma v promyshlennosti: pervie itogi. problemi povisheniya yeyo deustvennosti". *Planovoye Khozyaistvo*, No. 4, 1967.
24. See *Vestnik Statistiki*, No. 6, 1967, p. 31, and *Ekonomicheskaya Gazeta*, No. 45, 1966, p. 8.
25. See A. Birman, "Neotvratimost", *Literaturnaya Gazeta*, No. 2, 1967.
26. For an example see P. Mokeev, "Khozraschet s prepyatstviyamy", *Izvestia*, March 3rd 1967.
27. *Voprosy Ekonomiki*, 1967, No. 7. p. 147.
28. See the leader in *Pravda*, 14.12.67.
29. N. Kravtsov and I. Kuznetsov, "Firmy — khorosho", 1966, p. 100.
30. *Vestnik Statistiki*, No. 7, 1967, p. 22.
31. *Ibid.*, p. 25.
32. See Ermdin, *op. cif.* and V. Lagushkin's article in *Voprosy Ekonomiki*, 1967, No. 4.
33. The leading article in *Pravda* of 16.12.67 is devoted to the problems of the material-technical supplies system. En passant it reveals that the USSR Council of Ministers has adopted a resolution, with effect as from 1.1.68, increasing the financial penalties attached to contract violation.
34. See Dimshitz's article in *Pravda* 5.1.68, and Novoselov's article in *Pravda* 11.1.68.
35. Some examples of the problems that arise when enterprises have autonomy and prices are non-optimal can be found in Pogosov's article in *Vestnik Statistiki*. No. 7, 1967, and in Perelman's article in *Pravda*, October 8th 1967. The harmful effects of irrational prices for milk are discussed in Katz's article in *Voprosy Ekonomiki*, No. 12, 1967, and for turbines in Dolinsky's article in *Pravda*, 11.1.68.
36. The principles underlying the new wholesale prices are discussed in articles in *Ekonomicheskaya Gazeta*, Nos. 43 and 48, 1966. Some of their characteristics are discussed in an article in *Planovoye Khozyaistvo*, No. 7, 1967.
37. A. Bachurin, "Khozyaistvennaya reforma: problemy, pervie itogi", *Ekonomicheskaya Gazeta*, No. 45, 1966.
38. See for example *Moskva*. No. 7, 1967, pp. 182-183.
39. Fedorenko, *op. cit.*, p. 8.
40. Cf. M. Tatu, "Nuages sur les 'conquêtes sociales'", *Le Monde*, 16.9.67.
41. F. Simon, "Administrative behaviour", Cyert and Marsh, "A behavioural theory of the firm", and R. Marris, "The economic theory of managerial capitalism".
42. Cf. Kedrov's remark, apropos of the reform, that "it is necessary to solve the question of the expansion of the rights and the strengthening of the role of the planning commissions of the economic regions". *Voprosy Ekonomiki*, No. 7, 1967, p. 150.

43. Cf. Joan Robinson "Consumers' sovereignty in a planned economy" in "On political economy and econometrics: Essays in honour of Oskar Lange", Warsaw 1964.
44. Cf. Kravtsov and Kuznetsov, *op. cit.*
45. *Novy Mir*, No. 4, 1967, p. 169.
46. Cf. M. Tatu, "Le debut d'une très longue route", *Le Monde*, 19.9.67.
47. See Vainshtein's article in *Ekonomika i matematicheskie metodi*, No. 1, 1967.
48. Joan Robinson, "Exercises in economic analysis", p. 204.
49. A. Agranovsky, *Izvestia*, 4.6.67. The man was found not guilty and released—after ten months in prison. He received no compensation, and those responsible were not punished.
50. *Voprosy Ekonomiki*, No. 5, 1967.
51. See V. I. Perevedentsov, "Migratsiya naseleniya i trudovie problemy Sibiri". Novosibirsk 1966.
52. Serious misunderstanding of the employment position in the USSR is caused by regarding all "persons not engaged in social production" as "unemployed". The majority of these people are housewives, many of whom do not want work. Many of those who do want work want part-time work, or work which can be done at home. When large scale industry needing full time workers (and heavy capital investments) is introduced in small towns with such an "unemployment problem" the workers normally come from other towns or from the countryside. None of the "unemployed" wish to work in it. See Selyunin's interesting article in *Moskva*, No. 7, 1967.
53. See for example the article by Andrukov and others in *Pravda*, 15.12.67.
54. This in itself suggests that the position is bad. In general those statistics are unpublished which, if published, would paint Soviet reality in "negative" colours.
55. D. I. Valentei, "Teoria i politika narodnonaseleniya", 1967.
56. K. Karol, "Reflections on the People's Democracies" in *The Socialist Register*, 1965, p. 35.
57. See O. Kyn, "The market mechanism in a socialist economy" in St. Anthony's Papers, No. 19, ed. M. Kaser.
58. Cf. Marie Lavigne, "La réforme des méthodes de gestion économique en Union soviétique", *Temps Modernes*, July 1965, pp. 110-111.
59. See M. Ellman, "Aggregation as a cause of inconsistent plans", forthcoming.
60. As can be seen from the discussion reported in *Voprosy Ekonomiki*, 1967, No. 2, p. 151.
61. See Fedorenko, *op. cit.*, p. 9.
62. J. E. Meade, "Efficiency, equality and the ownership of property", p. 12.
63. See for example Volkonsky's article in *Ekonomika i matematicheskie metodi*, 1967, No. 4.
64. See for example the "Metodicheskie položeniya po optimalnomu otraslevomu planirovaniyu v promyshlennosti". eds. Aganbegyan, Kozlov, and Tsimdina, Novosibirsk 1967; and M. G. Zavel'ski, "Optimizatsiya otraslevogo planirovaniya", 1967.
- Vestnik Akademii Nayh SSSR*. 1966, No. 10, p. 11.