SOVIET PLANNING AND LABOUR IN PEACE AND WAR

By the same Author

RUSSIAN ECONOMIC DEVELOPMENT SINCE THE REVOLUTION

POLITICAL ECONOMY AND CAPITALISM

WAGES

SOVIET ECONOMY AND THE WAR

SOVIET PLANNING AND LABOUR IN PEACE AND WAR

FOUR STUDIES

By

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PREFACE

THIS booklet is to some extent complementary to the author's *Soviet Economy and the War* of a year ago, supplementing the latter with information about some special aspects of the Soviet economic system, which a small experience of lectures on the subject in recent months has suggested to be subjects of considerable popular enquiry. Like its predecessor, this booklet pretends to be little more than a compilation of information that is already accessible to those who have the opportunity to seek for it. It differs only in being less concerned with giving an over-all picture of industrial plans and their fulfilment, of industrial policies and methods, and more with the detail of a few special spheres. Whether any results of the analysis of this detail may prove of interest to students of these special topics, I do not know. My chief concern, however, has been, not with theoretical generalisation, but with the collection of essential facts: nor has it been with "making a case" of any sort, unless it be a case for more sympathetic understanding of the problems of Soviet economy than was common until a year ago. One of the four chapters is in the main a reprint of an article in the *Anglo-Soviet Journal* (by kind permission of its editor, Dr. Vevers), and another is an expansion of a lecture delivered to the Anglo-Soviet Public Relations Association in June of this year. I am indebted to Dr. Alexander Baykov for information with which he has kindly supplied me on several matters.

M. H. D.

CAMBRIDGE,
October 1942.

CHAPTER I

ECONOMIC PLANNING IN U.S.S.R.

ONE sometimes meets the statement that the "profit-motive" still plays a prominent rôle in the economic system of the U.S.S.R.; from which it would seem to follow that this system is in essentials similar to our own. Those who make this statement often turn out, however, to mean no more than that the part played by monetary incentives in relation to productive work remains a prominent one. In other words, they are using profit-motive and monetary incentive as synonymous terms. But to ignore the difference between wages or salaries as payment for *work* and profit in its usual signification as the income of the capitalist *entrepreneur*, or of the owner of a business enterprise, is, surely, to darken counsel; and, as some recent correspondence in *The Times* on the subject of the "profit-motive" suggests, can lead to a good deal of nonsense being talked. An essential difference between Soviet economy and the capitalist economies of other countries is that the maximisation of profit by the individual firm or business man is no longer the decisive factor in determining industrial policy—in determining output and investment and the direction and volume of sales. What is determined elsewhere by the separate decisions of thousands of autonomous *entrepreneurs* is determined in Soviet economy by a single co-ordinated complex of decisions which constitutes the economic plan. This difference is connected with another one: the fact that in U.S.S.R. land and capital are in social, not in private, ownership. Consequently, not only does the State have complete power of disposal over all productive equipment, but

neither profit nor any other income acquired by right of ownership exists as a category of income (whether it exists as an accounting-category in the financial relations between various branches of State activity is a quite different question). The State is therefore able to control the use of productive resources by direct, and not merely by indirect, intervention; and personal income has a homogeneous character as being work-income, graded according to the amount and the kind of work that is done. Income differences exist, but are naturally much smaller in extent than income differences due to ownership of property; and there are not two sources of income, with social or class differences contingent on them, but only one.

To these statements, it is true, there are exceptions. The productive equipment of a co-operative group (whether an artisan co-operative, engaged perhaps on furniture-making, wood-carving or boot-repairing, or a collective farm) is not at the direct disposal of the State, at least not to the same extent as the equipment of State industry. But the autonomy of such bodies operates within the limits of certain Statutes under which they are registered (similarly to Friendly Societies and Universities in this country), and certain forms of economic relationship between them and the State have been developed, as we shall see, which enable their activities to be laced in to a general economic plan. Moreover, the income of the members of such collective groups represents a sharing of the proceeds of the group's activity that is not, in the strict sense, a wage. But since the allocation of this co-operative dividend is based on the amount of work that each individual has contributed to the common pool, it is much more akin to a wage than it is to anything else.[1]

[1] Cf. the author's *Soviet Economy and the War*, Chapter VII. The collective farmer also gets some income from the produce of his own farmstead or allotment which he is permitted to have; this produce

Again, it is true that there are remnants of the old class of individual peasant farmers; and any citizen can derive an income as interest on money he has put into State Loan. But the survivors of the old class of individual peasants are relatively so few as to be of negligible importance when one is speaking of economic relations as a whole (while they number perhaps a million odd, they cover less than 1 per cent. of the cultivated area); and the income that an average wage- or salary-earner derives from holdings of State Loan is no more than 4 per cent. or 5 per cent. of his wage or salary and can hardly in the case of the largest holder exceed 25 per cent. of his income.

Since the economic plan determines the policy of Soviet economy, instead of the individual decisions of separate firms or *entrepreneurs*, it follows that the essential links between the various parts of this economic system are no longer through the market, and through the medium of price-movements on the market, but are direct links between the output-programmes of various industries which are included in the Plan. In the economic system with which we are familiar in this country business decisions are based on price-expectations (where they are not simply the result of tradition): on guesses as to what the market is going to reveal after the event. The co-ordination that exists consists of the effect of price-movements which follow in the wake of decisions actually taken and embodied in concrete acts of production and investment and which subsequently provoke a revision of the original action (usually only after a time-lag that may be long or short according to the nature of the investment undertaken and its incidental commitments). In the Soviet planning system the co-ordination of the output-decisions of various

being either consumed at home or sold in the local "Kolkhoz-market". But since these farmsteads or allotments are limited to 2 acres in each case, their relative importance is not very considerable.

industries is done *in advance* of the concrete acts of production and investment that these decisions control. Individual industries and constituent enterprises within them will devise their sectional plans, as individual firms may do in this country. But these plans do not become operative until they have been woven into the unified economic plan for the whole country, probably being subjected to adjustment and amendment in the process—they are not embodied in action until they have been co-ordinated with all the other sectional plans. The process of economic "trial and error" of which economists have written does not (in the main) take place on the market *after* productive commitments have been incurred, but *before* the productive activity to which the plan relates has been started. Whether such planned co-ordination *ex ante* is successful will clearly depend on two things: on the fullness and truthfulness of the estimates on the basis of which the various sectional plans have been constructed, and on the ability of the central planning authority to co-ordinate the various parts of the plan in every relevant particular and so to construct a perfect fit. In other words, it will depend on the external correspondence of the plan with economic reality and on the internal coherence of its elements. Since the best of plans is never likely to be 100 per cent. perfect, for both objective and subjective reasons—because some things, such as the vagaries of nature, can never be perfectly foreseen, and because all human institutions have weak spots—a third condition will also be necessary if a planned economy is to avoid periodic hitches, maladjustments and fluctuations. It must make provision for subsequent adjustments and revisions at particular points in the system, to meet unforeseen eventualities, and for such revisions to be made with a minimum of disturbance to the activity of other parts of the system. This, as we shall see, is partly a question of

appropriate flexibility of administrative arrangements and partly an economic question, for example of mobility of resources and the existence of reserves. Capacity for solving these problems is not something that can be developed overnight. The conditions favourable to their solution may not always be present and may have to be developed. At the outset the concrete shape of the problems to be tackled may only be dimly seen or even not understood at all. A process of learning by experience, making imperfect plans and extracting wisdom from initial mistakes, may be necessary before the planning authority can even know what questions it ought to ask, what data are relevant to its decisions and how to handle those data when they are collected. Moreover, to construct a plan is easier than to control its execution; and until one can control its execution, one has little chance of solving the third of the types of problem that have just been referred to: subsequent adjustments and revisions to meet unforeseen or imperfectly foreseen contingencies. Stalin once said (speaking in the penultimate year of the Second Five-Year Plan): "Only bureaucrats can think that planning ends with the elaboration of the Plan. The elaboration of the Plan is only the beginning: concrete planned direction only starts *after* its elaboration, after the plan has been tested in the process of its fulfilment, after it has been amended and made more precise."

It was during the early years of the so-called New Economic Policy, or NEP, in the '20's that the machinery of Soviet Planning had its origin and went through its first lessons. This was a period of restoration after the ravages of war and civil war, and not yet of *new* construction. Moreover, it represented a transitional period when socialist elements coexisted with small-scale peasant agriculture, covering more than nine-tenths of the cultivated area, and also with a certain amount of private

trade, both wholesale and retail. Most of this private trade was on a petty scale; much of it that of pedlars and bazaar-vendors. Nevertheless in the early '20's it accounted for more than a half of the trade turnover. In the middle '20's this proportion diminished; and the Soviet State always controlled the "commanding heights" in the economic system by virtue of its ownership of large-scale industry, finance and transport. But industry still lacked a preponderant weight in the economy as a whole; and in view of the weakness of heavy industry its possibilities of expansion were limited. In these conditions the basis for any comprehensive planning of the system as a whole was a slender one. The links between industry and agriculture were essentially through the market; and this relationship between the peasantry and the workers in socialised industry was the form of that *smytchka*, or union, between the two of which Lenin spoke as characteristic of this period. It followed that the amount of produce that the peasantry in the first place grew, and secondly placed on the market when it was harvested, as an alternative to consuming it himself or holding it in stock, depended on current prices and on expected future prices: on the *relative* price of a particular crop to that of other crops and to the prices of manufactured goods of which the peasant was a consumer. The State could influence agriculture in various ways: for example, by tax-policy or purchase-policy. But it had to do so indirectly through its influence on the market and the structure of prices; and here the influence that the State trading organs could exert on the volume of produce coming on to the market was subject to fairly strict limits, quite apart from the competition of private traders. The State was impotent to plan agricultural production directly; and industrial plans could not, therefore, be built on any firm data about supplies of food and raw materials forthcoming. Instead, these had to be

rough estimates, subject not merely to uncertainty about the weather and its effect on harvest-yield, but to the crucial uncertainty about peasant-reactions to the market-situation—a reaction which through its reciprocal influence on the market might even start something of a cumulative movement. In certain years of the NEP-period the reaction of marketed agricultural supplies to changed prices showed itself to be extraordinarily sensitive. With the supply of agricultural products in any year an imperfectly known factor, the volume of rural demand for industrial goods was likewise incalculable: an incalculability which affected too the structure of urban demand (over and above the need for basic foodstuffs) and the supply of raw materials for industry or for export, and hence made insecure both the industrial and the import programme. The famous "scissors crisis" of 1923 (so-called because of the wide spread between industrial and agricultural prices that developed and threatened a sales-crisis for industry), although it was quickly overcome by pressure being brought to bear to lower industrial and raise agricultural prices, was a symptom of the sort of unforeseeable maladjustments that might occur. In the next few years a further disturbing factor came into prominence. The richer peasants, or *kulaks*, though small in number, and small even in the total area of land they occupied relatively to the whole, controlled a disproportionately large part of the marketed surplus, since, being larger farmers, they could afford to produce mainly for the market, having a large surplus over the subsistence-needs of themselves and their families, whereas the smaller peasant had only a slender margin above subsistence-needs or even none at all. The State buying-organs therefore found themselves facing a market in which this small social group of embryo-capitalists exercised a powerful influence, and could frequently, by an unconscious collusion, swing the market to their own

advantage ; [1] and certain new difficulties in the relations between industry and agriculture in 1927–8 served to emphasise the limits within which planning, and in particular an ambitious plan of capital investment and industrialisation, operated under the conditions of this period of NEP.

The origin of the planning machinery is usually dated from February 1920, when, before the guns of the civil war and the war of intervention were silent, the GOELRO (State Commission for Electrification) was set up on Lenin's initiative under the presidency of the engineer Krshishanovsky, an old Party colleague of Lenin. This was charged with the task of preparing an electrification plan for the whole country extending over a period of

[1] What occurred, especially in 1926 and 1927 was that the *kulaks* tended to buy grain from the poor and middle peasants after the harvest (who were often unable to cart and market their grain and were frequently distress-sellers in addition) and instead of selling it to the State buying-organs, to hold it until the end of the agricultural year (i.e. the spring or early summer of the following calendar year, before the next harvest) in anticipation of scarcity forcing up grain prices then. Having some capital, they could afford to hold and to wait, whereas the poor peasant could not. This action did not, as might at first be supposed, have the effect of evening-out the price between the fat and the lean months of the year. With urban reserves very low, as they then were, the deficiency of purchases by the State buying-organs in the autumn and winter made the urgency of their need to collect supplies in the spring more intense and threatened to force buying-prices up to famine-levels. Even poor peasants in the village were often willing to buy back from the *kulak* at inflated prices what they had sold to him as a distress-seller the previous autumn. In the second half of 1926 the government decided to break this *kulak*-corner ; they virtually prohibited private trading in grain and sternly controlled grain purchase-prices offered by the buying-organs so as to prevent any price-concessions being offered to secure supplies in the spring and summer. This action was successful. But in the following year, 1927–8, despite a deliberate increase in the amount of manufactured goods that were directed to the grain regions between autumn and spring, the grain collections proved to be smaller by some 15 per cent. than in the previous year.

fifteen years. Prior to this there had been a number of planning commissions of one kind or another attached to the body that controlled industry, the Supreme Economic Council. But these plans were sectional plans; there was little co-ordination between them; there were no reserves of materials, grain or fuel; the planners were largely working in the dark; and machinery scarcely existed for translating their paper plans into action. A crucial step was taken when the Eighth Soviet Congress decided to set up a body called the Council of Labour and Defence to have supreme executive authority in the economic sphere—a sort of Economic Cabinet, concerned not only with industry (as the Supreme Economic Council had come to be) but with all branches of economic activity of the State. On February 2, 1921, the GOELRO was broadened out to become GOSPLAN (the State Planning Commission). This was to be an advisory, and not an executive body. It was to be subordinated directly to the Council of Labour and Defence and to report to it on the plans of all the Commissariats and Departments having economic functions (including, be it noted, the Finance Commissariat or "Treasury"). The first clause of the decree establishing the new body stated that it was to be formed in conjunction with the Council of Labour and Defence "to work out a unified economic plan for the whole of the State on the basis of the electrification plan approved by the Eighth Soviet Congress and to exercise a general supervision over the execution of this plan". Krshishanovsky became the president of GOSPLAN as he had been of GOELRO, and most of the staff of the latter were incorporated in the new body. The total personnel of the Planning Commission at first numbered 40, chiefly economists and engineers. By 1923, after further reorganisation, its staff had been enlarged to 300. In 1925 subordinate branches of GOSPLAN were set up in the republics, regions and pro-

vinces, linked with, and subordinated to, the parent body.[1]

There was a good deal of discussion at the time concerning the precise powers and functions of what was frequently referred to as the Economic General Staff. Trotsky was pressing for it to be given executive powers. But this was opposed by Lenin, who, though he had personally urged its formation, saw the danger of confusing the functions of a specialist body with those of a political organ—with the functions of a supreme organ of State that must necessarily be executive and policy-making at the same time. The power of taking decisions on policy and issuing statutory orders, accordingly, continued to be vested in the Council of Labour and Defence. A Party resolution in 1923, however, found it necessary to stipulate that "it must be established as an unshakable principle that no economic question of State of general importance can be decided by the higher authorities until it has passed through GOSPLAN. All attempts by the various economic bodies to circumvent GOSPLAN when putting decisions into execution must be condemned". A few months after its formation an animated discussion took place as to the exact meaning of a unified economic plan and the relation in which it stood to the sectional plans of particular departments and industries. In an early instruction to the new body (dated May 16, 1921) Lenin declared that he could see no trace of any unifying principle in their plan-making, that they seemed to be adopting the method of making everything perfect simultaneously without working out which was dependent on what, and hence establishing a coherent system of priorities. He urged the need for more rigorous and methodical procedure, and suggested that the immediate task should be to elaborate a provisional general

[1] Cf. F. Pollock, *Die planwirtschaftlichen Versuche in der Sowjetunion, 1917–27*, pp. 245–7.

plan for the economy over the next two years, taking food supply as the basic factor. In view of the large element of uncertainty attaching to this basic factor, the plan should be prepared in three variants according as the supplies proved to be equal to, below or above the current estimate.[1] An elementary task still to be accomplished was to work out a comprehensive system of priorities which should be uniformly applied in the allocation of all types of supplies and requisites of production, and to see that some relation was maintained between the allocation of one type of supply and the allocation of another type, the need for which was related to the need for the former. Varga wrote at the time that "it often happened in Germany, and it now often happens in Russia, that a factory has to remain temporarily idle because some among the ten authorities who allocate the items necessary to its production have failed to produce them". There seems to have been a tendency in these early years to start from the estimates of each industry as to what it could produce and what it required, and then to combine the several industrial plans into a general one; such incidental adjustments as were necessary to make them fit being effected probably by interdepartmental negotiation and rough-and-ready compromises. The opposite procedure does not seem to have been applied of starting from the supplies available of the main "production factors" (labour, materials, food and fuel supplies, transport facilities, etc.) and then allotting these according to a priority-scale between industries. Partly, no doubt, this was for lack of the requisite data. But it was also connected with an administrative matter: the principle on which GOSPLAN itself was organised. In the first two years of its existence it was divided into six sections (agriculture, industry, transport, power, com-

[1] Quoted from *Plan. Khosiaistvo*, 1926, No. 3, p. 261, in Pollock, *op. cit.*, p. 241.

modity-exchange, supplies) and in addition ten separate planning commissions, each of them attached to a People's Commissariat (e.g. Agriculture, Food, Transport, Foreign Trade, Industry, etc.). This division of departments according to what was called the " operational " principle was later condemned, and a reorganisation (at first apparently very incomplete) was undertaken on the principle of dividing the work according to function.[1] Krshishanovsky wrote at the time of the need to eliminate " every tendency to separatism " ; and a struggle against the separatism of departments would seem to have been the essence of the reorganisation.

For several years, however, the work performed by GOSPLAN did not extend beyond some rather peremptory co-ordination of sectional programmes, chiefly by way of arbitrating between rival departmental claims, and a series of *ad hoc* enquiries concerning particular bottleneck-factors in the economic situation. It drew up a series of partial plans for Fuel, for Transport, for Food and for Foreign Trade. It was responsible for a report on the restoration of agriculture in the famine area of Russia in September 1921.[2] It set up local bureaux to initiate market research.

[1] Pollock, *op. cit.*, pp. 240–50. Of this reorganisation Dr. Pollock writes: " In addition to the Presidium, which is responsible for the whole activity of Gosplan, binds it together and represents it with the government, three sections were formed, whose presidents were at the same time vice-presidents of Gosplan. The three sections represented reconstruction, production and economic policy " (p. 250). The reconstruction section was the germ of the later emphasis on capital-construction and heavy industry as the crux of the whole structure of economic relations. At first it was mainly concerned with the electrification plan and with developing fuel supplies. The Production section was subdivided into Industry, Transport and Agriculture, the former taking over the task of supervising the separate activities of each industry. The Economic Section embraced market-relations in internal trade, foreign trade and finance.

[2] This was published in an English translation (by Eden and Cedar Paul) for the Information Dept. of the Russian Trade Delegation by the Labour Publishing Company Ltd. in 1922.

Most of these were comparable to the general recommendations of Royal Commissions or Departmental Committees in this country rather than to concrete plans of operation as they later developed. A larger piece of work was a comprehensive Report on Economic Regionalisation, which became the basis later of much of the siting of new construction-projects under the Five Year Plan. But the most important departure, since it was the first serious essay in unified planning, was the preparation in 1925 of the first annual Control Figures, as they were called. These were a landmark in that they represented an annual plan which started with a synthetic view of economic interrelationships and not from departmental programmes already constructed in the light of sectional needs. True, the modest little volume of 100 pages which constituted these first Control Figures pretended to be no more than tentative and provisional. It did not claim to be an operational blue-print or the final programme, into the procrustean bed of which all departments had to fit. It was scaffolding around the building rather than the limbs of the structure itself: general directives or guide-lines on the basis of which the operational plans, or final programmes, of the various Commissariats were to be erected. Trotsky, for one, greeted the Control Figures with extravagant eulogy: they were "the glorious historical music of growing socialism"; they were joined by "unbreakable threads backward to the Communist Manifesto of Marx and Engels in 1848 and forward to the socialist destiny of mankind"; "the day of their inauguration should be marked in red on the Soviet calendar". Prematurely as it turned out, he declared that "each figure is not only a photograph but also an order". Elsewhere their reception was more cautious, and in some directions cold. The President of GOSPLAN himself in presenting them claimed no more than that they were "*approximate* directives for

the work of formulating actual operational plans"; and the President of the Council of Labour and Defence, while recognising the value of the figures as a first rehearsal, refused to recognise them as a guiding principle for the construction of departmental programmes for the coming year. The original intention had been that the figures were to be submitted to the various economic Commissariats, including industry, and that these in turn were to submit their own departmental plans to GOSPLAN by mid-September, together with any criticisms of the Control Figures. Within a further month GOSPLAN was to issue its comments and amendments to these departmental plans; and in the light of this interchange of projects the definitive economic plan for the coming year was to be sanctioned by the Council of Labour and Defence. As it turned out, many of the separate authorities seem to have ignored the Control Figures; and before very long these Figures had become seriously discredited. We find one contemporary comment: "The Control Figures have become terrible things: people even use them to scare children." What mainly contributed to their discredit was the faultiness of the crop estimate on which they rested. In this respect their successors in subsequent years were more fortunate. While they were still no more than tentative approximations, their estimates gained in realism by the setting up of subordinate planning organs in the localities and also by an improvement in the statistics provided by the various authorities.[1] By the third year of

[1] In presenting the first Control Figures Gosplan complained that the statistics presented to it were often not only inadequate but also tendentious; e.g. industrial trusts would sometimes understate their surplus resources for fear of the Finance Commissariat. Gosplan has powers of inspection over all books and accounts. But to investigate the detail behind the summary information presented to it by departments involved, of course, an immense labour and took some time.

their existence they seem to have become, in fact as well as in theory, an initial framework around which the final operational plans were built. One thing in particular which the events of the winter of 1925–6 underlined was the need for the accumulation of reserves (e.g. of grain) in the hands of the State if State organs were to have any power of manœuvre and if planning was to have any stable basis; and in the ensuing years a start was made in building up reserves of certain basic essentials. Finally, in 1927–8 GOSPLAN had the task of preparing the Five Year Plan for the Development of the National Economy, which was to become the official programme for the quinquennium commencing in the autumn of 1928.[1] The task of preparation involved, firstly, the pre-eminence of a general investment and construction-plan, sketched out over a period and integrated in its various branches, over departmental programmes of current activities; and secondly, a series of new and quite fundamental discussions concerning the nature and rôle of "limiting factors" and determining elements where a programme of large-scale investment was concerned. With the launching of this Plan an entirely new chapter in the work of planning had opened; and with the success of the policy of collectivisation in agriculture, a foundation was provided for what one may perhaps call "global planning" that had not existed before.

Something should, perhaps, be said at this stage about the administration of industry itself. This has been subject to a number of changes at various times, and the pattern of organisation is far from uniform for all industries or even for all branches of the same industry. Any generalisation that one makes about it is inevitably incomplete

[1] As a matter of fact, a beginning was made in the drafting of a Five Year Plan in 1926, to cover the period 1926–7 to 1931–2. But this remained as a draft, and only took a final form in 1928 for the ensuing five-year period.

and is apt quickly to become out of date. At the beginning of the '30's there was a hierarchy of several stages between the factory at the bottom and the Supreme Economic Council (which was virtually a Commissariat of Industry) at the top. The Supreme Economic Council itself had as sub-departments what were called Chief Administrations for particular spheres of industry. Under them were groups of allied industries, organised in Combines, each of which might cover an industry, such as cotton or a particular branch of engineering.[1] These Combines were financially autonomous bodies, engaged primarily in supply of materials and sale of the final product and in exercising a general supervision over the industrial policy of their respective branches of industry. They were also responsible for the appointment of managerial personnel in the constituent enterprises and for organising the training and supply of labour. Under them were a number of Trusts, each with its Trust Board; these being groupings of related or contiguous factories. Throughout this hierarchy what was known as the principle of "functionalism" applied in management and direction: i.e. a particular person (or department) would be responsible for a particular function or aspect only (e.g. labour or raw materials or finance) of the industry or of the factory which he controlled.[2] The tendency of subsequent change has been

[1] The Combines were formed in 1930 primarily to take over the functions of the Syndicates, which had been set up in the course of the '20's on the initiative of Trusts to handle commercial operations, and had later come to exercise powers of supervision each over its particular branch of industry.

[2] The tendency of administration at the beginning of the Five-Year-Plan period is described by Mr. Hubbard as being "towards a splitting-up and greater specialisation of the existing superior organisations". He goes on: "At the same time their direct interference in the routine work of the actually productive enterprises was drastically restricted. Responsibility for results was shifted lower down" (*Soviet Money and Finance*, p. 37).

firstly to simplify this multi-link system and to abolish altogether some stages in the hierarchy, and secondly to banish "functionalism" in favour of the individual responsibility of one man for all the operations within a particular sphere, even if he has functional specialists to assist him in a subordinate capacity. In 1934 the Combines were abolished,[1] and at the same time the number of separate Trusts was reduced. At the top the work of the Supreme Economic Council has been subdivided between a number of newly created Commissariats for special spheres of industry. Food had already been detached from its purview in 1930; and two years later the Supreme Economic Council yielded place to three separate Commissariats for Heavy Industry, for Light Industry and for Timber. Later still these were further subdivided. By an order (of Sovnarcom) of August 22, 1937, machine-building was separated from the Commissariat of Heavy Industry and placed under a separate Commissariat, to have charge of motors, tractors, machine-tools, railway locomotives, agricultural machinery and electrical machinery, and in addition rubber and glass. Previously to this, defence industry had been placed under a separate Commissariat. In the first two months of 1939 came a more drastic splitting up of the main industrial Commissariats. The Heavy Industry Commissariat was divided into Fuel, Electricity, Iron and Steel, Non-ferrous Metals, Chemicals and Building Materials. The recently formed Commissariat for Machine-Building branched out into Heavy Engineering (machine-tools and locomotives), Medium Engineering (motor cars, etc.) and General

[1] There remain a few special exceptions. For example, the coal industry has regional combines for each of the main coal regions, Donbas, Kusbas, Urals, Karaganda, Moscow district, Central Asia and Trans-Caucasus; and these regional combines have respectively twenty-two, eleven, five, three and four Trusts subordinated to them (Granovsky and Marcus, *Economika Sotsialisticheskoe Promishlennosti*, p. 577).

Engineering (instruments, etc.). In the case of food, fisheries, meat and dairy produce were brought under Commissariats separate from the Commissariat of Food; in the case of light industry, textiles were placed under a Commissariat of their own; and in the case of the defence industries there was a subdivision into Aircraft, Shipbuilding, Munitions and Armaments. By these changes the number of separate industrial Commissariats was increased to the remarkably high figure of twenty-one. Chief Administrations still apparently exist as subsections of each Commissariat; although their importance has no doubt been reduced with the multiplication in the number of Commissariats.[1] These have taken over from the old Combines the right of appointing managerial personnel and the commercial functions of supply and sale. They also have charge of those scientific research institutes, which, organised on fairly specialised lines, are attached to the various industrial Commissariats. In industries where the unit of production is large the factory to-day generally has a direct link with this Chief Administration of the Commissariat, the director of the latter and the manager of the former being in personal touch with one another. Where the unit of production is small, however, or where the industry is complex in structure, factories are still grouped into Trusts, which is the responsible financial unit, and it is the Trust that has direct connection with the Chief Administration.[2]

[1] In the case of heavy industry in 1937, before the disappearance of the single Heavy Industry Commissariat, these chief administrations covered such branches as: iron and steel, oil, chemicals, non-ferrous metals, power, mining, building materials, nickel and zinc; and numbered thirty-three in all.

[2] Granovski and Marcus, *op. cit.*, p. 566 *seq.*; C. Bettelheim, *La Planification Soviétique*, pp. 46–7; *Industrial and Labour Information*, Vol. lxiv., pp. 65 and 274, Vol. lix, No. 5, p. 174; Vol. lxix, No. 6, p. 226. Small-scale industry serving chiefly a local market comes under the control of the Republic or region, not of a Union Commissariat,

GOSPLAN itself underwent some modification of structure and of status in the middle and later '30's. The three main sections into which it had been divided by the changes of 1926 had by 1935 increased to eleven, each section covering a particular sphere such as building, industry, agriculture, power, transport, trade and distribution, labour, science. In 1935 a further reorganisation was undertaken to give greater prominence to what was termed " synthetic planning " ; five departments of " synthetic planning " being created (e.g. one dealing with the general production plan, one with the financial plan, etc.) and sixteen sections to cover the chief branches of economic activity as the previous eleven had done. The general direction of the work was to be in the hands of a President and a Council of seventy persons drawn from the personnel of the various departments. In February 1938 there occurred what would seem to have been a not unimportant change of status. At the head of GOSPLAN was placed (in addition to the larger Council) a Board of eleven persons ; and this Board was constituted as a permanent commission directly responsible to, and having direct access to, the Council of People's Commissaries (equivalent to the Cabinet in England). To-day, the President of GOSPLAN is himself a member of the Council of People's Commissaries. The number of departments of synthetic planning inside GOSPLAN was reduced to four (the general economic plan, capital construction, finance, and regional distribution of production) ; and the number of sections handling each a special branch of economic activity was increased to twenty-six.[1]

The importance, firstly of resting the economic plan on

there being Commissariats of Local Industry and of Municipal Economy in the various republics.

[1] Cf. Bettelheim, *op. cit.*, pp. 72–8 ; *Industrial and Labour Information*, Vol. lxix, No. 4, p. 99 ; *Isvestia*, Feb. 3, 1938.

realistic data, and secondly of controlling the actual operation of the plan so that, *inter alia*, any necessary adjustments and revisions may be made without undue dislocation, has already been stressed. It is largely in these two directions that the improvement of planning methods and machinery, which has been very considerable since the First Five-Year Plan was inaugurated, has consisted. It is obvious that any economic plan must contain both a political and a positive or realistic element; and that to be successful these two elements must be perfectly fused. From the one aspect it is a statement of policy and an expression of purpose; from the other aspect it is an estimate of potential, based on statements of present fact. The former element consists essentially in a decision concerning the proportion of resources to be devoted to investment in new construction and the distribution of this investment between heavy and light industry, between different branches of light industry, and finally the geographical location of the new construction projects. Related to this is wage-policy. So far as the general wage-level is concerned this is the same thing as the decision about the amount of resources to be devoted to the consumption-goods industries. But in so far as wage-policy is concerned with the structure of particular wages for various grades, industries or regions, it exercises an independent influence on the structure of demand and hence on the output-policy of particular industries (e.g. production of luxury goods compared with necessaries). If policy-decisions of this kind form the warp of the Plan, it is clear that estimates, based on realistic data, concerning the productive resources available must form its weft. The number of possible patterns that can be woven on the canvas are limited. Policy determines to what ends the resources that are available can be put; but the means available also condition the ends that it is possible at any

given time to choose. For example, the amount of new construction-work that one can put in hand to-morrow will be straitly conditioned by the size of heavy industry and its output-capacity of constructional materials as it exists to-day. But the amount of construction one can expect to put in hand ten years hence will be largely influenced by how much construction you do, and of what type it is (e.g. whether of cotton mills or steel furnaces) in the intervening ten years. Viewed in this light, the essential problems of economic planning do not so much consist of a simple distribution of perfectly flexible means among a given set of predetermined ends, satisfying all of these ends to a limited extent according to their place on a scale of priority (as some economists have pictured them). Rather do these problems have analogy with that of a climber contemplating which of a few alternative paths he should take to the summit of a mountain, his choice being largely determined by his own qualities as a climber; or, again, with the problem before a general, faced with rival schemes of strategy, each of which he will study as an integral whole, choosing between them according to the nature and quantity of the arms at his disposal.

Collection and use of relevant data does not end when the Plan has been put on paper. The process of putting it into operation is itself a process of testing-out its correspondence with reality. To start to do what the Plan designs to do is to put questions to reality (as a scientist does in his laboratory): questions that could not be asked or answered in any other way. This is one aspect of the importance of controlling the Plan's fulfilment: so that the Plan, like a living organism, can grow and modify its shape as part of its activity. In other words, the way that programmes shape when translated into practice gives fresh experience and new data to the planning organs, which must be continually alert, not only to receive and

sift these new data, but to adjust the shape of the Plan as it proceeds in any way that this closer experience of actuality requires. If the Plan is too rigid, a pre-ordained programme to be obeyed independently of circumstances, serious hitches and dislocations are bound to develop and to extend the area of their influence the longer their repair is delayed. If, on the other hand, in the interests of flexibility, the programme has the tone of advice only and not of an imperative, evasion of its provisions is likely to happen among subordinate organs; and such evasion will itself introduce new unforeseen elements and consequential hitches and maladjustments. The 1938 revised statutes of GOSPLAN stated that its chief function must be "to ensure that correct proportions are observed in the development of different branches of the economy and to take the requisite measures to prevent disproportions from developing". This must mean both that unjustified failures to observe the provisions of the Plan must be quickly corrected, and that where revisions of the Plan are required by the actual situation these adjustments should be made in such a way as to minimise the resulting disturbance to other parts of the economy. To do this successfully requires a developed machinery and technique of observation and of analysis of the current situation at every point, as well as a machinery and technique of control. It also requires—at least is greatly facilitated by—the possession of certain reserves (e.g. of raw materials), to permit of some manœuvring in particular directions: a luxury which did not exist, as we have seen, in the early days.

It is as the eyes and monitors of GOSPLAN that the lower units of the planning mechanism have their essential rôle. GOSPLAN must not be thought of simply as a band of experts housed in a tall building in Moscow, devising plans from first principles and mediating with the outside world only through a maze of statistics. It is to-day

linked with the operational units in the economic field by a double series of planning organs. One series reaches down through the apparatus of economic administration, through the Commissariat and the Trust to the individual factory. For example in the old Commissariat of Heavy Industry there was a planning group or section for metals with a personnel of about thirty in direct *liaison* with a corresponding section in GOSPLAN itself of some four or five persons.[1] The other series travels down geographically through the republic and the region to the rayon or local district, each of which has a planning section attached to it which is directly connected with, and subordinated to, the one immediately above it. These lower ends of the tentacles of the planning octopus not only feel out the ground which it treads—collect the data on which plans are constructed—but exercise a day-to-day vigil on its execution, report hitches, supervise revision and adaptation. They are the "progress officers" of the plan-in-action. Moreover, it needs to be remembered that, prior to the construction of any final programme, the preliminary draft Plan (in the case of the annual plan this is commonly referred to as "the control limits") is passed down through the various organisations, along the double route of the two series that have just been mentioned. This downward movement proceeds as far as the production conference in the particular factory, where it is made the subject of discussion. Then the movement is reversed and the draft returns, filled out in more concrete detail by the subordinate organs, and carrying with it the amendments and criticisms it has accumulated on the way.[2] Only then

[1] Lorwin and Abramson in *International Labour Review*, Jan. 1936, p. 32.

[2] Obolensky-Ossinsky asserts that "the plans of the departments and republics sometimes differ considerably from the original limits" (i.e. from the original draft-directives) (*Socialist Planned Economy in U.S.S.R.*, p. 45). In the case of the annual plan of export trade the

is it subjected to the final task of pruning and integration by GOSPLAN and submitted to the government for statutory embodiment in a government order which gives it binding force over all State organs.

Adaptation to circumstances as they come closer to the vision is assisted by the provision for shorter-term plans which are drawn up for the immediate period ahead and fit into the framework of the longer-term plan. Soviet planning has always stressed the distinction between what are known as "perspective plans" and "operational plans". The annual Control Figures were originally designed only as a "perspective plan", in the light of which the various Commissariats and industries were to draft their actual operational plans for the year. The Five-Year Plans were similarly "perspective plans" or approximations, outlining the main shape that events would take. Nowadays the Control Figures form the preliminary to—a first model for—an annual plan of operations, geared to the more general directives of the Five-Year Plan but supplementing and adapting the latter. Moreover, inside these annual plans there are quarterly plans.

> Before the beginning of every quarter, the quarter plan is re-examined in accordance with seasonal peculiarities and eventual changes resulting from the fulfilment of the plan in the preceding quarter. This shows to what extent the social-economic plan has become a concrete reality. . . . In some branches of industry, in the trusts and especially in

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following is a description of the procedure: "The Commissariat of Foreign Trade communicates the control limits to the Export Corporations and the Agents of the Commissariat. On the basis of the control limits, the Export Corporations and Agents draw up their preliminary annual plans and transmit them to the Commissariat of Foreign Trade. On the basis of these draft plans the Commissariat draws up its annual plan which it submits to the government for approval" (M. Zhirmunski, *Soviet Export*, pp. 76–7).

the enterprises, the method of monthly, and at times of ten-day and even five-day plans are adopted.[1]

In the technique of planning what essentially separates the elementary attempts at planning in the middle '20's and the methods developed in the last decade is the method of so-called material balances. A beginning was made with working out this technique in the late '20's. It represented both a method of collecting basic data and also a method of integrating partial or sectional plans into a general plan by subjecting them to tests of consistency with one another. The starting-point consists of the relevant technical coefficients of various lines of production, showing the quantitative ratio between various productive factors (raw materials, labour, fuel, wear-and-tear of machinery) and a given output-programme. On the basis of these crucial constants the complex of output-programmes is analysed in the form of balances or equations for each type of product, to see whether the total supply of each from all sources fits the requirements for it—whether the programme of current steel-supply fits the aggregate requirements of steel that the various programmes of construction and repair involve, etc. Subsequently this is done, not only for the interrelationships of production, but also for the output of various types of consumers' goods and the volume and structure of consumers' demand; for finance in relation to production; and also on a regional basis as well as on an all-Union scale. Basically it rests on what is essentially a *costing* of output-programmes in real or material terms; and then in the light of these results gearing one part of the production plan with all other parts—gearing the programme for the clothing industry with that of textile yarn and cloth and

[1] V. Obolensky-Ossinsky in *Socialist Planned Economy in the Soviet Union* (1932), pp. 33–4; cf. also Bettelheim, *op. cit.*, pp. 81–94.

with the programme of raw material production or import; gearing the building programme as a whole to building materials and the supply of skilled labour. Such costing-data evidently may be of varying degrees of realism. If they rest on mere averages of diversified items, they may give an imperfect picture of a changing situation when the relative weight of different enterprises in contributing to a given output-total is changing, or when the quality of output is itself undergoing a change. In the First Five-Year Plan it is clear that this type of data had serious deficiencies, as is seen, for example, in the failure in most years to attain the estimated reduction in production-costs. In this respect the record of the Second Five-Year Plan was a superior one; and presumably the method of basing these coefficients on precise investigation in each individual factory and for each of the main types of a particular product had made a good deal of progress since the early '30's. For example, a writer in the monthly journal of GOSPLAN in 1937 referred to recent improvements in the direction of taking account of quality of production when constructing material balances: speaking no longer, for example, of a locomotive in general, but a locomotive running at a certain speed, etc.[1] Here, again, it is to be noted that the provisions of the Plan, even at this point, do not have the character only of passive data or estimates of objective fact. The figure of production-cost for a particular output that is finally written into the Plan, registering, for example, a lowering of cost compared with the previous year, is simultaneously an estimate of an actual probability and an instruction that the necessary economies (e.g. in fuel or raw materials or labour-time) must be achieved.

Information regarding production-coefficients, the

[1] Quoted from Sukharevsky in *Planovoe Khoziaistvo*, Nos. 11–12, by Bettelheim, *op. cit.*, p. 107.

capacity of plant, the available supplies of labour and of fuel or power constitutes the basic data collected from industry itself. As regards agriculture, on which depends the supplies of foodstuffs and raw materials, the position is somewhat different. During the NEP-period, as we have seen, this was a subject of great uncertainty owing to fluctuations in the amount that the individual peasant was willing to market. Since the triumph of the collective farm movement, a much more stable basis for economic planning has been provided in the quotas of produce which each collective farm has to deliver to the State collecting-organs: quotas which are fixed in the early part of each year in advance of the harvest, according to estimates of the size of the farm, fertility of its soil, etc. Originally these delivery-quotas had the form of forward-contracts; but since 1933 they have had explicitly the form of obligatory deliveries. The residue of its produce, over which a collective farm has free disposal and can either distribute among its members or sell in the local collective-farm market, constitutes a remnant of free market-dealings which falls outside the provisions of the Plan.[1]

The Production Plan, of which the Plan essentially consists, is simply a complex of output-programmes for all the main products of the economic system. These are simultaneously programmes of expenditure and of product, of input and of output in each case. But it is not just an incidental collection of output programmes, each separately compiled: it forms an integrated system in the sense that the individual output-programmes which form its elements have been dovetailed into one another by the method of balances that we have described. As backbone of it is the Plan of Capital Construction: the programme of construction of new factory building and extensions and large-scale renewals. Since the epoch of

[1] See the writer's *Soviet Economy and the War*, Chapter VII.

the Five-Year Plans this has had pre-eminence over the rest. Being the embodiment of what in Marx's terminology is called " expanded reproduction ", it is necessarily the basic determinant of the main relationships between different branches of production to which the system must conform.

Included in the General Plan is also the Financial Plan; and in the construction of this another set of balances comes into play. The part played in constructing the Production Plan by the technical coefficients of production is occupied in this case by the money-expenses involved in the various output-programmes. In this way the two Plans are interlocked, the one being expressed in material terms, the other being its replica in money terms. For example, it may be estimated that a certain output-programme for boots will require the input of so much leather, so many man-hours of labour of various types, so much wear-and-tear of machinery and so forth. The Financial Plan begins when this costing estimate has been translated into terms of money. It then has the familiar form that such-and-such an enterprise, in order to fulfil its output-programme of y pairs of boots will require to spend a total of x roubles, divided into xa on wages, xb on leather, etc. This represents the basic money-cost of this output-programme. From this foundation there is built up, on the one hand the Credit Plan and the Cash Plan, and on the other hand the system of prices. As regards the latter, the procedure is fairly simple. On to the basic costs of output (the so-called " planned costs ", which include an allowance for depreciation of plant and also certain overheads such as administration) is added a small margin of profit, the so-called " planned profit " (reckoned at varying rates as a percentage on turnover); and the combined total becomes the price at which the enterprise will be credited (or " paid ") when it has fulfilled its output-programme and delivered

the goods to their next destination.[1] The "planned profit" when it is eventually realised is divided into three main portions: part is taxed into the State Budget; part has to be placed to reserve with the Industrial Bank (Prombank) for purposes of capital development within the industry; and part (nowadays a relatively small part) is left at the disposal of the enterprise for its own purposes. It will be clear that the position of the enterprise in question will here be similar to that of a firm in this country working for the government on the basis of a fixed-price contract, based on *pre*-costing of the contract. If the actual cost of fulfilling the programme turns out to be *higher* than the planned cost, the actual profit it will realise will be *reduced* by an equivalent amount. If, on the other hand, it succeeds in fulfilling its programme more efficiently and economically than is provided for in the plan—if it can reduce its actual cost *below* the planned cost—it will realise a profit *larger* than the planned profit. Of this supplementary profit, part again goes into the Budget and into capital-reserve, but in this case a larger proportion (some 40 per cent.) is at the discretion of the enterprise and can be used for such purposes as bonuses to the staff and workers of the enterprise, or the improvement of welfare provisions in the factory (club, canteen, crêche, etc.) or for the improvement of workers' housing facilities. This "Directors' Fund", as it is called, financed out of profit, plays the rôle of a collective incentive for the enterprise to economy and efficiency.

[1] When factories are grouped into Trusts, the Trust is generally the unit for assessing this "planned cost". This means that the figure will be some kind of average for the different factories controlled by the Trust, being higher than the actual cost in the more efficient and less than the actual cost of the less efficient. It is then left to the discretion of the Trust how to reallocate this planned cost, and any resulting profit, among the different factories under its control according to the special circumstances of each. Cf. W. B. Reddaway in *The Banker*, Oct. 1941, p. 51, and Bettelheim, *op. cit.*, pp. 204–5.

The "sale-price" at which the enterprise is credited in the books of the State Bank when it has fulfilled and delivered its planned programme is not a market-price in the ordinary sense of the term: it is simply an accounting-price at which transactions between one State institution and another take place, and book-keeping debits and credits are effected between them. Based, as it is, on planned cost, it is something fixed in advance by the economic plan. The final retail-price of consumers' goods, which is a market-price at which goods exchange across a shop-counter against consumers' income, is built up from this industrial sale-price, chiefly by the addition of two further quantities: the planned costs of the commercial or distributive organisations, both wholesale and retail (including a planned profit-margin for the distributive organisations, and also transport expenses) and the Turnover Tax. This Turnover Tax is rated differently for different commodities, and provides a method of diverting directly into the Budget the gap between cost-price and retail price that is bound to occur when large-scale expenditure is taking place on capital construction or on armaments, or any other expenditure which does not bear immediate fruit in an increased flow of consumption goods on to the retail market: a gap which will bear a close functional relationship to the rate of such expenditure.[1] The rating of this Turnover Tax is, in fact, the principal mechanism by which prices in the retail market are adjusted to the purchasing-power of the population and to the structure of demand. This balance between the supply of various commodities and the demand for them by means of retail price is one of the crucial balances or equations with which the Financial Plan has to deal; and in the years following the abolition of rationing in 1935, with the

[1] See the following chapter; also *Soviet Economy and the War*, Chapter VIII.

consequent restoration of a retail market and of the importance of money, considerable discussion took place in Soviet economic journals concerning what was called "the balance of money income and expenditure of the population" and the crucial rôle it must necessarily play in "synthetic planning".[1]

Since a series of credit reforms in 1930 and 1931, the credit system has become one of the principal levers for controlling the execution of the production-plan by industry. Credit can now only be granted to an enterprise for purposes specifically provided for in the Production Plan; and the same applies to long-term credits or capital-grants or withdrawals from reserve in the case of the Industrial Bank (which is now the bank for financing all capital-construction projects). The Credit Plan will allow an advance to be made in favour of an enterprise to finance such part of its output-programme as it cannot finance out of its own fund of working capital. These credits, however, are earmarked to particular purposes, (e.g. for wages, raw materials, fuel, etc.) and may not be drawn upon for any other purpose than that for which they have been sanctioned. When a weaving factory, therefore, buys its yarn, it will draw upon this credit-advance with the State Bank. The weaving factory will be debited with the relevant amount in the books of the bank, and the spinning enter-

[1] Cf. especially an article by Margoline in *Plan. Khosiaistvo*, Nos. 11–12, 1937, quoted at some length by Bettelheim, *op. cit.*, pp. 112–25. Retail and wholesale prices are subject to regulation; some (the more important lines of commodity with a national market) being fixed by central government organs, others by republican governments or local authorities. Since 1939, however, to meet complaints of excessive price-variations for the same thing even in a particular region, centrally fixed price-lists have been issued for all the main foodstuffs and for all standard lines of industrial goods. A limited amount of discretion seems to remain, however, to local retail organisations to vary the price temporarily to meet any local excess or deficiency of stocks, especially in the case of perishables.

prise supplying the yarn will be credited with an equivalent amount. As the weaving factory fulfils its output programme and delivers cloth to the commercial organisation, this passage of goods has the automatic effect of cancelling the debit in the books of the bank. In other words, these credit-advances (which figure to industry as debts) will be self-liquidating in the degree that the Production Plan is fulfilled. The State Bank, accordingly, has the means, not only of controlling the expenditure that industry incurs (e.g. on wages and salaries or on repairs and building) to see that no unauthorised expenditure takes place, but by watching the rate of liquidation of the credits in its books it has an easy means of checking the actual fulfilment of the Plan, and reporting on failures and hitches. This "discipline of the rouble", as it is called, acts, not just as an end-of-the-year audit to see in retrospect what has been done, but as a continual week-to-week, almost day-to-day, check on results. One should, perhaps, add that some flexibility is allowed for, in the event of unforeseen delays or breakdowns in the flow of production and supplies, by means of what are called "unplanned credits", supplementary to the "planned credits" included in the Credit Plan. These can be given at the discretion of the Bank on special occasions: for example, to meet transport delays, which compel an undertaking to hold stocks of finished goods in excess of what had been anticipated or to slow down the rate of production owing to the non-arrival of essential supplies. But these unplanned credits can only be granted for very short periods, the maximum being a month. Again, when for any reason some revision of the Plan has been sanctioned, the Bank can open a supplementary credit to smooth the path of the necessary adaptations that have to be made. For example, one year in mid-July a decision was taken to augment the output of certain durable consumers' goods like furniture and cooking-

stoves as an urgent task of the next month or two. Even before this revision of the Plan had been formally sanctioned, the Leningrad branch of Gosbank had taken the initiative in discovering large stocks of unused timber in a local wagon-building factory, and had offered a special nine-months credit to finance the formation of a furniture workshop to utilise this timber: a piece of initiative which was held up as an example to others in an editorial in the official *Finansovaia Gazeta*.[1]

Parallel with the Credit Plan, the Cash Plan regulates the amount of currency that the State Bank is authorised to issue. Since transactions between organisations are effected simply by book-keeping entries at the Bank, cash only plays a rôle (with comparatively rare exceptions) in payments of incomes to individuals, in transactions between individuals, or back again in payments from individuals as taxes, tram-fares or purchases in State shops, etc. As far as industry is concerned the basis of the Cash Plan will be the wage- and salary-bill for a certain period. For agriculture the relevant factor will be the purchase-price paid to collective farmers for the aggregate of what is called the "centralised" and "decentralised" collections, together with wages paid out on State farms. The amount of cash issued, therefore, in Soviet economy plays no independent causal rôle: it is itself contingent upon other elements in the Plan, such as the wage- and salary-bill, which are in fact the decisive factors in determining the income of the population. In constructing the Cash Plan, however, it is not sufficient to ascertain the amount to be paid out in wages and salaries in a given period. The period within which this money returns once again to the State, whether as taxes or savings or over a shop-counter, also has to be calculated. Moreover, this calculation is apparently made, not only on an all-Union scale, but separately for each

[1] Oct. 14, 1938; *cit.* Bettelheim, *op. cit.*, p. 197.

region; and this for a double reason. In the first place, such data will enable the bank "to calculate in advance whether its stock of notes will be sufficient, whether it will have to draw additional supplies from the head office or will be able to withdraw currency from circulation". Secondly, it plays a part in determining the regional plan of distribution for consumers' goods.

> Every regional financial organ, either the local office of the Commissariat of Finance or the local branch of the Gosbank, makes an analysis of the estimated cash situation in its territory for the coming period. The primary object of the analysis is to determine the total value of consumers' goods that should be made available, and this in turn is a guide to the amount of credit that should be distributed to the various retail organisations supplying the wants of the population.[1]

The question is frequently asked as to whether the structure of demand plays any rôle as a determinant of the plan of output of consumers' goods. Does it influence this output-plan at all, or does it merely influence the adjustments that are made in the level of retail-prices (*via* the Turnover Tax) to bring the volume of consumers' spending into equality with the value of the goods available? This question is not susceptible of any easy answer; but an approximate one can, I think, be given. Clearly the *aggregate* of spending-power or demand does not determine the *aggregate* resources devoted to producing consumption goods. The latter of these quantities will be determined by the basic policy-decision concerning the distribution of productive resources between investment and consumption, which must be the starting-point of any plan. This basic decision once taken is not modifiable (at any rate not to any appreciable extent) by market influences at a later stage as the Plan is put into operation. Total spending-

[1] L. E. Hubbard, *Soviet Money and Finance* (1936), pp. 69–70.

power will also be determined in the main by policy-decisions embodied in the plan at its inception: it will be determined in part by the rate of investment (in so far as this influences the level of employment), and also by the policy adopted with regard to the level of wages (or, as far as agriculture is concerned, by the purchase-price policy for agricultural deliveries). But the *spendable* income (as distinct from total income) of the population will depend also on taxation policy and on the savings of the population, whether in the form of purchases of State loan or of deposits in a savings-bank.[1]

As regards particular commodities and the *relative* demand of consumers for one commodity as compared with others, there seems no doubt that demand has a considerable, though not an exclusive, influence. At any one time it will be the supply of various commodities, as planned, that will be the given factor, and the retail prices will be the variable factor to be adjusted to the existing state of demand. The net result will be that those things which are in scarce supply will have to be more highly priced than those which are more plentiful. Commodities may be in scarce supply for a number of different reasons. It may be because they are imported, or depend on some imported material for their production, and import possibilities are strictly limited. Or they may involve the use of some ingredient or accessory that is also in much demand in construction-work or in armaments. Or it may be because the things in question are relative luxuries, and it is a deliberate policy to differentiate, in distributing resources, in favour of basic necessities (as has presumably been the case in U.S.S.R.) and to give the latter priority in the pro-

[1] The State Bank (Gosbank) is nowadays a bank for State organisations. Current and desposit accounts of individuals can only be opened with the State Savings Bank, which has a complex network of branches for this purpose (some 60,000 in all).

duction-plan. Where none of these considerations apply, the existing state of demand for various commodities will doubtless be a factor in determining whether in next year's plan increased allocations will be made for extending existing plant and constructing new factories in one industry rather than in others;[1] just as it will also be a factor in determining whether increased attention will be devoted to this style or line of a particular product rather than another. Be it noted that the planning authorities are in a position to make their decision in the light of quite as full data concerning consumers' preferences as is any competitive economy: they will know the rate of turnover of stocks of different commodities at the prevailing prices; they will presumably have the reports of consumers' co-operatives and State shops as to the styles and lines which find favour and those which do not. They may very well have fuller information at their disposal if they undertake systematic studies of consumers' choices by such devices as exhibitions of new designs and the collections of sample-votes on the exhibits, which has been tried in the U.S.S.R. in the case of things like furniture, clothing-styles and fabric-designs. Moreover, in the rate of Turnover Tax (bridging the gap between retail price and cost price) on various commodities Soviet planning has a simple measure of the relative scarcity of different things in the retail market compared with their prime costs. Till now the primary tasks of Soviet planning have been the expansion of heavy industry and the satisfaction of primary needs for food, clothing, house-room and recreation. Here no very

[1] In this connection the ratio of retail price to cost price will not be decisive as a measure of the desirability of increasing the output of commodity X compared with commodity Y, since to increase the output of one commodity may involve a much greater locking up of labour and materials in construction (e.g. in constructing expensive plant, etc.) than will be the case with another; and this also will need to be taken into account.

complex problem of individual choice, such as English and American economists are fond of talking about, are involved. To plan for a sufficiency of basic necessities for all is itself no mean task. Compared with it the decision as to how many eggs and how much cheese, how many boots and how many overcoats and how many saucepans and perambulators to produce is both secondary and relatively easy. True, as the standard of life rises, such decisions probably become more complex because more subtle luxury-demands occupy a larger place, with their greater variation in individual taste. Already at the close of the Second Five-Year Plan increasing attention was being paid to quality goods and to a closer adaptation of supplies to consumers' requirements. But in the degree that this stage is reached, the equipment of industry and the productivity of labour will have grown sufficiently for the need to husband resources with studied economy to become much less urgent than before and even to become a secondary matter. It is a feature of an approximately egalitarian community that as soon as the problem of higher wants and their *optimum* satisfaction comes in at the door, the problem of scarcity begins to fly out of the window.

CHAPTER II

THE SOVIET FINANCIAL SYSTEM

THE financial aspect of Soviet economy is perhaps more misunderstood in this country than are other aspects of the economic system of the U.S.S.R. And in one direction, at least, popular ignorance has been exploited by interested parties and currency been given to quite erroneous conclusions. Misunderstanding seems largely to be connected, on the one hand, with a faulty appreciation of the rôle that financial relationships play in a socialist planned economy, and, on the other hand, with a misconception of the actual social relationships which prevail at the present time in the U.S.S.R. This results in two contrasted attitudes. Sometimes one finds that people expect too close an analogy between the financial mechanism and the fiscal devices of the U.S.S.R. and other countries. Sometimes, on the contrary, one finds people who suppose that, as a socialist country, the U.S.S.R. should be capable of ordering everything on a strictly egalitarian basis, by direct rationing or the distribution of equal money incomes to all, without the intrusion of any specific " financial problem ".

The commonest misapprehension that one meets is the belief that in some sense the problem of financing (e.g. the Five-Year Plans or the Soviet armament programme) is *prior* to the problem of production : that to find ways and means of mobilising the *money* required (by taxation or savings) is the pre-condition for successfully mobilising and allocating the *productive resources* required for building the Dnieper dam or constructing armament factories and tanks and bombers. " Whence did they get the *money* for their Five-Year Plans ? " is a common question from audiences

of all kinds at popular lectures. As applied to a capitalist economy of the traditional type, this notion contains a sufficient element of truth to make it plausible. But so far as a planned economy is concerned, it really has the cart standing in front of the horse. It is the Production Plan, and behind this the real resources of labour and materials available, that determines how fast new factories can be built or tanks turned out, and not the amount of money standing to the credit of the Finance Commissariat in the books of the State Bank. This is obvious enough as soon as it is stated; but it is quite commonly overlooked in popular thought and discussion.

Why, then, should financial considerations come into the picture at all? Why does the U.S.S.R. have a Budget which it tries to balance, and why does it use loans and taxes as revenue-devices like other States? The reason is that Soviet economy remains a money-economy, in which incomes are paid in money and these incomes are spent in shops in a retail market of the familiar kind. Clearly these various money-payments, firstly between the State and individuals (wages, salaries, etc.), and secondly the return-flow of payments from individuals to the State (whether over the shop-counter or by loans and taxes or savings-deposits at the State Savings Bank) must balance, unless some hidden reservoir of money is accumulating somewhere in the form of private hoards. Since every change in the Production Plan will affect the terms of this balance, changing as it will either the amounts paid out in wages or the amount of consumers' goods coming out of the factories into the shops, or both, financial adjustments will always have to be made to enable the monetary flow to fit in with any given structure of production. The Financial Plan will need to be appropriately geared to the Production Plan and the gearing altered to conform with any fundamental alteration in the latter. Once the total

wage- and salary-bill for any given year has been settled (together with the probable money-income of collective farmers, which can be no more than a fairly close estimate) and also the output of consumers' goods to be made available in the shops during that period, there are three ways in which the flow of monetary payments can be adjusted so as to preserve the requisite balance: (*a*) by altering direct taxes levied on individual incomes, (*b*) by altering the amount collected in State Loans or State savings-deposits, (*c*) by altering the retail prices at which goods pass over the counter of a State shop or a co-operative to the consumer. It is these adjustments that one is essentially talking about when one speaks of the "financial problems" involved in the economic plan.

Here we come to a point that is fundamental. Property-incomes, and the inequalities attendant thereon, have been abolished in the U.S.S.R. But differences of work-incomes, varying with the grade of work and the nature and amount of work continue to exist. The profit-motive as a regulator of production and investment has been banished. But the ordinary economic incentives associated with work and wages still play an important rôle. True, every attempt is made to introduce new social or collective incentives into work (with very considerable success, as recent events have shown); but the continuing importance of individual monetary incentives to a worker to acquire skill and to improve his output, far from being denied, is emphasised in the Soviet Union as an essential element in the epoch that Marx termed "the first stage of socialism". For this monetary incentive to have full force, it is not sufficient that money-wages should be paid out in proportion to the work done by various workers: it is necessary that wage- and salary-earners should (within limits) have free disposal of this income—be free to spend it as they choose in various directions or to vary the amount they spend and save.

Hence it is very far from being a matter of indifference whether the money that is paid out as incomes flows back to the State in one way rather than in another. A change in the level of income tax, for example, may have a different effect on the force of monetary incentives to that of mobilising an equivalent sum as voluntary savings through the medium of State loan-issues; and a change in either of these may have different effects from a change in the prices of goods sold in the shops. Fundamentally, this is why there is a "financial problem" to be tackled as part of the general problem of economic planning.

Surprise is often expressed that in the Soviet fiscal system direct taxes play so small, and indirect taxes play so large, a rôle; since direct taxation is traditionally regarded as a favourable instrument for combating economic inequalities and indirect taxation as inequitable in its social effects.[1] The short answer that is usually given is that the significance of indirect taxation is entirely different in a system of approximate economic equality from what it is where very large inequalities of income prevail; and that direct taxation loses its specific social purpose, and will necessarily give a much smaller yield, where there are no "five-figure incomes" to be tapped. *This is part, but no more than part of the answer*; and it is to throw a fuller light on this type of question that the following analysis of the principal changes in the Soviet

[1] In this connection it is interesting to find Sokolnikov, at one time Commissar for Finance and a leading representative of the "Right" tendency, writing in 1928 that the future tendency of Soviet taxation policy would lie in the direction of a "stabilisation and then the contraction of the relative weight of indirect taxation in the general total of the State's budget receipts". (Cf. *Soviet Policy in Public Finance 1917–28*, by Sokolnikov, etc., Stanford Univ. Press, 1931, p. 456). This statement is an indication that the nature of the financial problems of a fully planned economy such as the First Five-Year Plan introduced were not understood during the NEP period, at least among such "Right" groups.

financial system over the period of the Five-Year Plans has been made.

An important difference between the State Budget in U.S.S.R. and in other countries lies in the prominent place occupied by State investment in the former, under the heading of "financing the national economy".[1] Investment in industry, which in Britain and U.S.A. (outside war-time) is the concern of the private capital market, in U.S.S.R. is the responsibility of the State; and about two-thirds of gross investment passes through the State Budget. During the NEP period in the '20's, while this category of expenditure occupied about 40 per cent. of total Budget expenditure (on the average of 1924–8), the absolute sum involved was comparatively small; and defence-expenditure in these years stood at only about half the figure of 1913.[2] On the revenue side this investment-expenditure was approximately balanced by the profits of State industry and trade (together with revenues from other State enterprises) *plus* the proceeds of State loans. The taxation system, in the main, was traditional in form; many of the taxes being continuations of those in force in Tsarist times. Revenue from direct and indirect taxation were about equal; direct taxation representing a much larger, and indirect taxation a much smaller, proportion of total tax-revenue than in Tsarist times. The chief forms that direct taxation took were the Agricultural Tax, levied on the peasantry; a licence duty levied on all industrial or trading enterprises, whether State or private, and varying with the turnover of the enterprise; an income tax on individuals and a combined excess profits and excess

[1] Not the whole of the sums allocated under this head represent capital investment. Part apparently covers certain of the administrative costs of the higher economic organs, research, etc. But the bulk of it represents ordinary capital expenditure; although capital repairs as well as new construction are included in these grants.

[2] When expressed in roubles of pre-1914 value. Cf. *Ibid.*, p. 299.

incomes tax. Indirect taxes consisted of ordinary excise and customs duties. As a matter of fact, well over half of the revenue from direct taxation came from the industrial tax or licence duty: a tax which was the precursor of the later single turnover tax that is usually classed as an "indirect tax". This consideration should serve to remind one how arbitrary the dividing-line between so-called "direct" and "indirect" taxes becomes when one is dealing with taxes levied on industry and not on individuals, and hence how little meaning can be attached in these circumstances to the traditional distinction.

The crucial change in the financial situation that was introduced by the Five-Year Plan was the enormous increase in investment-expenditure by the State. Expenditure on the "financing of national economy" had by 1930 increased four times, and by 1932 more than ten times, compared with the financial year 1927–8. What appears remarkable at first sight is that this increased expenditure was covered on the revenue side of the Budget only to a small extent by increases in loans and in direct taxes such as income tax: in 1932 direct taxation on individual incomes and loans combined amounted to no more than one-fifth of the expenditure on financing the national economy. Up to 1930 the main increase on the revenue side was in the profits of State enterprises paid into the Budget; and to a lesser extent there was an increase in the taking up of State loan by trading and industrial organisations out of their reserves. But from 1930 onward the chief source of increased revenue, balancing the increased investment-expenditure, was the Turnover Tax. Prior to 1930, as we have seen, this tax only existed in the form of an adjunct to an industrial and trading licence duty, designed as a means of varying this duty with the size of the enterprise. In that year a taxation-reform reduced the seventy-odd taxes and duties that had previously

existed to six main sources of revenue ; the old classification into tax and non-tax revenue, direct and indirect taxes, being abandoned in favour of a simple classification into two broad categories entitled " revenue from socialised economy " and " sources for mobilising the resources of the population ". The former category included the Turnover Tax, a tax on co-operative enterprises of all kinds, including collective farms, and a tax on profits. Of these the Turnover Tax was by far the most important,[1] and was substituted both for the old excise duties and the old industrial licence duty. The second category embraced subscriptions to State loan out of individual incomes, direct taxes, including income tax and inheritance tax, and certain minor licence and stamp duties.

This increase of budget-revenue, and in particular of receipts from Turnover Tax (the rate of which was rapidly stepped up after 1930), is to be regarded as the consequence rather than the precondition of the mounting expenditure on capital investment under the Five-Year Plan. An outstanding effect of this investment was the prodigious increase in employment and in the total wages-bill. Between 1928 and 1932 the number of wage-earners in industry as a whole doubled (with the consequence that unemployment gave place to acute labour-scarcity) : in building-construction alone their number more than trebled ; and over the period of the First Five-Year Plan the total wage- and salary-bill of the country increased by approximately four times its previous level. This meant a nearly-equivalent increase in the spending-power of consumers. Moreover, it was inevitable that this spending-power should increase much more rapidly than any cor-

[1] Already by 1932 it contributed 17½ milliard out of a revenue total of 30 milliard roubles ; by 1935 a total of over 50 milliard out of a revenue total of 67 milliard ; and by 1940 nearly 106 milliard out of a revenue total of 178 milliard.

responding increase in the supply of consumers' goods, made available in the shops for this spending-power to buy; since the essence of the Five-Year Plan was the concentration of labour and resources on construction-work, especially construction-work in the building of a heavy industry, and it was impossible for most of this labour of construction to yield fruit in an increased flow of consumers' goods inside half a decade or more. This was the secret of the so-called "goods famine" that began to develop about 1930, with its empty shops and queues that excited so much comment among foreign tourists at the time. This disequilibrium in the retail market, consisting of unsatisfied demands and short supplies, was not dissimilar to the parallel phenomenon that we are experiencing to-day in this country in comparable circumstances. But it had nothing to do with "inflation" in the sense of an incautious monetary policy which, if changed, could have essentially changed the situation in the retail-market, as many people have maintained.[1]

Of course, the situation would have been different if either private savings had increased (in the form of savings bank-deposits or subscriptions to State loans) or income tax had been drastically stepped up to correspond with the increase of investment. Then the increased sums paid out in wages would have been diverted back into the State Budget before they had had an opportunity of becoming spending-power in the retail market: in other words, spending-power would have been kept from rising even though *incomes* had become a swollen stream. To some extent savings in State Loans did increase with the increase of incomes; but to nothing like the required extent. And

[1] It is true that the amount of money in circulation increased during this period—in approximately the same proportion as the increase in the total wage-bill. But this was simply the consequence—an inevitable consequence—of having a larger total of wages to pay. It was an effect of greater employment.

in the circumstances it would clearly have been absurd to expect their increase to contribute towards more than a part of the investment total. There remains the income tax as the alternative means of tapping the increased flow of incomes. A little thought will, I think, show that this too would have been impracticable; or, at least, would have been attended with very serious difficulties and disadvantages. Great emphasis was being laid at this time on the rôle of wage-incentives (piece-rates, bonuses, progressive piece-rate system, higher earnings for skilled men, etc.) to stimulate the increased effort that the Five-Year Plan entailed: to encourage in workers (increasing numbers of them new recruits from the village, unused to factory work and to factory discipline) a new and positive attitude towards production, a desire to acquire training and to rationalise working methods. We have heard enough in this country recently about the discouraging effects of income tax on overtime-earnings, etc., to realise that, to have increased income tax on Soviet workers in 1930 in the same degree as the industrial wage-bill had risen, would have been to take away with one hand the very incentive to improved effort and efficiency that the other hand was giving. The fact that the reason was largely "psychological" makes it none the less real and important. The sole remaining method, therefore, was to adjust the prices of consumers' goods, especially of luxuries or semi-luxuries, in an upward direction in face of the increased demand; and it was as an instrument for doing this, and for diverting the difference between retail-price and cost-price into the Budget, that so much reliance was placed on the Turnover Tax. But for a number of years in the early '30's even this did not suffice to deal with the situation in the retail market; and for reasons that will be referred to below, a system of rationing had temporarily to be introduced as well.

We have said that the so-called " goods famine " of the early '30's had nothing to do with monetary " inflation ". There was, however, an important respect in which the situation was aggravated by a certain amount of unplanned credit expansion (i.e. credit expansion undertaken on the initiative of subordinate bodies and not provided for, or allowed for, in the Plan) ; and it was this fact which formed the *raison d'être* of the important Credit Reforms of 1930 and 1932. In addition to the capital expenditure financed out of the Budget, there was investment financed out of that part of industrial profits that was left at the disposal of the enterprises themselves and by means of loans from the Industrial Bank. (The chief source of the latter was the deposited reserves of industrial trusts and other State bodies.) To some extent the Bank appears to have exercised a certain amount of discretion in granting long-term credits from these reserves for constructional work or extensions. But the principal form that unplanned and unbudgeted-for investment seems to have taken in the early years of the First Five-Year Plan was investment in the holding of stocks of materials (often prompted by an industrial manager's desire to guard himself against possible shortage at a later date), financed by short-term credits from a bank or from some other organisation. The effect of what in some directions became a competitive scramble to acquire and to hold materials in short-supply was to aggravate the shortage and to dislocate the Plan. It also seems to have been responsible to some extent for a competitive bidding up of the prices of raw materials and of skilled labour. Accordingly the Credit Reform of 1930 abolished the bill of exchange, forbade any form of credit from one non-banking organisation to another, and made the State Bank the only source of short-term credit. In 1932 the Industrial Bank itself was reorganised. Henceforth the Industrial Bank could only make a grant to

industry for a purpose and to an amount that had already been authorised in the general plan; and short-term credits given by the State Bank to an industrial enterprise had to be earmarked for special purposes incidental to its planned production-programme, and could not be transferred to other uses save in exceptional circumstances. Thereby credit institutions were laced into the rest of the planned economy as financial book-keeping departments of the Production Plan. They could no longer exert an independent influence on production and on prices by virtue of the limited autonomy with respect to credit-advances that they had previously possessed.

With basic necessities in short-supply, as well as other consumers' goods, it was clearly essential that their distribution should be controlled. Meat in particular came to be scarce after the widespread slaughter of cattle by the well-to-do peasants in 1929–30, as did also dairy produce and sugar. The supplies of certain things like textiles were curtailed owing to the need to cut out the import of all except bare necessities in favour of large machinery-imports in connection with the construction programme. In other cases preference had to be given to the export market over the home market in order to pay for the urgent import requirements of the Five-Year Plan. A regulated distribution was necessary both to ensure a basic minimum of essential foodstuffs to everyone, and moreover to give preference in the allocation of scarce commodities, over and above this minimum, to workers engaged on the most essential types of work. This preferential allocation was in accordance with the principle, "from each according to his ability, to each according to his work". As early as 1929 rationing had been introduced in some places for bread on the initiative of the larger towns, beginning with Leningrad and Moscow. Later this was extended until it embraced virtually the whole urban population; and

rationing was also introduced for sugar, tea, vegetable oil and butter, potatoes, eggs, meat, jam and macaroni. In 1931 and 1932 a large number of other consumers' goods, such as textiles and soap, were included, until rationing covered nearly a half of all manufactured consumers' goods that were sold through the co-operative network, and extended to about 70 million persons.[1]

This rationing system had certain peculiar features. In the first place the ration was graded according to categories, the preference being in favour of manual workers and later of workers in the most essential enterprises. For example, in 1930 manual workers received twice the ration of bread and meat of non-manual workers and a 25 per cent. larger sugar ration; and in 1931 all workers in heavy industry were placed in the top ration-category. At the same time, in the case of deficit-commodities other than basic foodstuffs, factory canteens and the co-called "closed co-operatives" (i.e. co-operatives reserved for certain definite categories of workers and employees which in 1931 embraced more than 40 million persons) got the pick of the available supplies; while things like boots, a suit or an overcoat could generally only be obtained at all easily on a written order from a factory management.[2] Secondly,

[1] The details of this rationing period have been very fully described in three interesting recent articles in English economic periodicals: E. M. Chossudowsky, "Rationing in the U.S.S.R.", *Review of Economic Studies*, June 1941; E. M. Chossudowsky, "De-rationing in U.S.S.R.", *Review of Economic Studies*, Nov. 1941; A. Baykov, "Organisation of 'War Economy' in U.S.S.R.", *Economic Journal*, Dec. 1941.

[2] As far as the peasants were concerned, industrial goods in short-supply were (by an order of the Commissariat of Internal Trade of Jan. 1929) supplied in proportion to their fulfilment of the delivery-quotas of grain, etc., to the State buying-organs. Peasants, being self-suppliers of grain, etc., were not usually included in the general food-rationing system except in regions which specialised on industrial crops (e.g. the cotton-growing regions). For foreigners (foreign workers and tourists) there were the famous *Torgsin*: special shops where goods could be purchased only against precious metals or foreign valuta

the ration had the form, not of a maximum but of a guaranteed minimum at a certain fixed ration-price. As such it provided a kind of " iron ration ", and was part of a general system of differential prices. Purchases of extra quantities, e.g. of bread or tea. " off " the ration were permissible when supplies were available ; but these " off-ration " purchases had to be made at substantially higher prices. For commodities in general there were several categories of prices, which varied widely, according as they were sold through a " closed co-operative ", in a so-called " commercial shop " or in the private market. If you were not a member of one of the " closed co-operative ", you would have to buy in an " open " State shop or from a private trader's stall in the market at twice or even (in the latter case) three or four times the price at the " closed co-operative ". There was no single price-level at this time. There was a multiplicity of price-levels and money had a different purchasing-power according to the category of market in which you were able to spend it. The upshot was that most people spent part of their income—what they devoted to primary needs—in a privileged market (that for rations to which the ration-card holder was entitled at low prices) where total expenditure was controlled : but another part they spent in a relatively uncontrolled (or less controlled) market, which yielded much higher prices because it bore the full brunt of surplus spending-power. At the same time, the existence of privileged categories of consumers meant that the proportion of a given income spent in the different markets, and hence the purchasing-power of that income, was different for different people according to the category they happened to be in. The result was a partial, but not complete, divorce between income and consumption. The consumption of any individual depended partly on his

(Torgsin sales having the significance, therefore, for the economy as a whole of export sales, and being reckoned as such in official statistics).

income, partly on his ration-category (e.g. whether a worker in an essential enterprise) and partly on whether he was a member of a " closed co-operative " and on the priority-category (for supplies) of the co-operative to which he belonged. For the economy at large increases in total money-income could exert an influence only on the relatively unrestricted sections of the market—primarily on prices in the private market, and to a secondary extent on prices in the open " commercial shops ".

This system affords an interesting example of an attempted compromise between two essential aims: to secure a minimum ration of essentials to the lowest-paid workers and to give scope for the operation of money-wage-incentives, of which so much use was being made at this period as we have seen. Had there been no rationing, there would have been inequity in distribution; and had there been nothing similar to the privileged closed co-operatives, factory restaurants, etc., the workers at essential points on the production-front could not have been guaranteed the pick of the available supplies. On the other hand, had it been impossible to spend any extra earnings beyond a certain figure (as would have been the case with a system of over-all rationing of expenditure), the edge of wage-incentives (wage-differentials between skilled and unskilled, progressive piece-rates, etc.) would have been seriously blunted. As it was, there remained an opportunity of spending extra earnings in the uncontrolled market; and though this extra spending was subject to much enhanced prices, the psychological effect of this was doubtless small compared with that of a complete absence of such outlets or of knocking-down money-earnings at source to an equivalent extent. If a fuller study of this period and of its problems had been undertaken in this country it might have thrown valuable light on the problems of our own war-economy since 1939.

At the same time, the compromise, though convenient enough for a period, had marked disadvantages which precluded it from being more than a temporary expedient. Before very long it became clear that the system of privileged categories had come to stand in contradiction with the system of incentives that the structure of money-wages was designed to offer. This contradiction became specially marked in the course of 1932 and 1933 when a decentralised system of self-supply (through the so-called O.R.S.) for individual factories was developed, whereby the closed co-operative of a factory was encouraged to contract for its food-supplies direct with a collective farm, or even to run its own allotment or farm. The factory one belonged to, and the efficiency of its self-supply service, then became more important than the wage one received. Wage-differentials lost most of their meaning; and the operation of any consistent wage-policy, based on money-wage-differentials, became impossible. This was, no doubt, the main reason for the abolition of rationing in 1935 and the reintroduction of a single market-price for all categories of shops.[1] But there were other criticisms levelled against the existing system: for example, a certain tendency to encourage graft and to give opportunities for peculation, and its tendency to encourage inefficiency and poor service to the consumer in the absence of retail competition.[2]

The essential basis for de-rationing, however, was an increase in the supply of necessities like bread and sugar and meat and tea; and it was the big improvement in the supply-position, following the success of collectivisation,

[1] These prices might still, of course, vary geographically according to zones; but they ceased to vary within the *same* place according to the category of shop and of purchaser.

[2] For example, an article in the Party journal, *The Bolshevik* (Sept. 30, 1934) pointed out that it had given the co-operatives "an undeserved monopoly on the market, with a neglect of the consumer and a poor quality of service as the result".

that set the stage for the de-rationing of bread and other cereal products on January 1, 1935. Before the end of the year ration-cards were also abolished for meat, butter, vegetable oils, fish, sugar and potatoes.[1] The prices at which these goods were now to be sold in State shops and co-operatives were substantially higher than the old ration-prices but lower than the prices prevailing in the "commercial shops"; and to compensate workers who had relied largely on rationed goods previously, money-wage-rates were raised by 10 per cent. The way had been paved for this change over the preceding two years by a gradual widening of the sphere of these "commercial shops" and a narrowing of the sphere of "closed" supplies.[2] Previously the Turnover Tax had been the instrument whereby the difference between the higher price in the "commercial shops" and the cost of these goods was diverted into the Budget, and its increase in these years largely reflected the growing importance of "open" as compared with "closed" retail trade. After de-rationing this tax became the exclusive instrument by which the amounts available for sale and the current demand were equated in the case of each commodity by adjustments in its retail price. Its primary function, therefore, was to bridge the gap between cost-price and retail-price which, as we have seen, is an inevitable product of a high rate of investment in a socialist planned economy. But it also performed a further function: it was a means of ensuring that the bulk of the price-rise should be concentrated on luxuries or non-essentials and as little as possible on necessities. This was done by rating the tax on turnover differently for different com-

[1] By Sovnarcom decree of Sept. 25. By further decree of Nov. 14 the closing of all *Torgsin* shops was ordered by Feb. 1, 1936.

[2] According to an estimate of *Planovoie Khoziaistvo* (1934, No. 4), the trade of commercial shops had grown from 3 per cent. of the retail turnover in 1932 to 22 per cent. in 1933 and was intended to account for 36 per cent. in 1934 (*cit.* E. M. Chossudowsky, *loc. cit.*).

modities, the differences ranging from 1 or 2 per cent. up to nearly 100 per cent.[1] By adjusting these differences in the rate so as to discriminate against non-essentials and in favour of essentials, the peculiar structure of prices that characterised the rationing period was to some extent retained. It can still be said, therefore, that the *real* difference in income between one wage- or salary-earner and another is less than the *money*-difference. As the income of a person increases, the real value of successive increments of income diminishes (if less rapidly than was the case before); and the tax has the effect of a progressive general expenditure tax—a progressive tax on income when it is *spent*.

During the period of the Second Five-Year Plan the rate of investment (as a proportion of the national income) was relaxed a little; rather more of current investment was directed to the consumers' goods industries; and the flow of consumers' goods on to the market greatly increased.

[1] Of course, the differential rating of the tax in this way could only be consistent with its function of equilibrating supplies with purchases in the retail market if the Production Plan arranged to supply the various goods in the appropriate proportions; and therefore it is, in a sense, the Production Plan which maintains the price-discrimination in favour of one set of goods and against another set by maintaining the supply of the former in relatively greater abundance than the latter. But it is the tax which is the immediate instrument for adjusting prices appropriately; and the fact that it was a convenient means for doing this is probably one of the reasons why this method was preferred to the possible alternative of allowing the difference between cost-price and retail-price to accrue in the first instance as extra profits to the trading or industrial unit and then taxing these profits into the Budget. If the latter alternative had been adopted, it might have proved difficult to prevent enterprises which produced goods that were highly priced relatively to their cost from competing for scarce supplies of labour and materials in the attempt to expand output, thereby both dislocating the raw material and labour market, and, by increasing too rapidly the supplies of the wrong type of thing, making it difficult to maintain the desired price-differentiation in favour of essentials and against non-essentials.

The problem of the gap between cost- and retail-price was, therefore, stabilised, and in the course of 1936 and 1937 the prices of many things were lowered. For example, a government order of June 1, 1937, brought about a reduction in the price of most consumers' goods of 15 or 16 per cent. In the later '30's, however, another category of State expenditure began to challenge comparison with State investment-expenditure in the national economy, namely expenditure on armaments. Prior to 1935 defence expenditure had been of relatively minor importance: in 1935 it represented less than a quarter, and in previous years less than a sixth, of the sums spent on financing the national economy. By 1938 it had risen to nearly a half the sum devoted to the national economy, or about 20 per cent. of the total budget expenditure (against less than 5 per cent. in 1932). By 1940 the absolute figure in roubles had more than doubled, and defence expenditure represented over 30 per cent. of total expenditure. The 1941 Budget estimates had provided for a further advance in defence expenditure of 50 per cent. on the previous year, raising it to nearly 40 per cent. of the total.

So far as one can speak of any one source of revenue as paying for investment and armaments, it can be said that the Turnover Tax does so. The figure for revenue from this tax and the combined expenditure figure for defence and for financing the national economy show a quite remarkable resemblance. What is more significant, the increase in the two figures over a ten-year period shows a close correspondence: in 1932 they were respectively 17 and 25 milliard roubles; in 1934 37 and 37; in 1938 80 and 75; in 1939 92 and 100; in 1940 106 and 113. In the 1941 estimates the two figures were 124 and 144, the widened gap between them being approximately covered by an increase in taxed profits.

When one has spoken of Turnover Tax on the revenue

side and Defence *plus* Financing National Economy on the expenditure side, one has dealt with between two-thirds and three-quarters of the whole Budget. Next in importance among revenue items are taxed Profits and the proceeds of State Loans; on the expenditure side Social and Cultural Services, consisting of education, health and social insurance. Prior to 1939 this latter item was second only to expenditure on Financing National Economy, and in 1938 was half as much again as expenditure on Defence. In 1939, however, Defence rose above it and relegated it to third place; and in 1940 it accounted for 42·8 milliard roubles compared with 57 milliard in each case for Defence and Financing National Economy. On the revenue side Profits, Loans and direct taxes (which cover no more than 5 per cent. of the whole) total up to about the same figure as Social and Cultural Expenditure.

Some economists have described the Turnover Tax (together with taxed Profits and Loans—although their inclusion has not always been explicit) as the measure or embodiment of the "savings" of the community involved in current State investment; and at least one writer has spent several pages in argument to this effect. It seems doubtful, however, whether much meaning can be given to such a description; and such a description may well prove more misleading than illuminating. The expression can of course be rendered quite harmless if one makes clear that one is defining "savings" merely as the difference between total output and that part of output which consists of consumption goods, and if one is careful explicitly to rid the statement of misleading causal implications. But the pitfalls that beset any use of "savings" in this context become apparent if one realises that the size of the tax required will depend on the particular definition of costs that is adopted for the purpose of fixing the so-called "planned cost" (and hence the gap that has to be

covered between the cost of an article and its retail price). If amortisation-allowances for depreciation of plant or expenditure on current repair were not included in costs (as in fact they are), the Turnover Tax would need to be equivalently higher, since the gap to be bridged between retail-price and cost would *ipso facto* be larger. In this case the meaning of the term " savings " would have to be stretched to make it equal *gross* investment instead of *net* investment. The same applies to the overhead expenses of industrial administration (e.g. of the higher economic bodies) : the Turnover Tax, and hence one's definition of " savings ", would have to be adjusted according to where the line was drawn between administrative overheads which are and which are not included in the costing of industrial goods for purposes of price-fixing. The word " savings " is a product of individualist conditions where new capital is provided out of the incomes of private capitalists ; and the implication that such " saving " implies a sacrifice or " abstinence " on the part of the investor has been used by economists as a justification of the payment of interest. Even in modern capitalism, with the increasing importance of new investment provided out of company reserves (undistributed profits), the old concept of " saving " (even when shorn of any notion of " abstinence ") has become a very tricky one to use. One would suggest that in speaking about a socialist economy the notion is much better avoided altogether.

As regards that part of investment (about a third) which does not go through the Budget : this is mainly financed out of that part of industrial profits that is retained by the enterprises and is deposited with the Industrial Bank as a reserve ; although sanction for such expenditure has to be obtained by its inclusion in the Plan. The distinction between reinvested profits which do and which do not pass through the Budget seems to be a relic of the pre-Five-

Year-Plan period, when the rate of investment was moderate and the distinction corresponded to profit that was transferred for investment in some *other* field of industry and profit that was ploughed back as investment in the *same* field. But clearly the distinction between that part of the profits made by an industry which is left with an industry and which is taxed into the Budget retains its importance; since if part of profit is left at the disposal of enterprises, a collective incentive is provided for them to reduce costs and to fulfil their planned output-quota so as to have more funds over the spending of which they have freedom of choice.[1]

Items such as these figure in what is called the Unified Financial Balance of the Financial Plan, although they do not figure in the Budget. This Unified Financial Balance includes also the credits created by the State Bank in favour of industry and trade to supplement the working capital of the latter. It is designed as a balance of all the main payments made between sections of the economy other than those made against goods in process or against goods passing over the shop-counter, and as such it is complementary to the Production Plan, which constructs a balance of supplies and utilisation for all commodities and productive factors. It will be evident that the two balances must neatly lace into one another: that in an important sense the financial balance depends upon and is the price-expression of the Production Plan, and that the Financial Plan will reach a larger total (other things being equal) the larger the volume of productive resources that is engaged on tasks other than current supply for the retail market. It is decisions about the allocation of productive resources that determine the size and shape of the financial

[1] In the 1940 Plan of the total planned profits of 33 milliard roubles some 22 milliard was to be taxed into the Budget and 11 milliard left with Industry.

balance, and not the latter that conditions the possibility of shifting productive resources.

Since June 1941 a return has, of course, had to be made to a rationing system, at any rate in the towns of the west. Unlike many other countries, the U.S.S.R. had been building up reserves prior to the war, not only of key raw materials, but also of foodstuffs. But in areas near the front line transport-congestion very soon entailed a restriction on current supplies. On July 14 ration-cards were introduced for the population of Moscow, covering bread, flour, cereals, sugar, fats, meat and fish, and was extended to other large towns at a distance from food supplies.[1] Among monetary measures was the opening of a National Defence Fund to which subscriptions could be made either in cash or in kind. During the first eight weeks of its opening some 457 million roubles had been subscribed in cash; and several thousands of tons of grain, meat and dairy products had been subscribed by collective farms. Scientists and others donated their Stalin prize-awards to the Fund and also objects made of precious metals such as gold, silver or platinum (which could, of course, be used for foreign payments). In December a new war-tax was announced, having the form of a gently progressive income tax. To this were liable all citizens between the ages of 19 and 60 (or 55 in case of women), except members of the armed forces and their families, invalids and pensioners and other dependants lacking an independent income. Workers, clerks, writers, artists, etc., were to pay according to a graduated scale which varied from 7 per cent. of income on an income of 1,800 roubles a year up to about 11 per cent. of income on an income of 24,000 roubles. The tax was to be deducted at source. Peasants, whether collective farmers or individual peasants, were to pay a sum varying between 150 and 600 roubles

[1] See below, Chapter IV.

per annum for each member of the household according to estimates of the prosperity of the farm. Persons exempted from military service were required to pay a rate of tax that was 50 per cent. higher than the normal rate. Clearly the yield of these two sources of revenue is likely to be small compared with the size of Soviet armament production at the present time; and the way in which resources will be released for war production in Soviet war economy will inevitably be by direct control of consumption and of the transfer of productive resources and not by fiscal measures.

CHAPTER III

WORK AND WAGES

It would be a grave mistake, in one's preoccupations with technical aspects of planning, to regard the Soviet economic system only in the light of co-ordination and direction from above, and to ignore the democratic element in it which consists of active participation and self-activity from below, and which there is a good deal of evidence for regarding as fully equal in importance. One of several things that events since June 1941 have clearly established is that a picture commonly held in the West of the Soviet people as, in the main, a passive mass with little say and less initiative in the operation of plans and orders, needs to be drastically revised. Events have, in fact, shown the ordinary rank-and-file citizen, whether he be a farmer or village teacher turned guerilla fighter, a soldier or airman, or a worker in an evacuated "leap-frog" industry, to be possessed of a remarkably high level of independence and capacity for improvised organisation. In fact, events of recent years, both in peace and war, have displayed many examples of a degree of initiative suggestive of a quite new attitude on the part of the ordinary worker towards the industry and the society of which he is part; a degree of social morale that seems to be evidence of a new sense of social ownership and collective responsibility. It has been pointed out that Soviet army tactics have been built to an unusual extent upon the initiative of quite small groups of men in the field—of small formations "with the fire-power and the brain-power to act inde-

pendently ".[1] It is no less true of industry that the success of planning has been largely built upon a sense of responsibility towards one's job, the extent and prevalence of which is probably without parallel.

When the so-called Stakhanov-movement began to develop in the middle '30's, it was quite commonly discounted in this country as a propaganda-façade. Others dismissed it as being no more than Taylorism in Russian clothes. But subsequent events as well as closer enquiry into the movement show that it cannot be so lightly dismissed. The methods used in the main introduced no new principle, and it is true that few of them will surprise students of American scientific management. Many of them represented an extension of the division of labour in an elementary form. As Ordjonikidze, Commissar for Heavy Industry, said at the time[2]: "There is nothing strange, nothing bewildering in all this. . . . Correct division of labour, correct organisation of the work-place, correct arrangement of the technical process—there you have the secret of the Stakhanov movement." What was novel about it was that it represented a movement to rationalise working-methods that arose from the initiative of individual workers themselves; and as such its achievements came as a definite surprise to the management of industry. What in other countries has generally been devised by functional foremen and efficiency engineers, often in the teeth of relentless hostility from ordinary

[1] Cf. George Stevens in *Manchester Evening News*, June 22, 1942, was writing from Teheran quotes a Russian military authority as saying: "You teach your men that they are facing formations. Against formations a man expects explicit orders. We teach our men that they are fighting individual enemies. . . . The Commander instructs them to the best of his ability. But if his way does not succeed, we expect our men to find their own way."

[2] Speech at the Plenum of the Central Committee of the Communist Party of the C.P.S.U., Dec. 21, 1935.

workers, was now being initiated by workers themselves.[1] Moreover, it was an emphasis on rationalising working methods or technique and not on greater effort on the workers' part, as previous campaigns of shock-brigades and socialist competition had very largely been. It showed a concern with quality, and not an attention to quantity alone. It was a product of thought and not merely of good intention—moreover, of thought about his job from what for most workers was an entirely new angle. Stakhanov's innovation at the Irmino mine in the Ukraine involved a simple principle: a separation of the two processes of coal-cutting and the propping of the workings which obviated the need for each hewer to change frequently from one operation to another and enabled the picks and mechanical drills to be continuously utilised throughout the shift. Previously the hewer had done only two and a half to three hours of actual hewing, the rest of the time being spent on propping. This happened on two shifts, the third being a repair shift; and the result was that the pneumatic drills were operated for only five or six hours and were idle for the rest of the twenty-four. The new method enabled a team of Stakhanov and two timberers working with a mechanical drill to attain the remarkable

[1] The British Press for the most part paid little attention to these events. The French Press, on the other hand, though frequently critical, showed more understanding. The Moscow correspondent of *Temps*, for example, remarked on Nov. 2, 1935, that "the movement is above all proving that it had its roots in the personal initiative of Soviet workers and not in administrative measures". Regarding the comparison with Taylorism: even the hostile Mr. Hubbard, who speaks of Stakhanovism as "exaggerated into a stunt" and the occasion for "a campaign of ballyhoo" in the Press, admits that it has "an important difference from Taylorism in that Taylorism is imposed from above while Stakhanovism is (officially at least) based on the inventive genius of the workman himself" and that "it would be a mistake to suppose that the Stakhanov movement has been entirely barren in results in improving industrial efficiency" (*Soviet Labour and Industry*, pp. 78–80).

output of 102 tons in a shift of five and three-quarters hours and later even higher figures. Later this improvement was combined with another: an altered method of working a vertical seam so as to ease the strain on the hewer and to enable the coal as it was hewn to drop directly on to the conveyor, thereby facilitating a more rapid removal of the coal from the coal-face.

This achievement of the pioneer (which Stakhanov tells us at first met with scepticism even from other workers in his own mine) quickly found imitators in other industries almost before it had had time to be publicised. Evdokia Vinogradova and her fellow-worker of the same name introduced a new system of team-work in the minding of Northrup automatic looms, and with nine unskilled assistants managed as many as 220 looms; thereby attaining a per head output 50 per cent. higher than the best Lancashire or New England figure. Smetanin at the Skorokhod boot and shoe factory at Leningrad claimed to beat the records of the Czech Bata factory for lasting shoes. Krivonossov raised the steam-output of his locomotive, and hence his train-speed, by the use of anti-scale emulsion, by insulating pipes and cylinders and by a number of other small improvements. Marie Demchenko in agriculture (in sugar-beet production), workers on Marten-ovens at Makeyevka, workers in a vegetable cannery, miners in Siberia followed with comparable achievements. In the Donetz metal industry Eremenko and Konenev increased the output of an electrical furnace to between 44 and 48 tons a day, whereas European practice had previously regarded 38 tons as a maximum. In the making of electrical equipment for tractors productivity per man was raised to a level 50 per cent. higher than that of leading American factories; in the Gorki motor works the production-time for making a valve was reduced by 20 per cent., and of pistons by 40 per cent., on that which operated

in the Ford works in America; at Taganrog the output of a boiler-making plant was increased to such an extent (four or five times) as to obviate the construction of a new works that had been planned.[1] A few months later (in November 1935) an all-Union Conference of Stakhanovites was held in Moscow; and Stalin, addressing them, announced that their spontaneous initiative had succeeded in "smashing antiquated standards of output and introducing amendments into the estimated capacity of industry and the economic plans prepared by the leaders of industry". Before long there was hardly a factory that had not its group of Stakhanovites: i.e. workers who had substantial achievements to their credit, entitling them to be ranked as such and to be awarded special bonuses for their attainments. In the larger factories their number often ran into thousands; for example, the Kaganovitch ball-bearing works at Moscow which, by August 1936, out of 19,000 workers had over 2,000 Stakhanovites.[2]

We have said that the major part of these achievements represented, not just "shock" methods and temporary "spurts", but permanent improvements in working methods. Once pioneered these methods could easily be copied even by much less enterprising or well-trained workers, thereby raising the whole level of productivity. This is evident from a number of examples. In the building trade the Russian bricklayer had traditionally prepared his own mortar and carried as well as laid his own bricks. Now these separate tasks were divided among separate members of a team. Moreover, the lay-out of bricklaying was so altered (by having bricks placed on a raised plank beside the bricklayer, etc.) that on the average he had to

[1] B. Marcus on "The Stakhanov Movement", in *International Labour Review*, July 1936, pp. 11–12; Reports of First Congress of Stakhanovites, Nov. 14, 1935.

[2] Cf. Georges Friedmann, *De la Sainte Russie à l'U.R.S.S.* (N.R.F., Gallimard, 1938), p. 104.

lift each brick only one foot instead of more than one yard, and the energy expended in laying a given quantity of bricks was reduced to less than a third of its previous amount.

> In the Kuntsovskaia worsted factory the woman weaver Chekunova changed over from working two looms to eight looms and increased her output from 40 to 172 metres [by] persuading the head of the workshop to alter the construction of the beam of the loom and to have the driving-belt cleaned periodically, which prevented slipping, and this increased the speed of the loom from 130 to 145 revolutions per minute; at the same time she had the shuttles made larger.

In a factory engaged on X-ray apparatus

> the milling-machine-minder Kolobov has increased his productivity six times by taking the initiative in having the faces of the bolts shaped by means of a milling-machine, and not, as before, a planing machine; in this way they can be worked simultaneously on both sides by the use of two milling-machines. In the Uritsky factory the metal turner Likhoradov succeeded in turning 11 metal bands per shift instead of 2·5 by using two supports instead of one and arranging his cutting tools in a certain manner. In the agricultural machinery factory at Rostov the turner Prusachenko has increased his productivity 6½ times simply by using a shaped chisel instead of an ordinary one.[1]

Nossikov, a forgeman at the Voroshilovgrad locomotive works, who doubled or trebled the standard output, explained his improvement as follows: "Before I used to take the billets from the furnace myself and place them under the hammer. But now I stand the whole time at the hammer and somebody else hands me the billets. While I was moving from place to place the hammer would be striking unproductively." Under the new arrangement the forgeman stood at the hammer while an assistant took the billets from the furnace and placed them under the

[1] B. Marcus, *loc. cit.*, pp. 27, 29–30.

hammer so that the hammer could work productively all the time.[1] Stakhanov himself made the statement: "To extract 100 tons of coal and more per 6-hour shift does not call for an exceptional effort. All that is needed is to *organise the work* properly." Smetanin made a similar comment: "Many people think that increased productivity of labour can be obtained only at the cost of physical strain. Nothing can be more mistaken. Labour productivity can be increased only by a perfect mastery of technique." On another occasion Smetanin said:

> In order to work well you must know your machine well: you must know its inner life. . . . I did my 1,400 pairs, not as a result of physical strain but solely by maintaining a rhythm and because I made a careful study of each operation.[2]

Another Stakhanovite in an Ivanovo textile mill, Kirianova, added: "If the Stakhanov movement is to make progress, more intelligent methods must be applied. . . . I have arrived at excellent results by abolishing unnecessary movements and that is the whole secret of my work."[3]

The movement was not without weaknesses and exaggerations; and in certain directions it even became something of a mania. Sometimes it represented short-term accelerations of tempo at the expense of long-term achievement. In some weaving establishments an increase in the number of looms tended was at the expense of the efficiency of each loom.[4] Sometimes it was allowed to lead to changes in output with too little regard for the dislocation thereby caused (e.g. through increased demands upon raw material or equipment) to other parts of the Plan. Mech-

[1] Quoted by Ordjonikidze, speech to Plenum of C.C. of C.P.S.U., Dec. 21, 1935.

[2] First Conference of Stakhanovites, Nov. 14, 1935.

[3] B. Marcus, *loc. cit.*, 23–4.

[4] Cf. Liubimov, speech at Plenum of C.C. of C.P.S.U., Dec. 21, 1935.

anical attempts to imitate it in barbers' shops or among laboratory workers and translators were later held up to ridicule in the Soviet press. But these examples, though they often provided good copy to foreign journalists, were clearly of minor importance compared with the solid achievements of the movement. Even in spheres like scientific work, where some of its hasty applications may have been ridiculous, there was plenty of room for the principle that thought should be applied to the method of work as well as to the work itself. Very soon attention was being turned to securing "a reciprocal adjustment of the work, not only of the various departments or workshops of a single undertaking, but of all related undertakings that co-operate in the same branch of production"; [1] and we hear of an interesting example of a woman worker in a Kalinin spinning mill organising for the first time a vertical system of "liaison brigades" of Stakhanovite groups at all the various stages of production.

Some years before a campaign had been set on foot to encourage a system of patronage or tutorship by fast workers over slow. The new achievements of the enterprising vanguard of workers gave added importance to these efforts; and public statements laid great stress on the fact that it was part of the duty of a Stakhanovite, not to rest content with showing that he could excel, but to train more backward workers to follow his example and to lend them continually a helping hand. An instruction of the Central Committee of the Communist Party (December 28, 1937) was at pains to condemn the tendency to concentrate on record-outputs by individuals and stressed the need to increase the number of Stakhanovites and to turn the movement into a mass movement. Prior to this, on the occasion of the anniversary of the movement, the trade union press had complained that the

[1] B. Marcus, *op cit.*, 15.

ranks of Stakhanovites did not yet comprise the *majority* of workers (although in many industries they comprised between a third and a half) and urged trade unionists to assist all workers to become Stakhanovites and to see that attention was paid to improving quality as much as to increase of quantity.[1] Special enquiries were held into the causes of slow output, and workshop discussions were organised to consider the appropriate remedies. Of these an interesting example (occurring two years later) was a meeting that was called in the Ordjonikidze Engineering Works of slow workers who did not attain the standard output. These amounted to 6 per cent. of all piece-workers. The meeting was described as an eye-opener to the management. Among the causes cited were too frequent changes of foremen, stoppages of machinery, too much of the workers' time being occupied in preparing the lay-out of the work, and inadequate training; and the remedies adopted included improved training facilities and the allocation of each slow worker to a more experienced one for advice and guidance.[2] Special instructors in the new methods were appointed in all the leading enterprises, and arrangements were made for an exchange of experience between advanced workers in different factories and for the institution of special Stakhanovite schools.[3] A striking shift of emphasis took place throughout Soviet industry from machines to people and towards attention to the individual with his special problems and aptitudes. Stalin in a speech in 1935 declared:

[1] E.g. *Trud*, Aug. 27, 1936.

[2] *Industria*, Feb. 14, 1938.

[3] Cf. *Industrial and Labour Information*, Vol. lxxii, No. 4, 126. *Isvestia* of Sept. 23, 1939, gave some interesting examples of co-operation between Stakhanovite instructors and the technical staff in the Ural Engineering Construction Works at Sverdlovsk which led to an adaptation of technical drawings for new tools, etc., to instructors' suggestions, made on the basis of experiments that they had conducted in working methods.

> We used to say that "technique decided everything." . . . This slogan helped us to put an end to the dearth in technique. . . . That is very good. But it is not enough, it is not enough by far. . . . Without people who have mastered technique, techinique is dead. In the charge of people who have mastered technique, technique can and should perform miracles. . . . It is time to realise that of all the valuable capital the world possesses the most valuable and most decisive is people.

It was not without justification that one of the concluding sections of the official *History of the Communist Party of the Soviet Union* could claim that the Russian proletariat "had ceased to be a proletariat in the old meaning of the term"; it "had been transformed into an entirely new class"—into "a working class the like of which the history of mankind has never known before."

The type of man and woman of which these innovators were is not without interest. The majority were fairly young, between 25 and 30: men and women of the new Soviet generation whose factory experience and the later part of whose schooling had fallen within the period of the Soviet régime. But, as Molotov pointed out, the bulk of them were not members of the Communist Party. A few of them were between 30 and 45 and had long years of industrial experience. But the most common characteristic among them was that they had benefited from some kind of technical training—having passed at least what is known as the "technical minimum examination." Not all of them, however, had. Busygin, for example, had come from the village in comparatively recent years, from a poor peasant family, and had worked first as a woodworker on the construction of the Gorki motor plant and later as a greaser in the forge. When he started working on the steam hammer, he was at first shifted from job to job, until he complained that he was never left on a job long enough to become proficient at it, and was nearly

fired as a "trouble-maker" for his pains. Previously he had been only "semi-literate", as he described himself (having read his first book, a volume of Pushkin stories, only a few weeks back, and "liked them very much"); and in the factory "nobody ever taught me; I taught myself".[1] As Stalin pointed out, they were not ambitious careerists or personal advertisers: they were "simple and modest people without the slightest ambition to acquire the laurels of national figures."[2] They were serious, conscientious workers, possessed in a unique degree of a sense of pride in their work and of responsibility to their fellows—"people with culture and technical knowledge, who are able to appreciate the time factor in work and who have learned to count not only the minutes, but also the seconds".[3] On the contrary to being jealous of the secret of their prowess, they were among the first to emphasise that their methods must be popularised and to exert themselves to teach these methods to others. In the course of 1939 the impetus of the movement they had started set in motion a new phase. This new phase originated simultaneously in two places, in engineering factories in the Urals and at Kharkhov, and had its special emphasis in the mastering by the worker of several processes of production and of multiple machine-minding.[4]

The decisive test of the success of these changes must, of course, be sought in their effect upon labour productivity. Here unfortunately we can get no precise statistical test, since figures of output per head do not enable one to dis-

[1] Speech at First Conference of Stakhanovites, Nov. 14, 1935.
[2] Speech at First Conference of Stakhanovites, Nov. 17, 1935.
[3] *Ibid.*
[4] An interesting example of later Stakhanovite improvements was in June 1940, when a Leningrad weaver invented a remarkably cheap electrical device for flashing a signal when one of the looms required attention and stopping the loom automatically in case of a breakage, thereby increasing the number of looms he could tend. (U.S. Dept. of Commerce, Russian Economic Notes, Sept. 30, 1940.)

tinguish the effects of changes in working methods and of new machinery and equipment that were coming into service as a result of the constructional work of the preceding years. What with some reason, however, can be attributed in the main to Stakhanovism is the amount by which the increase of labour productivity in the two years following these innovations was in excess of what had been expected—the extent to which it exceeded the increase provided for in the Plan. Here we find at least strong *prima facie* evidence that the achievements of the movement were very substantial. An outstanding deficiency of the First Five-Year-Plan period had been the failure of labour productivity to rise in the degree that had been planned (and hence a failure of production-costs to fall to the required extent). For industry in general the First Five-Year Plan had provided a doubling of the productivity per worker (in roubles at 1926–7 values); and by 1932 the actual increase had been less than 25 per cent. The Second Five-Year Plan had envisaged a more moderate rate of increase, namely 62 per cent. But in contrast with the earlier period this figure was actually exceeded; and by 1937 an increase of 78 per cent. over 1932 had been attained.[1] Molotov in his Report to the Eighteenth Party Congress in March 1939 declared that "our plans for increased labour productivity during the Second Five-Year-Plan period were exceeded because no plan could have made provision for the rise of the Stakhanov movement". The increase was specially marked in the last two years of

[1] This is the figure quoted for large-scale industry in 1937 from *Planovoe Khoziaistvo* by Bettelheim, *La Planification Soviétique*, p. 309. Molotov in his Report to the Eighteenth Party Congress in March 1939, mentions the higher figure of 82 per cent. for the end of the Second Plan period. Mr. Colin Clark makes an estimate for the *three* years 1934–7 and concludes that "average income per head of the working population taken as a whole had risen by as much as 42 per cent. between 1934 and 1937" (*Critique of Russian Statistics*, p. 68).

the Second Plan and in heavy industry. In steel the yearly output per worker which was 253 tons in 1932 reached 575 tons in 1936 and 740 tons in 1937 (or slightly more than the German although less than half the American).[1] The year 1935, when Stakhanovism originated, was remarkable as being the year when "industry for the first time in a number of years completely fulfilled its plan for lowering production costs" and labour-productivity in large-scale industry rose by 12·9 per cent. compared with 10·7 per cent. in 1934 and 8·7 per cent. in 1933.[2] In the first seven months of the following year production in heavy industry increased by as much as 36 per cent. over the same period of the previous year, against 26 per cent. provided for in the Plan, with a labour-supply that had increased by no more than 6 per cent. The Plan had budgeted for an increased per head output in heavy industry for 1936 of 23 per cent.; but in the first seven months alone it had increased by 28 per cent. Similarly in the coal industry output per worker had grown by the unexpected figure of 22·9 per cent. in the same period.[3] Over industry as a

[1] Cf. Bettelheim, *op. cit.*, pp. 310–11. Some plants such as Magnitogorsk showed much higher figures (due to their superior equipment) that surpassed the average American figures, but these were still exceptional. Average coal output per man-*day* in 1936 varied from 1,020 kilograms in Donbas to 1,988 in Kusbas, against 1,194 in England in 1936 and 1,710 in the Ruhr. (*Ibid.*)

[2] *The Second Five-Year Plan*, Ed. Gosplan, 1936, p. xxxi. Marcus gives 10·6 and 12·7 per cent. as the increase per man-*hour* in 1934 and 1935. Output per man-*year* would tend to grow a little faster than per man-*hour* at this period owing to attempts to decrease absenteeism and hence the number of hours worked per man per year (*Int. Lab. Review*, July 1936, p. 7.) But the difference is very small. Marcus gives 7·37 as the average daily hours (including overtime) in 1928 and 264·2 as the average number of days worked per worker in a year; for 1934 these figures were respectively 7·09 and 267, and for 1935 7·06 and 268.

[3] *Indust. and Lab. Information*, Vol. lx, No. 2, p. 41. Mr. E. Strauss, who dismisses Stakhanovism as "a creation of official propaganda and official pressure" and "of course no movement of the masses of the working-class", uses the curious argument that such progress as was

whole 1936 registered an increase in labour-productivity approaching 20 per cent.: a rise in the rate of increase of more than 50 per cent. on the high figure of the previous year.

In the drive to improve productivity during the period of the First Five-Year Plan the system of payment by results had been very considerably extended among wage-earners; and by the later '30's something approaching three-quarters of all workers were being paid according to some variation of this system. In coal-mining the percentage was as high as 80 per cent., with nine in every ten underground workers being employed on some form of piece-work. In building even bricklayers and painters had a form of group payment by results.[1] This increased emphasis on wage-incentives largely dates from Stalin's famous Six-Point Speech in June 1931. In this speech he emphasised the need for the structure of wages to be framed so as to give the maximum incentive to workers to acquire training (and hence rise to a higher grade of skill) and increase output, for strict adherence to the principle of individual responsibility and an end to "depersonalisation" in industry, and also for better conditions for technical staffs and "specialists" and a changed attitude towards them. He spoke of the altered situation in the

achieved in 1936 must have been purchased at the expense of "a severe setback during 1937" because the increase in labour-productivity was smaller again in 1937 (*Soviet Russia*, pp. 297–83). Since we are dealing here with rates of *increase* in productivity, we are concerned with the results of *improvements* introduced each year. It would be surprising, indeed, if Stakhanovism continued to register the same rate of improvement in all subsequent years as it did in the first year of its existence. Were we faced with an actual *decline* in productivity in later years, one could reasonably speak of a "setback"—of a short-period gain purchased at a loss of productivity in the long run—but not for the reason simply that the *rate* of improvement slackened off. Actually, the rate of improvement showed a new burst upwards in 1939, following the new wave of Stakhanovism that is mentioned above: in 1938 labour productivity increased 11 per cent. and in 1939 16·7 per cent.

[1] *Indust. and Lab. Information*, Vol. xl, p. 113.

labour-market due to the ending of unemployment and the replacement of it by a state of labour-scarcity, with the consequent need " to recruit labour in an organised way " instead of " relying as we did formerly on an automatic influx of labour " and to combat labour-turnover by " organising wages in a new way ".[1]

> In a number of industries [he said] wage-scales are such as almost to destroy all difference between skilled labour and unskilled, between heavy work and light work. . . . We can no longer have the situation where an iron-founder is paid the same as a cleaner and an engine-driver no more than a copyist. . . . We must no longer tolerate depersonalisation in industry. . . . Labour must be so distributed that every group of workers is responsible for its work, its machinery and the quality of its work.

As regards engineers and " specialists " : he could detect a significant " change of attitude towards the Soviet Government on the part of certain sections of intellectuals who formerly sympathised with the wreckers " ; he spoke of " a large number even of those who yesterday were wreckers (who were) beginning in a number of factories to work hand in hand with the working-class ", thereby demonstrating that " a change of mind among the old technical intelligentsia is taking place ". " The working-class must establish its own technical intelligentsia ", and at the same time " it is our duty to change our attitude toward the old technical intelligentsia, to pay great attention to its members, to draw them into the work of co-operation and to improve their material situation ".[2] One of the results of the emphasis on individual responsibility was an increased insistence on the principle of one-man management : a

[1] He added that " we have very few factories which have not changed their staffs to the extent of 30 or 40 per cent. within the last six or even three months ".

[2] Speech to Conference of Economists and Industrial Managers, June 23, 1931.

principle adopted in theory for some time but not always fully observed in practice. On another occasion (at the 16th Party Congress) Stalin had bluntly stated: "The workers persistently complain: 'There is no master in the works; there is no system'. We cannot any longer tolerate that our factories should be transformed from productive organisms into parliaments."

A very common form of piece-work is the so-called "progressive piece-rate" system; and in many industries the majority of piece-workers are paid by this method.[1] Under this the remuneration rises at a progressively higher rate above a certain rate of output. For example, a standard output (expressed as a rate of output per unit of time) is in the first place determined for the various jobs: a standard which is fixed in consultation between the factory committee of the trade union and the management (the technical assessment of the various jobs being in the hands of a special rate-fixer) and which, once fixed, plays a crucial part in all planning estimates for the annual and quarterly plans. All output in excess of the standard is paid at a rate 50 per cent. above the basic piece-rate for the job. In some cases a 10 per cent. increase on standard is paid at a 50 per cent. higher rate, a 20 per cent. increase at double the usual rate, and so forth. Workers who fall below the standard are paid at the standard rate but no more; but in the event of the slowness of his work being due to causes outside his control, his earnings are subject to a guaranteed minimum of two-thirds of the normal earnings (i.e. of the earnings of a worker producing at the standard rate).[2] It will be evident that the effect of this is

[1] For example, in 1937 75 per cent. of all workers in iron and steel were on piece-work, and of these "over a half" were on progressive piece-rate scales. (Cf. *Methodika Planirovania Chornoi Metallurgii.*)

[2] Cf. L. Weinstein, *Zarobotnaia Plata* (Profisdat, 1937), p. 24 *seq.*; also article by the present writer in *Organised Labour in Four Continents*, Ed. H. A. Marquand.

to give a special inducement to any increase in the speed of output above what was previously the average or normal rate of output, and to increase the inducement as the distance above the average grows greater. As such it represented a special prize to the industrial pioneers: to those who by improved working methods or greater effort set higher standards of proficiency for their fellows. It was natural that the worker who set an example of higher standards should be cherished at this particular period, when (with an influx of labour from the village to the factory) a growing proportion of the labour-force in industry consisted of new peasant recruits, and the need was urgent to make a break with old traditions of leisurely and casual work, and to get every ounce out of the new capital equipment that was so precious.

But this system of payment shared with similar systems a crucial problem. When higher speeds of work are the product of greater effort, there is evidently a great deal to be said for increasing the remuneration, not only proportionately, but even in greater proportion than the rise of output (since, beyond a point, any increase of output becomes progressively more difficult and involves a progressively greater strain). As long as only a few excel, no special difficulty arises from so doing. But when higher output is the result of improved methods of work, the position is altogether different. Once the new methods have been adopted, the higher rate of output does not necessarily involve greater effort on the workers' part (at least, not in any degree comparable to the rise of output). Moreover, the higher speeds need no longer be peculiar to a few: they can become general. Even the "slow worker" can copy the pioneers and learn the new methods; and speeds which were formerly regarded as exceptional in time cease to be the preserve of the strong or the energetic. When this is the case, the problem at once arises that, so

far as wage-costs are concerned, the improvement has resulted not in a lowering but in a raising of costs of production; since a given increase on the standard-output has been remunerated by a *more* than proportional increase in wages.

During the period of the First Five-Year Plan the increase in labour productivity that occurred was no doubt primarily due to an improvement in the technical equipment which the worker used: improvements which were fruit of the capital investments of the previous years. New machine-processes were being installed; new and up-to-date plants were being opened; standardisation was being extended and with it improved methods of continuous production-flow. Kuibyshev in his Report to the 16th Party Congress pointed out that the increase in output per worker which had occurred during the past three years had been closely correlated with the growth in capital-equipment per worker in those years, adding that "the dependence of these two series of figures upon one another is obvious".[1]

It was one of the principles of the Five-Year Plan that the productivity resulting from the enormous investment that was occurring should to a large extent accrue in lowered money costs of production (and hence either in greater possibilities of investment or in lower ultimate prices to the consumer). This required that wage-rates should rise in smaller proportion than the increase in productivity per worker. Partly this was a question as to whether workers should share in the increased output *qua* consumers *via* lower prices or by direct increases in money-wages; the policy embodied in the Plan choosing a

[1] *International Press Correspondence*, Aug. 14, 1930. One measure of the improvement of technique was that the power-supply per worker in industry (measured in kilowatt-hours per man-hour) increased by 33 per cent. between 1928 and 1932 (*Summary of the Fulfilment of First Five-Year Plan*, Gosplan, p. 275).

compromise between these two. But it was not only a question as to the route by which an ultimate increase of real wages should arise. It is true that in a society where all incomes consist of work-income in some form, and profit has ceased to exist as a category of income, no issue concerning the sharing of the gain between two classes of industrial income, wages and profit, is involved.[1] Since the rate of investment is a policy-decision which forms one of the corner-stones of the Plan, the relation between changes in money-wages and changes in productivity does not even influence the amount that is devoted to capital construction as compared with the amount that is immediately consumed. But since agriculture rests on a system of collective farming and not of wages, the income of the

[1] Vosnesensky (later head of Gosplan) wrote in the course of an article in 1932 : " There exists a relative contradiction between accumulation and consumption. But this is only a contradiction between the present and the future. It does not contain antagonistic class contradictions " (*Bolshevik*, Jan. 30, 1932 ; *cit.* J. Freeman, *The Soviet Worker*, p. 54)..

Some modern economists assert that even in a capitalist society money-wage policy (e.g. whether money-wages are raised as output increases or not) can make no difference to the share of the total product that goes to labour, since this is uniquely determined for the system as a whole by what they term " the degree of monopoly ". But the umbrella-concept " degree of monopoly ", on further analysis, manifestly includes such things as " bargaining strength ", " price-stickiness ", etc., and therefore can itself be influenced by the money-wage policy adopted. In a planned economy, however, where investment and the output of consumption-goods are directly planned in a co-ordinated decision it is true that the level of money-wages can have no influence upon the level of consumption (except through any influence it may have *via* the psychology of incentives on the productivity of labour in the consumption-goods industries). In fact (as we have seen in a previous chapter) given the rate of investment which the Plan has decided upon, the ratio of retail-prices to cost-prices (assessed in wages) must be a function of this rate of investment, and the level at which money-wages are fixed will determine simply the level of prices and the amount of money needed to finance transactions at that level of prices : it cannot affect the above ratio and hence cannot alter the purchasing-power of wages in general.

agricultural population in terms of industrial goods will be dependent on the relative prices of industrial and agricultural goods; and consequently the price policy with regard to industrial goods will be an important determinant of the way in which the available supplies of consumption-goods are shared between the farming population and the industrial workers.[1]

It follows that, if the gain of increased productivity is to be shared between higher money-wages and lowered money-costs of production, the output-standards which form the basis of piece-rate scales will need to be revised each year as average labour-productivity rises. This, in fact, became the practice in U.S.S.R. at the beginning of the '30's.[2] This was straightforward enough so long as the rise in productivity was wholly or mainly due to new equipment; although even here difficulties were bound to arise in making these adjustments so as not to upset the relationship between wages on different jobs and in different industries. But the improvements introduced by the Stakhanov movement created a new situation, and had the anomalous result of causing considerable disturbance both to the planned costs of production and to the financial plan. These improvements were something that were not

[1] Here again, of course, it is true that, since it is the *relative* prices of industrial and agricultural products that matter, and the relation of each of these to wages, exactly the same result would follow if both money-wages and the purchase-prices of agricultural products were raised, industrial prices remaining constant, as if industrial prices were lowered, wages and agricultural purchase-prices being kept constant. What is said in the text—that the policy pursued with regard to industrial prices makes a difference to the relative purchasing-power of town and country—only applies *given* a certain policy with regard to agricultural purchase-prices.

[2] A semi-official description of rate-fixing states that "a revision of the norm should be undertaken whenever there is a change in the technical processes of production, or whenever the norm is rendered obsolete by the introduction of new methods of work, and should take place, as a rule, at least once a year". (*Cit.* Hubbard, *op. cit.*, p. 104).

allowed for in the estimates. Even if indirectly they were a product of the new technique, they were not immediately the result of new equipment but of the workers' own initiative. Under the progressive piece-rate scales in force the earnings of Stakhanovites increased very considerably; and as the movement seized upon large masses of the workers, and affected the output of the average worker, the result was not only to swell the total wages-bill in excess of the estimates, but actually to raise, instead of lower, the unit-cost of production. Many Stakhanovites trebled or even quadrupled their earnings within the space of a few months. Stakhanov, who formerly earned 500 to 600 roubles a month, by September 1935 was earning "1,000 roubles in eighteen shifts of work", and others among his mates between 1,000 and 1,600. Busygin raised his earnings from between 300 and 350 to over 1,000; Krivonoss from 400 to 900; Vinogradova from 216 to nearly 1,200.[1] For a time there was considerable confusion as to the proper treatment of the output-standards in the new situation. In certain cases apparently industrial managements, faced with an inflated wage-bill, insisted on raising them (i.e. raising the output required to qualify a piece-worker to receive the basic wage). We find, for example, the organ of heavy industry, *Za Industrialisatsiu*, considering it necessary to remind industrial managers that an order of the Commissariat of Heavy Industry had provided that the new output-standards adopted in the spring of 1935 should not be revised within less than twelve months from that date.[2] Clearly any precipitate revision

[1] Cf. Report of First All-Union Conference of Stakhanovites, Nov. 14, 1935; also G. Friedmann, *op. cit.*, 113.

[2] *Cit. Indust. and Lab. Information*, Vol. lvi, No. 9, 320. The Central Council of Trade Unions also issued a statement on Oct. 17 drawing attention to the fact that some managers had tried to revise the output-standards, and stating that the standards should be stabilised over a period of a year.

of standards would have served to discourage the pioneers of the new methods: at least, it would have made it very much harder for them to persuade their less enterprising work-mates to follow suit. The efforts of some of the first Stakhanovites met with a certain amount of obstruction, not only from managements who, from innate conservatism or fear of resulting dislocation, looked askance at the new methods, but often from their fellow-workmen, who disliked any disturbance of time-honoured methods of work or retained old-time prejudices against "speeding-up". Even Stakhanov himself had to face "certain workers who jeered and hounded him because of his new-fangled ideas". Any precipitate scaling-down of piece-rates would have stiffened the backs of such opposition and afforded justification to the complaints of those who grumbled that Stakhanovites' extra earnings were merely at the expense of the slow or even of the average worker whose pay-packet was now reduced. But it is equally clear that, once the new methods of work had been popularised, and the speed of work of the *majority* of workers in a plant had thereby been substantially enhanced, it would have been impossible to maintain the old output-standards intact. At any rate, if these had been so maintained, the whole structure of industrial costs would have been drastically inflated [1] just

[1] Part of the effects of Stakhanovism, it is true, was capital-saving. This had two aspects: first, it increased the output from a given plant; secondly, it enabled a given volume of current investment to "go further" and hence ultimately to be more productive. An example of the latter was the statement of Liubimov, Commissar for Light Industry, with reference to the boot and shoe industry in a speech on Dec. 21, 1935: "The Stakhanov movement in the shoe industry will enable us to fulfil the Five-Year Plan with the old factories and the new factories now under construction and to abandon the idea of constructing the two new shoe factories provided for in the Second Five-Year Plan at a cost of 36 million roubles each, thus saving 72 million roubles" (*Soviet Union 1936*, p. 468). Again, production at a Taganrog boiler-plant was increased four or five times, thereby making unnecessary the construction of a new works (Marcus, *loc. cit.*, 12). The net

at the time when, following de-rationing, strenuous efforts were being made to reduce retail-prices.

It was, accordingly, decided that, as soon as the new methods had come to be widely adopted among the workers, and opportunity had been given to more backward workers to improve their output, an upward revision of output-standards must occur. This was done in most industries in the course of April 1936. By the end of August it was announced that in heavy industry between 70 and 80 per cent. of the piece-workers were able to attain or to exceed the new output-standards: that is, to assimilate the more rationalised methods of work sufficiently to suffer no loss of earnings from the change.[1] There seems to be little ground, therefore, for the statements sometimes made that an outstanding result of Stakhanovism was to create a labour aristocracy, whose higher earnings were at the expense of the majority of the unskilled. The minority, constituting perhaps a quarter or a third of the labour-force at the outside, may have suffered some reduction of earnings as a result of the change; and to a large extent these may have been the same persons as, previous to de-rationing, had spent a relatively large proportion of their earnings on rationed foodstuffs, and hence were adversely affected by the abolition of the low ration-price. Many Stakhanovites also, no doubt, suffered a reduction of earnings on the high levels at which they had been earning for the first few months after their achievements, although they continued to benefit substantially as compared with their original position.[2] At the same time, an energetic campaign, as

effect on costs would be that amortisation-charges per unit of output would tend to be lower. But this effect would almost certainly be small compared with the increase in unit wage-cost under a progressive piece-rate system.

[1] *Pravda*, Aug. 30, 1936.

[2] M. George Friedmann, who made a special study of the Kaganovitch ball-bearing works at Moscow in 1936, found that in the foundry some

we have seen, was launched to afford opportunities for these slower or less-trained workers to attain to the new standards. In fact the situation we find, so far from being one where attempts are made to perpetuate the differential privileges of a better-paid minority, is the precise opposite.

Concerted efforts to augment the number of skilled workers and technicians at a quite unprecedented rate had been a characteristic of labour-policy from the beginning of the First Five-Year Plan. Ambitious training-schemes were undertaken, impressive in their dimensions, both in special technical schools, which in 1936 were attended by nearly 700,000 students or nearly three times the number attending them in 1928, and in engineering and technical colleges of university standing for the training of qualified engineers and specialists. At the same time these were supplemented by factory schools where shorter courses of instruction were given for skilled workers by foremen and mechanics and the engineering staff of the enterprise, with a qualifying examination at the end of the course. As a result, over the period of two quinquennia the number of skilled mechanics increased four-fold and of engineers and industrial scientists increased seven-fold.

workers, who had enjoyed an average wage of 300 roubles a month before the advent of Stakhanovism, had raised this to 700 or 800 by the spring of 1936; which were then lowered to 500 after the new output-standards had been introduced. But he found that "since the Stakhanov movement the average salary has been appreciably raised and there has not only been a gain to Stakhanovites properly so-called". In the textile factory "Red Rosa" he found a lower general level of wages, the median being just above 200 and the upper and lower quartiles about 300 and 145. About 17 per cent. had more than 350 roubles. These figures included apprentices and learners (*op. cit.*, 112–17). The upward revision of standards in the spring of 1936 was probably in the neighbourhood of 30 per cent. of the average.

As regards the lowest-paid grades, a grant of 600 million roubles per annum was voted in the following year to raise wages in the lowest wage-categories to a minimum of 115 roubles a month for time-workers and 110 roubles for piece-workers (Cf. *Indust. Lab. Information*, Vol. lxiv, No. 3, 274).

The position with regard to wages at the end of the Second Five-Year-Plan period was that wages were graded into a number of categories which varied from eight in heavy industry to some fifteen in textiles, with a relationship between the highest and the lowest categories of about one to three.[1] This applies to earnings of the various grades at the *standard* rate of output. The dispersion of actual earnings is of course greater than this, since many workers on piece-rates produce and earn at much more than the standard rate, while slow workers, on the other hand, will fall below it. When this has been taken into account, the average earnings of higher-paid grades may well be some five or six times that of the lowest grades.[2] Stakhanovites regularly attaining standards of output and quality substantially ahead of the normal standards generally receive a premium of 100 per cent. or more in addition

[1] Lorwin and Abraham in *Int. Lab. Review*, Jan. 1936, give a ratio of 1 : 3·13 for the metal industry.

[2] Some very interesting results were yielded by a statistical analysis of Soviet earnings-data for 1928 and 1934 in a recent issue of *The Journal of Political Economy* (Abram Bergson on "Distribution of the Earnings Bill among Industrial Workers in the Soviet Union", *J. of P.E.*, April 1942). In the first place, the analysis showed that the "spread" of earnings in 1934 differed remarkably little from that of wage-earnings in other countries (the author refers to "a striking uniformity"). Secondly, it showed that, while the "spread" of earnings between lower and higher paid workers had increased between 1928 and 1934, it had increased much less than one might have supposed, and in the case of wage-earners alone the increase in "spread" was negligible. Reviewing the frequency-distribution of wage-earnings, Mr. Bergson found that: "The ninth decile of the distribution of wage-earners and salary-workers according to earnings in March 1928 is 3·81 times the first, and the ninth decile of the distribution of wage-earners alone according to earnings in the same period is 3·66 times the first. For the corresponding distributions in October 1934, the ratios of the two deciles was respectively 4·15 : 1 and 3·74 : 1". He adds the caution, however, that these ratios "are affected not only by changes in the relative earnings of different workers but also by the number of workers at different earnings levels" (p. 237). 1934, it must be remembered, was prior to Stakhanovism; since 1935 the dispersion of earnings would no doubt be greater.

to the normal wage of their grade; and this has tended to bring their earnings to a level double or even in certain cases three or four times what non-Stakhanovite workers of similar grade would earn. Prior to 1940 it frequently happened that a foreman received less wages than the general run of skilled workers, where Stakhanovites constituted a large proportion of his department. Accordingly, from June 1, 1940, the rates for foremen were raised to a scale which varied between a lower limit of 500 to 550 roubles a month and an upper limit of 950 to 1,100. Henceforth foremen were to share in bonuses for high output by receiving a bonus when production in their department was in excess of the planned quota.

Engineers and technicians with specialist qualifications are paid at special rates of remuneration. Following Stalin's Six Point Speech in 1931, these rates were also substantially raised. At the same time superior facilities in the way of housing and canteen accommodation were provided for them. In 1935 the average monthly earnings of engineers and technicians were 436 roubles, against an average of 234 for office-workers and 118 for unskilled workers, and an average of 190 for all wage- and salary-earners.[1] An interesting concession to the special interests of engineers and technicians is that, while organised in the appropriate trade union of the industry to which they belong, they form special sections within the unions (the E.T.S.), which have a considerable measure of autonomy and are co-ordinated on a national scale by a special bureau attached to the Central Council of Trade Unions. These sections are able to have special representation in any consultations about working conditions; they have special grants from union funds for such things as welfare- and loan-facilities to their members, and there are even

[1] *Socialist Construction in U.S.S.R.: statistical abstract*, pp. 368 and 385.

special conferences of such E.T.S. sections on a district and an all-Union scale.[1] On March 25, 1932, a government order instructed GOSPLAN to arrange for the provision of housing facilities for engineers and technicians over the next two years in addition to those that were already being provided on new industrial sites, the standard of a flat of three or four rooms in addition to kitchen and bathroom being explicitly laid down in the order.[2] But while members of technical and managerial staffs enjoyed a substantial advantage in pay and conditions over manual and clerical workers (though very frequently not over Stakhanovites), this difference remained of a much more modest order than is common in England and America. Two *rapporteurs* for the International Labour Office in 1936 remarked that they had interviewed directors of plants employing thousands of workers, who in America would be drawing $50,000 a year, and were earning what for the U.S.S.R. was almost a ceiling-remuneration of 2,000 roubles a month (about nine times the average wage at that date), and remarked that "although they have other privileges, such as the use of a car, etc., their living standard *is very modest indeed*", and "*the amount of work which* these people give and their devotion to their job is not measured by monetary compensation".[3] It is interesting also to note the extent to which this technical intelligentsia, trained and reared as it has mainly been in comparatively recent years, is an intelligentsia of a new type. So far as its social origin is concerned, it was already by 1933

[1] V. V. Prokofyev, *Industrial and Technical Intelligentsia in the U.S.S.R.*, pp. 50–4.

[2] It was stipulated that there should be ten blocks of flats, each containing 300 flats, in Moscow, five in Leningrad, and two each in Kharkhov and Stalingrad. In addition, new blocks, of 100 flats each, were to be built in twenty-seven other cities and blocks of fifty flats in a further sixty-seven cities.

[3] Lorwin and Abramson, *loc. cit.*, 17.

sufficiently changed from what it had been ten or fifteen years previously for 65 per cent. of them to consist of former peasants and workers or else of the children of peasant and worker families.[1] By the end of the '30's that proportion must have reached 80 per cent.

Labour recruitment, prior to 1940, was largely done, in the case of technicians and skilled workers, through the familiar channel of advertisement; and a worker or engineer (with exceptions to be referred to below) was always free to terminate his employment in one enterprise and make a new contract of employment with another. The high rate of labour-turnover that prevailed was witness to the extent to which this was done. To a considerable extent enterprises competed with one another for labour, if not by raising their wage-scales, by offering improved living conditions and other facilities or by various forms of up-grading or opportunities for training and promotion. Moreover, to a considerable extent wage-differentials between industries in favour of those where the demand for labour was expanding played a rôle. For example, prior to 1930 certain branches of heavy industry (e.g. coal, iron and steel) had been relatively poorly paid. In 1931 by an agreement between the Central Council of Trade Unions and the Supreme Economic Council wages in mining, iron and steel and heavy chemicals, and later in railways, were raised compared with wages elsewhere. As a result of this, according to a Soviet commentator, there occurred "an influx of labour into the leading branches of industry, the metallurgical, chemical and coal industries, i.e. those branches on which other branches of the national economy are dependent and where the conditions of work are much harder than in light industry".[2] By 1937 the coal industry

[1] V. V. Prokofyev, *op. cit.*, 53.

[2] A. Nelepin, *Zarabotnaia Plata v. Capitalicheskikh Stranakh i. S.S.S.R.* (Moscow, 1932).

which took thirteenth place among industries in the scale of relative wages in 1928, had risen to second place; heavy engineering had moved from ninth to fifth, and oil, which had previously been eighth, in 1937 was at the head of the list. For its unskilled labour industry to a large extent relied on labour-supply agreements with collective farms, under which the latter agreed to find from among their members a given number of workers for the industrial enterprise at given rates of wages for a minimum period of six or twelve months. In 1938 about a million and a half workers were employed in industry in R.S.F.S.R. on this type of contract. In each republic special labour recruitment committees existed to supervise and co-ordinate the movement of labour under this type of contract, with subordinate committees in each region, to register demands for labour and to survey the available supply. Between 1929 and 1939, while the total population of the Union rose by something like 15 million, the number of wage- and salary-earners increased by approximately the same amount, from 12 million to 27·5 million. But since the rural population declined over the same period by approximately 12 million, a large amount of the increased urban employment must have come from migration from the village. Mr. Hubbard estimates that about 10 million of the increase in wage- and salary-earners (in industry, transport, etc.) came from this source, and the remaining 5 million from "the natural increase of the urban population and the recruitment of women into industry".[1] In the case of technicians who had graduated as students of the special higher technical schools maintained by the Commissariat of Heavy Industry, there was, however, a special obligation to take the employment that was offered to

[1] *Soviet Labour and Industry*, pp. 143–4. Mr. Hubbard admits that "Soviet citizens have, or had, freedom to choose where they shall work and whom they shall work for" (p. 143).

them which did not exist in other cases. On graduating they were under obligation to accept employment in the enterprise to which they were posted by the Commissariat, and to remain in that post (except by transfer with official permission) for a period of three years.[1]

Labour turnover and absenteeism, however, continued to be serious problems even in the late '30's, despite the efforts made to combat them by monetary inducements and the fostering of a new attitude towards work. Nor is it at all surprising that this should have been so in view of the rapid influx into industry in these years of new labour from the village that was unused to factory work or even to the constraints of an urban existence. Some of the new plants (the Stalingrad tractor plant was an example in the early '30's) found acute difficulty in starting normal production because they had become virtual training establishments from which other enterprises drew away newly recruited labour as soon as it had acquired a modicum of competence. This labour turnover reached its peak in 1930 and thereafter declined, especially after 1933; but even so it remained surprisingly high.[2] As late as 1938 we find a lively correspondence in the Press in which managers, Stakhanovites and members of factory committees combined to cite examples of how production was being disorganised through slackness on the part of a minority of workers and by high labour turnover. The preamble of an official order (of Sovnarcom, Dec. 28, 1938) referred to the continued prevalence of bad-timekeeping, and of workers presenting themselves at the factory on only four

[1] *Indust. and Lab. Information*, Vol. lix, No. 8, p. 278.

[2] The "accession rate" for all industries, expressed as a percentage of the average number of workers employed, was officially given as follows: for 1928, 100·8; for 1930, 176·4; for 1932; 127·1; for 1934, 100·5, after which it fell below 100. The rate was highest in mining and lowest in cotton. (*Socialist Construction: statistical abstract*, p. 388).

or five days a week and migrating from one factory to another at frequent intervals. This order drew the attention of managers to the regulation that absence without just cause was a ground for dismissal, and that for this purpose absence could be held to include lateness of more than twenty minutes, and further stipulated that managers who failed to enforce dismissal in cases of three unjustified absences in a month, or four in two months, would in future render themselves liable to a penalty. It was further provided that in future eleven months (instead of five and half months) of service in the same undertaking would be necessary to qualify a worker for the customary two weeks' holiday with pay; since unscrupulous persons had previously abused the regulation by going from one factory to another and by spending five and half months in each, securing two holiday-periods in the year.[1] Two further measures that were introduced in the same year with a similar object were the introduction of work-books (by an order of December 20, 1938), to be kept by the management as a record of the reasons for a worker leaving his previous employment and to be presented by a worker to the management when entering upon new employment,[2] and also a revision of the social insurance regulations so as to grade the benefit to which a worker was entitled according to the length of time that the worker had been associated with the same enterprise.

In June 1940, four days after the French capitulation at Compiègne, measures were adopted which virtually put labour discipline in Soviet industry on a war footing. In the first place, the cherished seven-hour day (the shortest working-day of any country—in heavy occupations and in clerical work it had been as low as six hours) was abandoned and a normal working day of eight hours was intro-

[1] *Indust. and Lab. Information*, Vol. lxix, No. 4, p. 99.
[2] *Ibid.*, Vol. lxix, No. 3.

duced instead.[1] Moreover, time-rates, standard-outputs and piece-rates were adjusted so as to leave weekly earnings the same. The result, therefore, was that the additional hour per day represented a contribution by all workers to the Soviet defence programme. The seven-day week was substituted for the six-day week, with each seventh day a rest day. The statement of the Central Council of Trade Unions accepting this lengthening of hours referred to "the danger of attack on the U.S.S.R." in the rapidly worsening international situation, and "the necessity, in the interests of peace, of increasing still further the defensive and economic strength of the Soviet Union, by developing industry, by producing more metal, fuels, railway rolling stock, metal and wood-working machines, motor-cars, planes, tanks, guns and ammunition, etc.". The statement went on to speak of "a small percentage (of workers), some three or four per cent., that are young and new to industry, who neglect their obligations and disorganise production by straying from one plant to another".[2] Coupled with the lengthening of working hours went an official order, not unlike our own war-time Essential Work

[1] Occupations where six hours had previously been worked were now to work seven hours, with the exception of office-workers whose hours were lengthened from six to eight.

[2] *Industria*, June 26, 1940. Five days previously an editorial in *Industria* had cited examples of absenteeism and poor labour discipline. In the Red Triangle Rubber Factory the absence of nine press-operators without notice on one day had caused production to drop by 6,000 pairs of galoshes per shift. Five of the nine had been celebrating the night before and were not in a condition to work the next morning, and four of them stayed away in the hope of getting discharged and getting a better job elsewhere. While complaining that many managers winked at the conduct of loafers and paid little notice to what was stated of their past record in their work-book when engaging them, the editorial pointed out that sometimes a high labour turnover was "due to the fact that the directors and Party-members do not give enough attention to the proper organisation of production or to the cultural and living conditions of the workers." It concluded by saying: "It is time that liberal treatment of loafers ceased."

Order, which made it an offence, punishable in a court of law, for a worker to leave his employment without the permission of the management or to be guilty of persistent absenteeism.

On October 2 there followed a further order establishing new types of vocational schools for young workers, and introducing compulsory enrolment of young persons for these schools. The preamble to the decree explained that, since "the future expansion of industry in U.S.S.R. calls for a constant flow of fresh labour to mining and transport, industry, factories and workshops", "the State is faced with the task of systematically training new workers from among young people in the towns or on the collective farms in order to create the labour reserves that industry needs". Three types of school were to be established: Trade Schools for boys and girls of 14 to 15, with a two-year course for training as high-grade skilled workers in the metal, chemical, mining and oil industries, in shipping and the postal and telephone services; and Railway and Vocational Schools for young persons of 16 to 17, with a six-months course in each case, in the latter for training in ordinary skilled and semi-skilled operations in mining, building, metal-working, etc. Pupils were to be maintained by the State during their schooling; and entrants were to be selected by town Soviets and by the presidents of collective farms in the countryside, to a total number of 800,000 to a million each year. After completing their studies, pupils were under obligation to take work in State undertakings to which they were assigned for a period of four years, and in return were to be exempted from any military obligations.[1] This coincided with the introduction of fees for pupils in High Schools and Universities (other than those attaining a certain standard of excellence),

[1] *Isvestia*, Oct. 3, 1940; *Indust. and Lab. Information*, Vol. xlii, No. 6, pp. 404–5.

presumably with the aim of discouraging those who were not of what we should probably describe as of scholarship standard from entering upon a university career and diverting them into the Trade Schools instead. On October 19 powers were further given to the industrial Commissariats to transfer workers and technicians from one enterprise to another, " wherever situated ". Declaring that " hitherto the People's Commissariats have not had the right to make such transfers and this has had a hampering effect on national economic development ", and stressing the need for " a rational distribution of engineers, technicians, foremen and the like among the different undertakings ", the order bluntly stated that now " if need arises, workers must be transferred from one undertaking to another ". This transfer, however, " must not have any material ill-effects for the person concerned ", and it was provided that the transferee was entitled to be reimbursed for travelling expenses for himself and his family, for the cost of transferring his belongings, and for installation expenses; to receive wages during the journey together with wages for a further six days thereafter and a travelling allowance; and managements must not stand in the way of the wives of transferred persons leaving their existing employment. Anyone refusing to carry out such a transfer-order rendered himself liable to similar penalties to those attaching to " leaving one's employment without authorisation " under the order of June 26.[1] It is a measure of the preparations that the U.S.S.R. was making to resist Hitler's attack, that a virtual mobilisation of labour-power for the war-effort should have started a year before the German-Soviet war actually began.

[1] *Indust. and Lab. Information*, Vol. xliii, No. 2, p. 207. This order did not apply to workers below the sixth category, i.e. to other than skilled workers.

CHAPTER IV

THE ECONOMIC EFFECTS OF THE WAR

It would be foolish to underestimate the very grave damage that has been done to Soviet industrial capacity and her economic war potential by the German invasion. Particular damage has been done by the German occupation of the rich Donetz and Don regions, rich both industrially and agriculturally, and by the invasion of the North Caucasus and Volga regions during the summer offensive of 1942. While by the winter of 1941–2 the Germans had succeeded in occupying no more than 5 per cent. of the total territory of the U.S.S.R., this was the most populated and the most economically developed part, containing some 30 per cent. of the total population and 22·5 per cent. of the total urban population and 37 per cent. of the railway network. Before the war this area embraced some 30 per cent. of the grain, some 30 per cent. of the cattle and as much as 90 per cent. of the country's sugar-beet. If we add to the area of German penetration the North Caucasus, Stalingrad and Voronezh districts, which at the time of writing are occupied or threatened, we have 45 per cent. of the wheat production and 41 per cent. of the rye production within the war zone. As far as industry is concerned, the most serious effect of the occupation is on iron-ore supplies and basic iron- and steel-making capacity. With the loss of Krivoi Rog went nearly two-thirds of her iron-ore output; with the loss of the Donetz Basin over half of her coal output. In the Ukraine was nearly 60 per cent. of her 1940 pig-iron capacity and some 46 per cent. of her steel capacity. Two of the principal aluminium plants recently constructed near the

Volkhov and at Zaporoje were within the fighting zone. The engineering industry was rather better situated; and Dr. Baykov has estimated that in the winter of 1941–2 "about 20–25 per cent. of the productive capacity of the engineering industry was lost in occupied territory". But although much of the engineering was in Moscow and Leningrad and continued working, and many of the most recent plants were on the Volga or in the Urals, a substantial amount of heavy engineering, especially machine-tool production, was in places like Kharkhov which the Germans have overrun.[1] These considerations, added to the fact of the weaker initial economic potential of the U.S.S.R. relatively to Germany,[2] make it even clearer than was the case a year ago that the U.S.S.R. lacks sufficient weight behind her fighting line to go on holding the full impact of the German war machine as she has virtually been doing for the past fourteen months. The economic assitance that her allies have sent her, in the way of industrial supplies and also tanks and aeroplanes, have no doubt been a valuable contribution. Yet we must face the fact that in relation to the resources involved in the titanic struggle in Eastern Europe, and to the gaps that invasion have torn in our ally's war potential, this contribution has been a relatively small one. (Mr. Churchill recently mentioned the figure of 2,000 tanks; and one naturally asks the question: does this amount to as much as one month's German output?) It would be criminal complacency to suppose that a weakening of Hitler is possible without both a powerful military blow against his western frontier, to divert resources and divide his strength, and also an industrial contribution to the common pool of economic

[1] Cf. Alexander Baykov, "The Effect of the War on Agricultural and Industrial Production in U.S.S.R." in London-Cambridge Economic Service, Memo. No. 89, April 1942; *Economist*, Aug. 1, 1942.

[2] Cf. the present writer's *Soviet Economy and the War*.

resources of the Allied Nations greatly surpassing anything we have made hitherto.

The repetition of what are by now familiar statements of this kind seems to be required as tonic against an insular complacency that is unfortunately still too common. It might seem pointless to stress the other side of the picture at the same time: to warn against the opposite mistake of exaggerating the weakness of the Soviet war potential. It might well be pointless, were it not that certain persons have recently seen fit to exploit this particular theme. (I refer particularly, of course, to the notorious June 1 *Review of World Affairs* of the Imperial Policy Group, issued at a time when the new Treaty of Mutual Assistance between U.S.S.R. and Great Britain, and incidental discussion concerning a Second Front, still hung in the balance.) Lest, in skirting the slough of complacency one should fall into the slough of despondency and defeatism, one ought, perhaps, to point out that there are still two-thirds, if not three-quarters, of Soviet engineering capacity,[1] probably an appreciably larger proportion of her latest armament plants, and a very high proportion of her non-ferrous metal output (with the exception of aluminium)[2] east of the Volga, mostly in the new industrial districts of the Urals, Siberia and Central Asia. The Urals are especially rich in minerals, the exploitation of which has been rapidly developed in recent years. Nickel, chrome, copper, manganese, oil and high-grade ore exist here in substantial quantities; and the area presents "a rare combination of tremendous bauxite deposits and coal deposits in close proximity, easily accessible and allowing open-cut mining. To this must be added an ample water

[1] Writing in the spring of 1942 Dr. Baykov spoke of "75–80 per cent. of the country's total engineering industry" as being "situated in the still free territories of the U.S.S.R.".

[2] More than two-thirds of lead and zinc and nickel and nearly all the chrome, copper and cotton come from the east.

supply".[1] It has some high-grade steel plants and the beginnings of a chemical industry based on local raw materials. The loss of iron-ore deposits can be partly made up, for the time being, by intensified collection and use of scrap. To some extent the gap is already being filled by a greatly increased programme of ore-mining in the Urals, for example at Magnitogorsk. In the case of coal, there are important new regions in the east which have been the subject of rapid development in recent years: the Kusnetsk Basin in Siberia which in 1940 produced 24·6 million metric tons; the Urals with 11 million; and Eastern Siberia and Minusinsk with nearly 10 million. The Far East and Kazakstan in 1940 were responsible for another 10–11 million and the Moscow region for just under 10 million. Allowing for some expansion in output of these regions in the last year or two, it is probable that nearly a half of her total 1940 coal tonnage will be available at the end of this year.

The position regarding both aluminium and rubber is a trifle obscure. But there is no reason to regard the aluminium position as a serious handicap to aeroplane production. Soviet pre-war output of aluminium was 60 per cent. greater than that of Britain or Japan and larger even than that of France or of Italy; but many times smaller than present-day Germany's.[2] It was and remains a deficit-commodity, for which reliance has been placed during the past twelve months on imports from this country and America; and to some extent in aircraft-pro-

[1] Professor V. Komarov in *Soviet War News*, Dec. 10, 1941.

[2] The League of Nations estimate for "primary aluminium" in U.S.S.R. in 1940 was 55,000 metric tons. Compared with this Germany and Austria combined showed 240,000, U.S.A. 187,000, Canada 110,000, France 50,000, Italy 40,000, and U.K. and Japan each 35,000. In addition it was estimated that U.S.S.R. produced 13,000 tons of "secondary aluminium" (from scrap) (*Statistical Yearbook of League of Nations, 1940–1*, p. 149.

duction there has apparently been some substitution of plastics for aluminium: 55,000 out of 65,000 tons of Soviet production came from the plants at Tikhvin near Leningrad and at Zaporoje in the south and only 10,000 from the new plant at Kamensk in the Urals. The new Urals works, however, were planned to reach an output of 55,000 tons at an early date, and may have done so by now. Bauxite was chiefly mined in the Tikhvin region (which was low-grade ore); and of this ore U.S.S.R. in 1938 produced nearly as much as U.S.A., but less than half that of France, Hungary, or British Guiana. Bauxite deposits of high-grade ore, much superior to the Tikhvin ore, have, however, recently been discovered on the eastern slopes of the Urals near Sverdlovsk and are no doubt now in process of exploitation. Deposits have also been prospected in Bashkiria and in Central Asia; and efforts have been made to extract aluminium from the nephelite of the Kola peninsula.[1] As regards rubber, a rubber plant, kok-sagiz, grows in Bashkiria, between the Volga and the Urals, and in the Syr-Daria region of Central Asia; but this has been of relatively small importance hitherto as a source of rubber production, although its utilisation is now being greatly extended.[2] In synthetic rubber Russia was a pioneer, and had established a Russian variety of Buna as early as 1931. This Russian variety called Sovprene was derived at first from grain and potato alcohol, and more recently from acetylene and petroleum and coal by-products; while it can also apparently be secured from

[1] S. Moos in *Oxford Bulletin of Statistics*, Aug. 9, 1942; also Dr. G. W. Tyrrell in *Science in U.S.S.R.*, ed. J. Needham, pp. 61–62. Another limiting factor in aluminium production is electrical power; a very large amount of power being required to turn bauxite into alumina. Here the location near the Volkhov and Dnieper power stations was of great importance, and the loss of these locations will be a serious one.

[2] Mr. Edelman even speaks of "50,000 tons of natural rubber and gutta-percha" as being produced from this source in 1942. He does not mention the source of this estimate.

natural gas and most starchy vegetable matter. The pre-war output has been estimated at between 50,000 and 60,000 tons, and must to-day have reached or even substantially exceeded the latter figure. This is probably more than the U.S.A. was producing on the average in 1942 (apart from reclaimed rubber), nearly equal to the natural rubber output of Indo-China or Ceylon, but only one-tenth of the 1940 output of either Malaya or the Dutch East Indies. It is probably equal to that of Germany, and may even be somewhat greater, since the estimated German output in 1939 was only 25,000. Already in 1937 it was claimed that 75 per cent. of Soviet needs were satisfied by home production.[1] Three of the largest synthetic rubber plants are apparently in Armenia, at Voronezh, and at Magnitogorsk in the Urals.

In the case of oil, it is of course true that the cutting off of the Caucasus supplies would be a very severe blow indeed, especially in view of the considerable dependence of Soviet agriculture on tractors. (For the U.S.S.R. as a whole nearly a half of the ploughing was by tractor before the war.) In 1940 the Caucasus region accounted for 30 out of 34 million metric tons of oil produced. (Baku for just under 25, and the militarily more vulnerable Grozny area for about 3 million and the Maikop area for just under 3 million high-grade oil.) At the same time it is important to bear in mind that what has been called the second Baku, a rich new oil area in the Urals, was being developed with unusual rapidity in the years immediately preceding the war; and the plan for 1942 provided for a production of 7½ million tons in the current year. This, together with the much smaller yields of oil-fields in Central Asia and in the Far East, exceeds the combined German and Rouman-

[1] *U.S.S.R.: Album of Scientific Publishing Institute of Pictorial Statistics*; H. L. Fisher, *Rubber and its Uses*, pp. 107–8; *Statistical Yearbook of League of Nations, 1940–1*, p. 126.

ian [1] production at the outbreak of war. The new area has three main centres: the Emba field in Kazakstan on the Caspian, near Kuibyshev on the Volga and near Ufa in Bashkiria. A subsidiary oil-field in this region is further north near Perm. The chief refineries are at Emba, Orsk and Ufa. In addition it was planned to mine over 14 million tons of shale in 1942.

How large are the stocks of metals accumulated in the new industrial districts of the Urals and Siberia we do not know; but they are presumably far from negligible, and may from a short-period standpoint be of considerable importance in supplying the new and evacuated armament and aircraft factories. The story of the "leap-frog industries" has become something of an epic: of how key factories in the areas threatened by invasion were evacuated with their personnel and their equipment hundreds, sometimes thousands, of miles east to be re-erected and re-started on new sites. Some of these factories not only travelled more than a thousand miles but required several thousands of trucks to transport them. For example, it has been stated that over half of the population of Kiev and Kharkhov was systematically evacuated in this way—between 800,000 and a million persons, skilled industrial workers with their families, from these two cities alone.[2] Of the rural population, however, it is probable that only a much smaller proportion was evacuated from the lost territories. The position of evacuated plants was no easy one in their new locations. Building materials were scarce, often also fuel and raw materials. Timber had often to be used in lieu of structural steel. Bricks and cement in particular were scarce, since so much of these were formerly produced in the occupied territory. Local fuel supplies

[1] The Roumanian output for 1939 was 6·2 million tons. Its peak figure in the '30's had been, however, as high as 8·4 million in 1934.

[2] F. Leopold in *S.W.N.*, Jan. 1, 1942.

had to be exploited. Housing accommodation was inadequate and in some cases non-existent. Inevitably it was some months before the evacuated plants could operate at anything approaching full capacity. What has been truly impressive has been the capacity for improvisation displayed, the initiative and courage of their personnel in facing difficulties that might have overpowered the more faint-hearted or tender-minded. By April it would appear that the large majority of them were in full operation. For some of them the delay in resuming production was quite extraordinarily small. The Voroshilov factory which was evacuated from Dniepropetrovsk arrived in the Urals in the middle of September, by October 10 it had resumed output and in December was exceeding its former output. In May we hear of tank production as being sharply on the upgrade. One of the largest plants to be evacuated to the Urals, the Kirov (formerly Putilov) works of Leningrad, announced a 17 per cent. increase of heavy K.V. tanks over April, and a 43 per cent. increase in the output of engines; and while April was the first month in production for some of the evacuated tank and engine factories, May saw most of them producing more tanks than they previously were doing on the former sites.[1] M. Joregliad, Deputy-Commissar of the Tank Industry, was able to state that "the output of Soviet tanks has been considerably increased, and the present tank industry is several times more powerful than it was in the early days of the war". In one new factory a department covering an area of 14,000 square yards was built in thirty-five days, and another department covering 17,000 square yards was built in only twenty-seven days. We hear of a whole new aircraft factory reassembled inside five weeks; and of the State Defence Committee of a Urals town, without waiting for evacuated machinery to arrive, erecting in mid-winter with spare-

[1] *Economist*, June 6, 1942.

time local labour two factory blocks in a fortnight: a project that in peace time would have been considered a six-months job.[1] Often

> the laying of foundations for machinery and assembly of equipment takes place simultaneously with the construction of factory premises (one correspondent writes). At the job I saw bricklayers finishing the wall, steam-fitters putting in the radiators, electricians doing the wiring and assembly-men putting-up machinery at the same time.[2]

The impressive feats of these "leap-frog industries" were not, however, entirely products of hasty improvisation. The need for them had evidently been foreseen and the possibility of transfer and adaptation provided for in the lay-out and construction of the plants in question. As a recent writer has said:

> The Soviet Union organised the retreat of its industries on certain elementary principles which fitted in with its comprehensive plan. . . . Not for the Soviet Union the panic desertion of the bench which occurred in France as the enemy approached the industrial towns. . . . The Soviet worker withdrew with his machine as a soldier withdraws with his guns.[3]

The new sites to be occupied by the more important plants were apparently mapped out in advance with considerable care, regard being had to transport arrangements and availability of raw material supplies. Machines were made easily detachable, to facilitate dismantling, and were numbered to facilitate reassembly. We are told that "the engineers of the Voroshilov Arms Factory did not have to dig their boring machines out of a concrete bed. These machines were lightly fastened down by bolts which

[1] *Economist*, June 13, 1942; *S.W.N.*, Jan. 2, 1942, Feb. 9, 1942.
[2] *Moscow News*, Dec. 29, 1941.
[3] Maurice Edelman, *How Russia Prepared*, p. 60.

could easily be undone". Often new sites had been cleared in readiness; in some, though not in all cases, buildings had been erected for the reception of the evacuated equipment.[1]

> Such achievements as these must presuppose a remarkably high level of efficient planning, of co-ordination and discipline as well as of social and political morale. The outcome has been that Soviet armaments production has not only been prevented from decline in face of the German blows at her vital industrial centres, but has actually been able to register an advance. *Pravda*, in an editorial on July 19, was able to announce that: "At the opening of the second year of war our industries are able to provide a larger quantity of arms and ammunition than before the war, despite the difficulties brought about by the war."

A thousand miles east of the Urals, Kusbas, which was formerly the second largest armament centre in the country, to-day, supplemented with new factories and personnel, occupies first place, and is a centre of steel mills, motor and tractor plants, aircraft factories, rubber and aluminium production. It now uses neighbouring supplies of manganese in place of its previous reliance on Georgia and the Ukraine, and it can dispense with 80 per cent. of the ore which it previously drew by the long railway haul from the Urals, since iron mining has been developed in Gornaia Shoria near Novosibirsk and Tashtagolsk. The Ural and the Siberian centres have, however, a number of important links. The Cheliabinsk tractor works in the Urals, which is among the largest in the world, now draws its steel from Siberia; on the other hand the Sverdlovsk Engineering Works, now largely occupied with artillery, relies almost exclusively on Ural metal. As Kusbas industry increas-

[1] *Ibid.*, p. 61. Mr. Edelman does not cite any authority for these statements; but he is a writer who before the war had a certain amount of experience of conditions prevailing in Soviet industry.

ingly absorbs the products of its own mines, the deficiency of Ural coal for her expanding industry is being met by supplies from the rich anthracite region of Karaganda carried along the newly-built railway from Karaganda to Magnitogorsk.[1] Special prospecting expenditions of scientists (about forty in all) have been despatched by the Academy of Sciences to the Urals, Siberia, the Far East and Central Asia, and have already reported rich bauxite and manganese deposits in Bashkiria, molybdenum, cobalt, copper pyrites and wolfram in the Urals, and new oil supplies in the Ferghana Valley of Southern Usbekistan.

What is in some ways more suprising than the achievements in the new districts has been the continuance of production in many plants that were almost within the battle zone. Continued production in the armament factories of besieged Leningrad, to an extent which has apparently even permitted some export of arms to other parts of the front, must seem to the outside world something of a miracle. As *The Economist* recently said of the munitions industry of Leningrad, Moscow and the south:

> The striking thing about the working of all three centres is that arms have been produced there, on a mass scale, almost on the battlefields where they were to be used. The distances between factories and fighting outposts was sometimes shorter than those which used, according to orthodox rules, to separate the first line of a fighting division from its munition dump.[2]

Aware that the time-factor is decisive in the present war, Soviet industry has thrown its weight in favour of short-term results. This does not mean, of course, that long-term considerations have universally been sacrificed to short-term advantage. But manifestly much greater priority has been given to efforts whose fruit is likely to be

[1] F. Leopold, *S.W.N.*, Jan. 1, 1942.
[2] June 9, 1942.

quick in yield than is the case probably with any other belligerent country, Germany not excepted. Overtime-working has been maintained throughout the past fourteen months to an extent that makes even our own post-Dunkirk spurt look rather pale. As Mr. Alexander Werth writes, "the Russian workers, old or young, Komsomol lads and girls, feel it is their show, that there is nothing between victory and death and degradation: if necessary they will work on a particular army order for five days and nights almost without stopping".[1] What would probably have been regarded in normal times as uneconomic sources of supply for fuel and material have been opened up because of their nearness to the plant in question, in preference to supplies from a distance that would throw an additional strain on the railway system, where priority has to be given to military transport and the movement of finished products. The slogan was issued: "Don't bring from afar what can be produced locally"; and *Pravda* reiterated in March of this year: "What we must do is to build hundreds of small factories and end the continued reliance on building materials which have to be brought from afar. Local materials must wherever possible be used in place of materials in short supply." In many cases there has been a drive to utilise small local factories and even handicraft workshops (worked on a co-operative basis) as satellites to a main assembly plant for the supply of accessories. The Stalin Motor Works at Moscow, for example, which formerly drew components from as many as 210 different undertakings, is said now to have arranged for the manufacture of a large proportion of these in the immediate neighbourhood of the capital. Timber, as we have seen, has been made very largely to replace steel in construction; and "the industrial rationing of metal has been pushed to a degree of strictness for which there has been no parallel

[1] *New Statesman and Nation*, Aug. 22, 1942.

in any belligerent country ".[1] Replacement of machinery has been cut to a minimum: for example, the Molotov Naphtha Trust reported that in the second half of 1941 the normal replacement of its metal equipment had been cut by 65 per cent., and that there was to be a further reduction in 1942. The Moscow Electric Lamp Factory found it possible to equip a parallel plant in the east by supplying the essentials of its equipment from the Moscow factory and replacing this by adapting surplus machinery from other neighbouring factories. In addition, there have been some impressive achievements in rationalisation, especially in the armament and munition industries. Extensive standardisation, facilitating mass production methods and the interchangeability of parts, has apparently been undertaken in the machine-tool industry of the Urals, which is so essential for equipping the tank factories and aircraft factories of this region and farther east. Metallurgical plants at Kusnetsk were made to start the production of armour-plate steel for tanks without the necessity of radical transformation of Martens furnaces; and the introduction of a new semi-automatic plate-cutting machine is said to have greatly improved both the quality and the rate of production of armoured steel. By the end of 1941 certain aircraft factories on the Volga reported the completion of changes which would enable their rate of output to be doubled or even trebled. The Stalingrad Tractor Plant announced that it had shortened the time needed for constructing a tank by twenty-six hours over the previously recognised time-standard.[2] Ustinov, Commissar for Armaments, recently made the surprising statement that in May 1942 " artillery plants of our country turned out as many guns as in six months of last year ". This he attributed to

[1] *Economist*, April 11, 1942; *S.W.N.*, Oct. 28, 41, March 20, 1942, March 27, 42, etc.

[2] *Economist*, April 11, 1942, May 30, 1942.

" thorough reorganisation of the gun factories " in the interests of " simplification of design and of production methods ", which had resulted both in " increased fire-power " and " rapid progress in serial arms production ". As an example he quoted " the foremost artillery works, War Plant No. 2 " (which had received a collective decoration from the Government) which had done " a great deal towards automatising production and creating special complex machine tools ", and in a remarkably short period had been " literally transformed ".[1]

In aiding, and in many cases initiating, this extensive rationalisation, a new wave of Stakhanovism that at first became known as the " 200 per cent. movement " has evidently played a prominent part. This began in the late summer and early autumn of last year with workers who set themselves the task of doubling their peace-time output-quotas, and issued challenges to others to do the same. A Stakhanovite worker, called Zeletsky, at a Voronezh Works stated :

> Two of my brothers are at the front. We are still together. They with their rifles and I with my Stakhanovite work. My production-indices are three, four and five days of normal work in one day. Ivanov and Alexeiev, who work beside me, were only fulfilling their usual quotas. I took them under my care and succeeded in helping them to achieve double their production plan."[2]

In a certain tank factory where there was idle milling machinery in one department, while the grinder-shop formed a bottle-neck owing to shortage of machines, a fixture was invented and designed on the spot which made it possible to convert milling-machines to grinding. In the same factory methods were found for accelerating output, as well as saving metal, by having tank-treads cast

[1] *S.W.N.*, June 6, 1942.
[2] *S.W.N.*, Oct. 23, 1941.

instead of being forged as they had been previously.[1] At the Kaganovitch Ball Bearing Plant at Moscow 1,000 rationalisation suggestions were submitted by workers in the first 2½ months of the war, 600 of which were accepted by the management as capable of immediate application.[2] In the spring, however, even the "200 percenters" were left behind; and *Pravda* announced the arrival of the "1,000 percenter" on the scene.

> A new production record has been achieved by a milling-machine operator in the Urals. In one day the Stakhanovite Dmitri Bosev fulfilled his quota fifteen times over and then began to give ten quotas per shift as a matter of routine. Bosev was immediately followed by a number of rivals . . . [and] in this Ural Plant alone there are 302 Stakhanovites with similar records.

The details of how these extraordinary achievements were secured were not in this case described. But a correspondent of *Moscow News*, who visited another Urals engineering plant, was given the following explanation of his achievement by one of Bosev's imitators.

> My work is divided into three stages. Some time ago I got a few ideas about simplifying, and had several chats with our engineers about it. . . . We received an urgent order for the army not long ago. . . . The way it was done was by first of all eliminating one of the three stages completely. Then after changing the structure of the lathe somewhat, I was able to machine eighteen parts at a time instead of one. We also perfected the third stage. The outcome of it all was that I began to produce eighteen times the scheduled output.

The correspondent added:

> One of the chief ways 1000-percenters achieve their outputs, I learned, is by introducing new jigs and fixtures that enable them to machine many parts simultaneously. . . .

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[1] *S.W.N.*, Dec. 12, 1941.
[2] *Moscow News*, Sept. 19, 1941.

> The majority [of these men] are between 25 and 30 years old and have a secondary education.

The comment of the head of the labour department was that these innovators were of special importance because "they usually appear at the tight spots where there are not enough highly skilled workers and equipment to go round".[1] *Pravda*, in announcing the achievments of Bosev and his fellows, went on to point out, however, that "the urgent burning daily task before us" is for these more advanced workers to train up "the new reinforcements of young people and women who have entered industry for the first time in their lives", to enable them to turn out "at least one quota", which they often were not even able at present to achieve.[2] This need to assist and to train unskilled labour in the factory itself has been continually reiterated in the course of the summer of 1942, when it has become clear that the shortage of skilled workers has grown acute relatively to the influx of new unskilled labour. A factory manager, for example, was taken to task for wiring to the People's Commissariat for Mortar Manufacture: "Sixty workers taken on, chiefly housewives. Am refraining from taking on further workers in view of absence of skilled cadres." Instead of waiting for skilled workers to be sent from outside, *Pravda* insisted that he should have instituted training in his own factory—"in your own workshops, by your own engineers, chargehands and old experienced workers"; and examples were cited of cases where advanced workers in other factories had become "patrons" of the newcomers, helping them to acquire skill, including a turner in a Urals machine factory who "during the last few months alone has taught his trade to 300 new men and women workers". It added that "patronage over the newcomers should be continued

[1] *Moscow News*, April 14, 1942.
[2] *Cit. S.W.N.*, March 27, 42.

until they learn to cope independently with their jobs ".[1] A later example was cited in August of a cartridge factory where nearly 80 per cent. of the workers had been trained by the factory's own engineers, charge-hands and Stakhanovites.[2]

Scarcely less important than the capacity of war industry is the availability of food supplies. Within a month of Hitler's attack on the U.S.S.R. ration cards had been introduced for the population of Moscow and for other main cities, " in order to establish a proper organisation and uninterrupted supply of staple foods and industrial goods to the population during war-time and in order to avoid food queues ". These rations covered bread, flour, cereals, sugar, fats, meat and fish. Higher rations were given to manual workers than to clerical and intellectual workers (27 oz. of bread daily for the former and 21 oz. for the latter), and to occupied persons than to unoccupied. Children under 12 were given additional rations of cereals (other than bread) and sugar. Milk and dairy produce, potatoes and vegetables were at this time unrationed ; and supplies sold by collective farmers in the urban Kolkhoz-markets could be purchased outside the ration. But this was when the invasion of the country was still at an early stage. The threat to the main industrial districts, including Moscow itself, had not yet developed ; large-scale evacuation and retreat had not yet placed the severe strain which it later did on the railway system. Since then the position

[1] *S.W.N.*, June 5, 1942. On the outbreak of war women workers represented as high a proportion as 42 per cent. of the labour force in Soviet industry (as compared with 36 per cent. in this country at the end of the last war and about 30 per cent. at the outbreak of the present war). To-day this must presumably be much greater. It was recently announced, for example, that even in the Urals metallurgical industry the proportion of women was 45 per cent. of the whole. A case was recently reported of a woman forge-foreman at a blast furnace—probably the first woman forge-foreman in the world.

[2] *S.W.N.*, August 8, 1942.

with regard to food supplies in many urban centres, at least in those at a distance from the food-growing regions, must have become much more serious ; and it was certainly grave during the winter in Moscow, and still graver in Leningrad (where shortage of fuel was added to the strain of siege food rations), even though the supply of minimum essentials was maintained.

As regards grain, it seems likely that the supplies available in the unoccupied areas are adequate to maintain a *per capita* consumption of somewhere approaching two-thirds of the pre-war level, even if we take into account the effect of German occupation of the Don region and North Caucasus. The grain available for internal consumption at the outbreak of war was some 50 per cent. greater than in 1914, compared with a population increase of about 25 per cent. The amount of cereal crops grown in the eastern part of the Union is to-day nearly double (in 1940 it was 88 per cent. greater) what it was in 1914.[1] This year the area sown to winter grain crops in Siberia was stated to be 3½ million acres greater than last year. The Moscow bread ration (at the time of writing) remains at 700 to 800 grammes (about 27 ounces) a day for workers (exclusive of other cereals such as rice) and 400 grammes for non-working people and children ; the latter even being higher than the ration of manual workers in Germany. However, one must remember that bread has always bulked large in Russian diet, partly taking the place of other food-stuffs which were consumed in smaller quantities than elsewhere.

With regard to certain other essential foodstuffs the position is more serious. Sugar-beet production, as we have seen, has been drastically affected by German occupa-

[1] *Economist*, March 21, 1942, which wrote : " Given an even distribution of grain reserves the supply of bread should cover the needs of the country." This was written before the launching of the summer offensive.

tion. To repair the deficiency, strenuous efforts are being made to stimulate beet production this year in Central Asia and in the Saratov province: for example, Uzbekistan reports a 300 per cent. increase in its sugar-beet area. But it seems unlikely that more than a comparatively small proportion of the lost sugar output can be replaced by these emergency measures. Fortunately the equipment of the more important refineries appears to have been evacuated from the Ukraine in time and to have been installed in the new sugar-beet areas; while the harvest this year has been a good one.[1] The situation of meat supplies is a little obscure, since one does not know what proportion of the cattle in the occupied territory was able to be evacuated and what proportion had to be slaughtered or left. For a time meat-supplies can be maintained by the slaughter of herds; but the long-run position must remain a serious one. Some figures of the decline of animal breeding in 1941 suggest that in large-horned cattle, pigs and cows, the fall was about 10 per cent. and in sheep and goats 15 per cent.; but it is not clear whether the decline referred to does or does not taken into account the whole of the losses due to German occupation. According to the 1938 Census about a third of the horses, between a quarter and a third of the large-horned cattle, a half of the pigs and between one tenth and one-fifth of the sheep were in the area occupied by the Germans last winter.[2] A substantial proportion of these must have been evacuated to the east, at least of those on collective farms as distinct from those belonging to the private homesteads of collective farmers; for we find the Chief of Livestock Administration writing of—

[1] *Economist*, April 4, 1942; July 4, 1942.

[2] The lower figure in each case is that quoted by the *Economist* (April 18, 1942) Dr. Baykov's estimates are in each case higher. The difference is presumably due to the inclusion of certain partly occupied provinces in one estimate and not in the other.

> the timely and organised removal deep into the interior of the majority of the livestock sections of collective and State farms in the Nazi-occupied regions. Moving eastward with the Red Army, tens of thousands of collective farmers . . . drove the stock thousands of kilometres in cold, rain and snow, enduring many privations in order to save them.

But he admits that nevertheless "there was a certain amount of losses", and quotes a comparatively small district of Moscow where some 13,000 head of cattle fell into Nazi hands.[1] In the past year the Kirghisian steppes and Turkmenistan showed an increase in cattle of between 20 and 28 per cent.; but at the same time Siberia and the Altai region apparently showed a fall. Government measures have, however, been planned to increase the head of cattle on collective farms by more than 25 per cent. between January 1, 1942, and January 1, 1943.[2] By a decree in the early spring the slaughter or sale of cattle under one year old is now forbidden, and the slaughter of grown cattle is not allowed without the permission of the local Agricultural Departments. It is interesting to note that cattle-rearing is among the occupations reserved for military service.

For the supply of individual factories, a special drive has been made to revive the self-supply arrangements of the early '30's on a local basis; and in particular to encourage the revived ORS (Workers Supply Departments) of factories (which are under the joint control of the factory committee and the area trade union committee) to institute pig-farms, poultry-farms and vegetable-gardens and where possible processing plants of their own. The object of these Supply Departments is to "produce and supply foodstuffs to the workers and employees of industrial establishments and also to their families."[3] Here again the principle

[1] N. Terentiev in *Moscow News*, April 7, 1942.
[2] *Economist*, April 18, 1942.
[3] Order of May 6, 1942; *cit. Economist*, May 30, 1942.

of decentralisation of supplies has been adopted to relieve the strain on transport and distribution. Pig-farms are specially stressed since they give good results for small outlay, and can be supplied from waste-products of canteens and restaurants. In March the Saratov Lenin Factory wrote to *Pravda* to give other factories the benefit of its example in this connection. On the farm attached to the factory they were producing enough vegetables and also beet, water-melons and pumpkins "to supply all the needs of the factory restaurant, kindergarten and crêche". Not content with this they were supplying vegetables to families of employees of the plant who had been called up. In addition, over 400 of the workers had applied for individual allotments. "Workers' allotments and farms attached to factories are not an innovation," *Pravda* commented. "But we need many more of them. Many officials are accustomed to rely on central distribution to the neglect of local resources." [1] An estimate made in the spring suggests that altogether some 3 million families of industrial workers cultivate kitchen garden allotments.[2] Six months before this *Pravda* and other papers had started a campaign for "subsidiary farms, an inexhaustible source of additional foodstuffs"; and had quoted the examples of communal feeding trusts (something equivalent to British Restaurants) in Gorky which had obtained over 8,000 tons of meat in seven months from their subsidiary farms and a similar body in Kazakstan "which has its own pig-breeding and poultry farm, market garden and vineyards" and "supplies the local population with an abundance of vegetables and fruits".[3] Again, we hear of a Tashkent factory that had attached to it a food co-operative which undertook the processing of fruits, vegetables, macaroni, etc.[4]

[1] *Cit. S.W.N.*, March 12, 1942. [2] *Economist*, March 21, 1942.
[3] *S.W.N.*, Sept. 27, 1941; August 5, 1941. [4] *S.W.N.*, August 5, 1941.

By contrast with this, two opposite examples were quoted by the Moscow radio on January 29. The Secretary of the Zlatoust committee of the Communist Party was severely censured (and had been removed) for the fact that, not only had no accommodation been found for the employees of a factory evacuated to Zlatoust ("though this would have been a simple matter to do"), but that "the network of restaurants, shops and bath-houses were not extended, although the town's population had increased very considerably", while the factory resturants were so inefficiently run that workers sometimes had to spend as much as three hours over their dinner. Secondly, the Sverdlovsk Restaurant Trust was quoted as having "gained a very poor reputation": whereas previously it had had 10,000 pigs, it had now less than 3,000, and these were being distributed among other organisations.

Both this task of securing food supplies and other amenities to factories and the task of training and rationalisation in the workshops have in recent months been a special concern of the trade unions. On May 27 the Central Council of Trade Unions issued a special Ten-Point Programme of Action to all trade union branches. These included the "organisation of 'patronage' of skilled workers over unskilled", to which we have referred, a "proper distribution of new skilled workers that come from the trade schools", and also both encouraging and publicising the achievements of Stakhanovites. A further point emphasised the need to secure that productive experience was passed on "from factory to factory and from workshop to workshop". Finally, the rôle of the trade unions in controlling dining-rooms and canteens in the various enterprises, and ensuring the efficient provisioning of them, was emphasised. Some months previously *Pravda* had laid before the trade unions the three principal tasks of "giving every possible support and assistance to workers

who put forward inventions or proposals for rationalisation"; of familiarising the many new recruits to industry "with organised and disciplined work" and teaching them "high-speed production methods and respect for the property of the State, machinery, tools and raw materials"; of showing "concern for the needs of working people by organising food distribution and attending to the general demands of employees, and by efficient running of workers' restaurants, buffets and canteens". Clearly there is much in the record of their Soviet counterparts to encourage British trade unionists at the present time and a great deal from which the latter can profitably learn. Neither Soviet trade unions nor the Soviet Press have been behindhand in public criticism of their own shortcomings or in publicly pillorying and removing those persons in responsible positions who proved themselves unequal to the tasks of the hour. In this respect too trade unions, shop stewards and members of production committees could with advantage pay some attention to Soviet practice. One aphorism from a recent *Pravda* editorial, at least, we should all do well to make our own: "In this war there are no peacetime jobs. There is no dividing line between front and rear."

To many in this island, detached by a narrow sea from the tortured continent of Europe, the sacrifices and the achievements of the Soviet peoples in the past fourteen months may seem to surpass the limits of human endurance. To many across the Atlantic they may appear as remote from comprehension as the grim plight of the occupied regions, to which it is hard to find a parallel since the Thirty Years' War, the Hundred Years' War or even the extermination of the Wends. But to the spirit that has steeled itself to these sacrifices, and undaunted by pain has battle against odds to the summit of scarcely human

achievement, we can do more than pay a tribute. From its heroic record we can learn a lesson: a lesson in emulation. Anxiety, however, marches with the pride that we must feel in the recent Treaty for twenty years in war and peace with a people that, so recently scorned, has to-day given to the world imperishable evidence of unsurpassed social unity, political morale and economic cohesion. There are still among us, to our shame, those who, nursing their political prejudices and yesterday's ignorance, belittle or even denigrate these achievements, are cool towards that unreserved partnership on two fronts which the words of the Treaty so clearly imply—even frustrate, in little ways and large, what *The Times* has approvingly called "a demand of growing strength for a fusion of strategic purpose at the apex of the Allied effort".[1] The U.S.S.R. in the past has been a country seen through a glass darkly, often in a distorting mirror. Understanding based on clearer and fuller vision of detail, to which these chapters have tried to make a meagre contribution, can do much to repair the legacy of the past. Yet as one writes, in days when every hour seems loaded with decision, one is only too painfully aware that understanding is not enough.

[1] Aug. 6, 1942.