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introduce new equipment every year in the majority of workplaces; at the same time it is necessary to pass the labor standards review.

Therefore, enterprise managers disregard the intent of the review process. Instead, they unofficially alter the parameters of the review so as to portray their factories in the best possible light. A typical review begins with obsolete articles which will be taken out of production in the very near future. Then attention is turned to experience-based and statistical standards which are replaced with technical ones. At the same time, hourly wage rate increases are provided for the workers to compensate for the tighter standards. Further, a rationalizing proposal is formulated in the name of a group of workers, which theoretically makes it possible to increase labor productivity and conduct future norm reviews. Both management and workers take advantage of Soviet law which stipulates that such proposals mandate a 6-month continuation of wage rates according to the previous standards. The inventiveness of plant managers and technical personnel are inexhaustible when it comes to preserving workers wages. They operate in cooperation with the factory trade union committees which, in contrast to the bureaucratized high level trade union organizations, have a grass roots base and work actively in the interest of the plant workers.

Higher level organizations (main administrations, industrial ministries) tacitly accept such reviews because keeping workers at the factory is a main prerequisite for meeting the product output target. Therefore, passing norm review reports are forwarded through the middle economic echelons to the Central Statistical Administration (TsSU) where they are used as the basis for compiling the summary of labor productivity growth which is released to the public.

Soviet economic planners see a different picture of labor costs and productivity. First, productivity growth is not as high as officially reported. Second, the ratio of wage increases to that of labor productivity, which should be 65-67 percent, is actually 105-108 percent. Third, due to the gap between wages and productivity, There is an excess money supply which is not exchanged for the products of state enterprises, but is spent within the framework of the second economy.

3.6.4 Construction Industry Labor Standards

Labor norm setting in the Soviet construction industry is accomplished by methods significantly more centralized than those used in the manufacturing industry. As stated above, Gosstroj controls construction labor standards. Gosstroj has a Central Office of Norm Research (Tsentral'noe normativno-issledovatel'skoe biuro - TsNIB) analogous to the TsBPNT of Goskomtrud. In contrast to TsBPNT, TsNIB does not develop time standards for individual manufacturing processes, but time and wage standards for construction projects. Moreover, these standards are approved by Gosstroj and the Central Trade Union Committee of Construction Workers (Tsentral'nyi komitet professional'nogo soiuza rabotnikov stroitel'stva - TsKPSRS). As a result, they become mandatory norms. Officially, the approved norms take the form of a document entitled "Unified Time and Rate Norms for Construction Work," (Edinnyie normy vremeni i rastsenki na stroitel'nykh rabotakh - ENIR) which is used by all construction organizations in the USSR in nariady issued to workers.

The second official document put out by TsNIB is the Unified Wage Rates and Qualifications Guide for Construction Work (Edinyi

tarifno-kvalifikatsionnyi spravochnik stroitel'nykh rabot - ETKS). In theory it serves the same function as the TKS in industry, but in fact it is not used for setting construction wage standards because qualifications categories for each type of construction project are already established in the ENIR. ETKS, however, plays a very important role with respect to construction worker wage scales. The overwhelming majority of construction work is accomplished by stable groups of workers -- teams (zvenia) or brigades (brigady). The brigade receives its wages in one lump sum, which is then distributed among its members according to the formula:

$$W(i) = W(T) \frac{t(i) \times q(i)}{\sum(t(i) \times q(i))} \quad (3.1)$$

where $W(i)$ is the pay of worker i ; $W(T)$ is the overall pay of the entire brigade; and $t(i)$ and $q(i)$ are the time worked by each worker and his qualifications coefficient respectively.

It follows from formula 3.1 that a highly qualified worker receives higher wages than a lesser qualified colleague. This arrangement gives workers incentive to raise their qualifications. However, it also follows from the formula that a worker with a higher qualification level receives his higher salary not from the state, but at the expense of his fellow workers, a feature which does little to improve brigade morale.

Since each worker can obtain a higher wage if he passes the appropriate test, the brigade organization of wages serves as a source of constant conflicts. Additionally, the worker who heads a brigade (the brigadir) usually has the highest qualifications and thereby is guaranteed the highest wage, although his participation in meeting the plan target may be minimal. The Brigade leader spends most of his time

seeing to necessary administrative and organizational matters. Unfortunately, the other brigade members tend to regard his duties as significantly lighter than physical labor at the construction project. Therefore, the attitude of construction workers toward highly skilled workers and to their immediate supervisors is often hostile.

There have been two proposals to correct this situation. The first involved making the post of brigadir an elected position; the second stressed the introduction of coefficients of labor participation for every brigade member into formula 3.1. Each would be established at a general meeting of the brigade through open discussion and voting. Both proposals, paralleling concepts already implemented under the term "Worker Self-Management" in Yugoslavia and, "New Economic Mechanism" in Hungary, were rejected by the Soviet political leadership for procedural reasons. However, ministry-level disapproval of tendencies toward greater worker autonomy probably played a far greater role in the ultimate decision to discard these potential reforms.*

3.7 Economic Forecasting

Taking into account the techniques discussed previously in this chapter, economic forecasting enables Soviet planners to balance the production of consumer goods as well as to construct a system of economic limitations with respect to the production of intermediate

* Construction organization managers, like their industrial colleagues, find many ways to solve the resulting conflict between wage demands, productivity and worker morale. It can be explained to an applicant for a high-skill position detrimental to the brigade's interest that the organization does not have highly skilled work in which to test him. He can also be removed from the brigade, and assigned to separate, independent jobs for which he receives a lesser wage. Such informal measures are much more effective than formal ones.

consumption items (1.2). However in the Soviet context making economic projections is subject to various distortions.

3.7.1 Forecasting the Output of Intermediate Consumption Items

Economic forecasting of the production of intermediate consumption items (Group "A") in the terminology accepted in Soviet economics), is an easier task. The actual level of production of product "I" at the starting point of forecasting is known, as is also the planned increase in production capacities at that point. This reduces forecasting of the maximum possible level of output, which is needed to delimit the productive capacity of the economy to a simple arithmetic operation.

A central problem in the practice of forecasting production of intermediate consumption items is the unwillingness of the Soviet decision-makers to accept the real-world limitations to increases in output. When Gosplan planners receive a forecast prepared according to the above described arithmetic, they do not call it a forecast, but a control figure (kontrol'naia tsifra) and view it only as the absolute minimum acceptable output. If as a result of solving system of equations (1.1) production is balanced, but the planned output of some important capital good is lower than the control figure, the solution is rejected for "underutilization of capacities" (nedoispol'zovanie vozmozhnostei).

The causes for this official approach to forecasting lie partially in the chronic problem of resource shortages and supply bottlenecks, i.e., Soviet planners assume that with a proper distribution of resources, higher output figures are feasible. However, this "overprojecting," on the part of the highest planning organizations further complicates effective economic planning.

Since a forecast is made on the basis of the actually attained level plus the planned-for output from plants that are not yet operational, for the forecast to realistically delimit the economy's production capacities it is essential that the new facilities be started up as planned. This often does not happen. A plan which counts on non-existent capacities is doomed to fail from the outset. This, in turn, threatens plan achievement by individual plants. The following example will illustrate this problem. In 1972 this author took part in an examination of the causes of plan underachievement by the Dnepropetrovsk Metalworking Factory (Dnepropetrovskii Zavod Metallokonstruktsii). As it turned out the factory had a proper delivery authorization (raznariadka) from Gosstab to obtain metal from a neighboring metallurgical enterprise. The raznariadka even indicated the number of the rolling mill from which the metal was to be obtained. But at the time planned for shipping the metal the mill was still not assembled and even the building to house it had not been started.

Cases like the one described above have a snow-ball effect on other elements of the plan. Plan underachievement by the metalworking factory probably caused a halt in construction of some other industrial building, which, in turn, prevented yet another producer from meeting his output targets. In this author's experience, the actual cause of the failure to meet the plan target, although cited in private conversation, was never included in the official report of the investigation. Instead, there was a "reference to objective causes" (ssylka na ob'ektivnyye prichiny), a cliché used in official reporting of failure to

meet plan targets which implied that the plant management was reprimanded, despite the fact that it was not responsible for the failure.*

3.7.2 Forecasting the Output of Consumer Goods

Forecasting based on the actual level of output makes it possible, at least in theory, to obtain satisfactory results with respect to intermediate consumption items. In general, forecasting with respect to individual consumer goods is much more complicated. It requires studying the demand and buying power of the population, market forces, and so forth. In the Soviet Union marketing is almost unknown. In the early 1970s, the Research Institute for Market Demand (Nauchno-issledovatel'skii institut koniunktury sprosya -- NIIKS), of the State Committee for Prices (Goskomtsen) was created, but this changed the situation little. NIIKS, studies the demand for different consumer goods, by brand, size, quality, etc., according to demographic and geographic variables. On this basis it develops recommendations on production volume, pricing, and standardization of consumer goods. While its function is similar to that of a Western market research firm, its recommendations are not binding. What is more, planners and new product developers do not always have ready access to NIIKS recommendations.

An attempt was also made to develop "scientifically based standards of personal consumption." These official standards, even though much lower than the average standard of living in Western countries, exceed

* A joke popular in the Soviet Union goes like this: A foreman sends a worker out after cigarettes but gives him no money. He explains that any fool can buy cigarettes for money. The worker brings back an empty pack and explains that any fool can smoke from a full pack. That is what enterprise managers often must learn to do -- "smoke from an empty pack."

actual living conditions in the USSR. Thus, the official dwelling standard is from 9 to 13.65 square meters per person, or two to three times lower than in the West. In reality, dwelling space allotted an individual in the USSR is approximately seven square meters.

It would seem that this gap should stimulate an increase in plan targets for housing construction, but this is not the case. Over the past 25 years the plan has remained at the same level: 100 - 105 million square meters per year. Since the average Soviet population growth is approximately 5 million people and 30 - 40 million square meters of residential property go out of service annually, the prospects of achieving the official dwelling standard are unlikely in the foreseeable future for most of the country's population.

The rigidity of the Soviet central plan often leads to acute shortages of goods on the one hand or overproduction on the other. The story of central planning for output of razor blades is a good example of this process. Because of the post-war Soviet baby boom, the adult male population increased rapidly by the early 1960s. Demand for razor blades increased sharply. However, no corresponding increase in production had been planned. This led to acute shortages of razor blades. Only belatedly did Soviet central planners respond by allocating more resources to the production of razor blades, including funds for purchasing needed foreign machinery. In about three years the shortage was eliminated; however, at about this time electric razors became popular and the demand for razor blades dropped sharply. Despite the decrease in demand, the high output of razors continued because it had become included in nomenklatura production targets. As a result, the stores were overstocked with unwanted razor blades while electric razors were in short supply and great demand.

3.7.3 Forecasting The Output of New Products

It is extremely difficult to forecast entirely new products. Neither planning from the actual output level, nor study of demand can help.

The intricate path of Soviet planning for the modification and application of computers illustrates the problems faced by the central planner with respect to forecasting the output and application of new products. Forecasting the output of computers in a centralized economy is tied to the assessment of their prospective applications. In the Soviet Union, in the civilian sector of the economy, computers are available mainly to research institutes, universities, and planning organizations and future computer applications are stipulated in the long-term plans of those organizations. Such plans cannot account for the rapidly changing technology, and thus the Soviet computer industry lags behind the market-driven computer technologies of the West. Because the planners can rarely anticipate accurately the direction of change in computer design, the gap between the USSR and the West grows ever wider.

Soviet central planning organizations, such as Gosplan, Gossnab, and the industrial ministries rely on mainframe computers for their daily operation. They all have their own computer and data-processing centers. The hardware used, however, is obsolete because of the overall technological backwardness of Soviet microelectronics and because the Soviet planning and forecasting system is inherently unable to respond to change in computer design. Thus, obsolete second generation mainframes such as the Minsk-22 and Minsk-32 (the latter similar to the IBM-360) still constitute the hardware base of many Soviet computer centers. The more up-to-date ES series (Edinaia seria) of standardized computers, which was centrally introduced and is manufactured both in the USSR and Eastern Europe, also lags substantially behind the Western state-of-the-art.

Likewise, forecasting of the computer applications runs into snags because of the Soviet centrally directed educational system. Soviet universities, research institutes, and higher technical schools that offer computer training graduate computer specialists within narrow fields, such as mathematics, programming, or electronic engineering. Such people are ill-prepared for interdisciplinary work, especially in economic planning and forecasting. In effect, the scarce computer power available in the USSR today, is underutilized; instead of being used for economic planning and modelling, Soviet planning centers are used predominantly as sophisticated calculators.

3.8 Summary

Soviet planners resort to many practical devices to implement unwieldy economic policies at various levels of production. The economic planning matrix, as described by the author, is unsuited for large-scale production regulation and prioritization. Product clustering and nomenklatura planning reintroduce a measure of flexibility into what otherwise is an extremely rigid system. As we have seen, product clustering allows ministries to handle the high volume of data involved in large scale input-output planning. However, it becomes impossible to ensure adequate quality control for product categories outside of the nomenklatura planning framework.

Significantly, nomenklatura planning does not compensate for the negative influence of product clustering, but, rather, exacerbates it. The nomenklatura plan makes it possible to give priority to a group of products and to ensure plan target achievement with effective quality control regardless of cost. This system applies in particular to defense-related production. Consequently, any analysis of the economic

and military capability of the USSR must include the nomenklatura plan as the most flexible vehicle for Soviet economic planning and at the same time a technique which continuously dislocates varied sectors of the national economy.

The problems involved in material norm setting in the manufacturing and construction industries underscore the consequences of product clustering and nomenklatura planning at the enterprise level. Factory managers respond to these techniques by devising unofficial strategies to maximize advantageous production within a target product category. While some managerial solutions are highly innovative and economically sound from the perspective of the enterprise itself, they leave the ongoing problem of product quality unresolved.

Likewise, the basic systems of material and labor standards setting do not stimulate improved product quality. The Soviet government and its economic planners have made many attempts to correct the situation, some of which have enjoyed a measure of success.

In construction, the "overall assignment" (kompleksnoe zadanie) system works remarkably well. A single brigade of variously specialized construction experts can construct a building of high quality ahead of schedule and under budget. However, a highly qualified team of construction workers, plumbers, carpenters, etc. receives a fairly high level of remuneration for services rendered. It is arguable that such experiments are unsuitable for an official policy aimed at restricting the growth of wages so as to increase economic productivity. Nevertheless, they do show that in the Soviet Union there are innovative alternatives which can provide a measure of relief to the twin spirals of rising wages and falling productivity. What is required from Soviet

economic planners is a consistent and broad application of such alternatives.

The economic models required for effective policy reform in both material and labor supply utilization must be based on demand forecasting which, in the Soviet Union, is not highly developed.

In the USSR, scientific forecasting based on economic analysis, applied mathematical methods and modern computer technology is still a relatively rare phenomenon. It is unlikely that, in the foreseeable future, such forecasting methods will become more commonplace.

Generally, the forecasting methods used in Soviet economic today, are limited to determining straight-line increases in production based on the output level already attained. The dynamics of the market and demand do not enter in such calculations. Economic flexibility in production is thereby reduced significantly; on the other hand, Soviet forecasting methods tie in well with the previously described reserve-less planning.

The Soviet method of economic forecasting is generally ineffective in satisfying consumer demand, although they can be effective in the sphere of capital goods production, in particular for defense-related high priority products. As far as planning for the production of new items, such as computer electronics, Soviet forecasting methods cannot effectively gauge the market or evaluate the direction of future technological change.

The general inflexibility of Soviet economic planning theory and the "stopgap" nature of policy implementation methods have given rise to a limited degree of autonomy economic decision making at the partkom and enterprise level. Such decision-making can, of itself, offer only par-

tial solutions to very large planning problems. The next chapter will explore how large-scale problems are resolved in the USSR.

CHAPTER 4

THE SHADOW GOSPLAN

4.1 General

The previous two chapters examined the context and components of economic planning and their actual status in the Soviet economy. It was pointed out that production capacity reserves, when available, are created by means of autonomous decision-making at the enterprise level, according to centralized planning methods. It was also noted that approved material expenditure standards do not guarantee that these materials will be physically received; that labor expenditure standards do not define actual labor expended; and, finally, that rational economic forecasting has a severely limited role in Soviet economic planning. The only factors which facilitate meeting plan targets are product clustering and nomenklatura planning which have their own inherent limitations. One would normally assume that under these conditions regular plan achievement is a rarity, and that as a result the economy is marked by chronic shortages.

Actually, plan underachievement is a rarity, but chronic shortages exist despite regular achievement and exceeding of plan targets. This is an economic phenomenon which most likely will continue in the foreseeable future. There are many causes for this paradox, the principal one of which is the absence of effective feedback from the consumer.

According to its initial idea, Gosplan was to act in the role of a "general buyer," to represent the interests of society and the consumer

and express these interests in plan targets. In fact, the Soviet emphasis of supply over demand has led to a situation which inadequately reflects the dynamic of national economic requirements. The nomenklatura planning system has become essentially the only method of reflecting the needs of society. Unfortunately, this system is limited to serving the interests of the ruling elite.

Consequently, as was the case at the enterprise level, index-based production planning has led to the adoption of autonomous, informal decision-making channels at the ministerial level. The actual planning policy makers in the USSR can be found within the All-Union and Union Republic economic ministries, which are charged with executing often unrealistic plans. These economic policy makers comprise what can be termed a "Shadow Gosplan," the subject of this chapter.

4.2 Shadow Gosplan Characteristics

The "Shadow Gosplan" is an informal decentralized group of experienced specialists in specific aspects of economic planning. Its members hold permanent, and in most cases high-ranking, positions in every industrial ministry. Their titles range from senior scientist or chief project engineer to head of department in research institutes or design bureaus. Many of these specialists hold advanced degrees in economics. When one of their number is involved in long-term (15 to 20 years) or five-year planning for the industrial ministry where he works, he must know which techniques to use to make a given plan acceptable to the political leadership, Gosplan, and his own ministerial administrators, while at the same time, workable in practice. He must establish personal contacts with other specialists within his ministry, in other

ministries, as well as with appropriate specialists of the official Gosplan. Together with the other members of his ministerial "Shadow Gosplan", he must present the ministry's five-year plan in a form which reflects all bureaucratically mandated but not necessarily relevant general plan indices or control figures. Finally, he must incorporate in this plan hidden features which make it attainable for the industrial ministry and capable of being coordinated with plans devised by "Shadow Gosplan" members of other ministries, with whom there is little regular contact outside of 5-year planning periods. As a rule these periods start 1 1/2 years prior to beginning of the next five-year plan.

4.3 Preparing Government Control Figures

The development of each five-year plan begins 18 months to 2 years in advance. At the highest levels i.e., CPSU Central Committee, USSR Council of Ministers, primary control figures, for example, increased production of Group A (intermediate consumption) products by 45-50 percent; Group B (final consumption) products by 27-30 percent; labor productivity by 36-40 percent; average wages by 20-22 percent, are approved.

These figures reflect real plan targets and have definite correlations to current industrial performance. An increase in production volume by 45-50 percent in five years corresponded to increasing it 4.5 or 5 fold in 20 years; i.e., to the requirement of the former Party economic program; the current program, adopted in 1986, requires only 30-35% growth per five year period.

Having received the approved primary control figures from the Central Committee and the Council of Ministers, Gosplan workers begin to develop secondary control figures; i.e., basic plan targets for industrial sectors, i.e., construction, transport, etc. For each

such sector, Gosplan has a special department. The chief of a Gosplan department, despite his modest title, is an important figure. During 1961-1965 a department chief had the status of a minister.

Having previously distributed plan indices among production ministries and thus assuring themselves that the primary control figures are being observed, the Gosplan departments pass down the plan targets to the corresponding ministries. The material which goes to a ministry consists of three parts: an official directive containing the control figures of the plan target, forms for the five-year plan and instructions for providing necessary data for these forms.

The Gosplan secondary control figure directive indicates the targets for production volume growth, labor productivity and average wages, the nomenklatura plan and other indices in the plan. The makeup of these indices may change substantially between successive five-year plans. An illustrative sample of plan content would include the distribution of overall production volume by economic regions and union republics, the amount of new equipment and other intermediate consumption articles to be introduced, the amount of production of public consumption articles (tovary narodnogo potrebleniia - shirpotreb) based on remaining production capacity, and limits on or incentives for attracting new workers to a developing region. Later the Gosplan directive serves as a quantitative criterion of the plan. If a ministry does not agree with some index of the directive it can try to change that index, but its chances of success are not great. The Gosplan department indices are interdependent and one change can entail many others. Therefore, the ministry will usually accept the directive as is. More influential producers, for example the Ministry of Medium Machine-

building (where a substantial part of nuclear military production is concentrated), do not have such problems since all indices are coordinated with them before the official directive is formulated.

4.4 Shadow Gosplan Activity

Every production ministry has several highly qualified specialists in its scientific research institutes and design bureaus who are very knowledgeable about the practical side of economic planning and who know the "underwater shoals" which may be found in compiling yearly and five-year plans. As noted previously, these specialists maintain personal contacts, not only among counterparts within their own ministry, but also with specialists at the same level working in other ministries. If, while the plan is being prepared, a question arises which must be resolved with one or more other ministries, the members of the "Shadow Gosplan," using their personal contacts, agree on a mutually acceptable solution and incorporate it into the appropriate sections of the plans. This does not assure, that a specific aspect of the plan will definitely be fulfilled, but it greatly facilitates obtaining coordinated plan indices. As a result, official coordination of plans with smezhniki, i.e., suppliers, customers, builders, etc., is made much easier.* Per-

* For example, erection of a heating devices plant in city of Bratsk required coordinated efforts of five ministries, and appropriate members of "Shadow Gosplan" were instructed to consider it a highest-priority assignment. The five participants included the Ministry of Construction (to erect the plant), the Ministry of Construction, Road, and Municipal Machine Building (to manufacture the machinery), the Ministry of Installation and Special Construction Work (to install the machinery and to build power and communication networks), the Ministry of Construction Materials, the author of new product, designer of the plant, and coordinator of the entire project, as well as the republic ministry in charge of the municipal economy, the final consumer of the product. This author's duties included both the economic assessment of the project, which was his official responsibility, and project coordination as a member of the Shadow Gosplan of the Ministry of Construction Materials. As usual, parts of the project had to be approved by Gosstroi, Goskomtsen, and GKNT.

sonal agreements between members of the "Shadow Gosplan" have no official validity. In practice, however, "Shadow Gosplan" decisions are rarely modified, let alone revoked. This is because ministerial administrators fear that finely-balanced elements of the plan would fall out of place and, as a consequence, other ministries would not sign coordination agreements in the face of objections from their own "Shadow Gosplan" members. Therefore, high-level officials as a rule accept "Shadow Gosplan" decisions as de-facto official directives.

Members of the "Shadow Gosplan" are first to see the new five-year plan forms. Their task at this stage is to determine what changes have been made since the previous five-year plan and, as a result, what additional information is required from subordinate enterprises.

According to existing regulations, all information about an enterprise's activity must be limited to that required by Central Statistical Administration (TsSU) forms. Neither the ministry nor any lesser organization, such as a scientific research institute may request supplemental information from the enterprise. However, effective planning cannot be conducted without such information which is obtained previously by means of telephone conversations and business trips. Responsibility for acquiring this working-level data falls to engineers and junior level scientific associates while members of the "Shadow Gosplan" are engaged in formulating the production plan. This is the first point in the Soviet planning system at which devices are employed to create a plan which seems to be strictly compliant with Gosplan control figures while actually conforming to the practical needs of an industrial ministry and its factories.

4.4.1 Production Volume Planning

Assuming that the five-year plan target is to increase production volume in a ministry by 45 percent. If distributed equally throughout the five-year plan this would amount to approximately 7.6 percent per year. This planning would give the ministry five equally rigorous annual plans.

The members of the "Shadow Gosplan" recognize that such a production plan would inflict an unnecessary hardship on the enterprises in their ministry. According to the five-year plan control figures, 80 percent of the increase in production volume must be obtained through improved labor productivity and 20 percent through the introduction of new capacities. The member of the "Shadow Gosplan" responsible for formulating the production plan comes to an agreement with his colleagues, responsible for planning capital investments, that the introduction of new production capacities will be planned only for the last year of the five-year Plan. Now there is a legitimate basis for irregular planning.

Based on irregular planning, twenty percent of the Gosplan five year increase in production volume; i.e., $45 \times 0.2 = 9$ percent is temporarily set aside. The remaining 36 percent is distributed equally by years, amounting to approximately 6.1 percent per year. The previously excluded 9 percent is added to the final year target which coincides with the planned introduction of new production capacities. This results in four rather comfortable years and an entirely unrealistic fifth year. However, the control figure of 45 percent is sustained. Nevertheless, the overall amount of production for an irregular plan will be lower than for a regular one. In this example the loss comprises 2.5 percent of the overall output for the five-year plan.

In reality, this assumption is not true. If the actual production for the first three years and the expected production for the fourth year correspond approximately to the plan target; i.e., the annual increase ranges from 6 to 6.5 percent, then not long before the end of the fourth year the ministry will request that Gosplan "adjust the plan for the fifth year on the basis of actual results." As a rule such requests are honored. The ostensible reason given for the approval may be, for example, a lag in introducing new production capacities. There are, however, two other reasons that are more compelling. One is a recognition that it is unrealistic to require that a four year shortfall be overcome in the final year of the plan. The other reason lies in the fact that Gosplan is now heavily preoccupied with the formulation of the next five year plan and does not want to become re-engaged in the problems of the expiring plan.

Due to the adjustment the plan is changed back from irregular to regular, but with an average annual increase of 6.1 percent, instead of the initial 7.6 percent. Both the readjustment and the production shortfall resulting from it were engineered by the "Shadow Gosplan," as a coordinated action based on practical economic considerations. The loss of production by comparison with the initial target is more than 4 percent of the five-year production volume. It should be noted that actual losses will increase significantly in the long term. The five-year target for production volume increase in our example is 45 percent. Over 20 years (four five-year plans) this would provide a 4.5 fold increase, as called for by the former Party Program. The baseline for each new five-year Plan is assumed to be the final three years of the preceding five-year plan, determined as follows: third year -- actual target achievement; fourth year --expected achievement; fifth

year --draft plan; i.e., adjusted plan. Therefore, the initial planning level of each new five-year plan already lags behind the level originally established for the prior plan, and this lag increases with each subsequent five-year plan. Despite the planning of high growth rates in each five-year plan, the long-term result is much more modest than that which derives from these targets. This phenomenon arises precisely as a result of irregular planning which, in turn, is developed at the "Shadow Gosplan" level within the industrial ministries. On the whole, the ministries themselves are well disposed toward the practice of irregular planning since the reduced volume of deliveries required in the first years of the plan facilitates meeting the production targets. This consideration is a factor which eases coordination problems of the irregular plan.

The five-year plan compiled by members of the "Shadow Gosplan" must ensure not only its achievement of plan target, but also its partial underachievement. This is necessary for two reasons. First, a ministry which meets plan targets consistently eventually becomes subject to inquiry: Is the ministry concealing reserves? Are its requests for plan adjustments sufficiently justified? Second, a regular increase in production eventually exhausts both the reserves of an enterprise and its capacity for additional output. Therefore, it is necessary to introduce some slack into the planning and production relationship by ensuring that certain targets are not met.

It is no easier (and may be more difficult) to plan the underachievement of plan targets than to plan their achievement. This type of planning is done at the stage of distributing plan targets by economic regions and republics. It is first necessary to know in what geographic areas plan targets must be met. Enterprises located in these

areas are assigned comparatively easy plans, targets which they are able to meet completely.

There are also obvious targets for plan target underachievement. A good example is an enterprise recently placed into production. If it is not a nomenklatura factory such planned shortfalls accept the probability that the first two or three plant directors may be dismissed for not attaining design capacities.

There are some factories which have met plan targets over a long period of time and exhausted their capacity for increased production. If it is obvious that a factory cannot meet even small production volume increase target, a plan which cannot be met may be deliberately set for it. Target achievement of 99 or 80 percent usually entails the same consequences for its management.*

Failure to meet targets planned for the third and fourth years of the five-year plan facilitates plan adjustments and lowers the baseline for the following five-year plan. All of these operations refer, of course, to the "gross output plans". The nomenklatura plan task is distributed so as to ensure its achievement. Even so, the more conservative the nomenklatura aspects of the plan, the more reliable it is.

4.4.2 Capital Investment Planning

Simultaneously with planning production volume, the "Shadow Gosplan" plans capital investments in construction of new and reconstruction of existing enterprises, acquisition of equipment, etc. According to

* The author knows of one case when the director of the Voroshilovgrad Foundry cleverly exploited a deliberately unachievable plan. Instead of striving with all his resources to fulfill it by 95-96 percent, he assumed, correctly, that it would entail no greater risk to fulfill it by 60 percent. The ploy was successful and, from this reduced level, the factory again began to meet plan targets for 7-8 percent annual production volume increases.

existing standards, reconstruction of an enterprise, calculated per unit of production capacity, is significantly less costly than construction of a new factory. Such logic stems from the assumption that new equipment can be installed in existing buildings. Since in practice such conversion is often uneconomical, the overall cost is greater rather than less. Often, a design bureau is faced with two alternatives: It can introduce new equipment into an out-of-date environment, disrupting production runs which can potentially lead to a lengthy interruption in production, or it can demolish existing buildings and build new ones under the guise of reconstruction.*

4.4.3 Labor Productivity Improvement Targets

After the plan indices for capital investments and production volume increase are distributed by republics, economic regions and enterprises, labor productivity improvement targets are established. Before 1955 the results of annual labor standards reviews were automatically formulated as indices of increased labor productivity, but in recent five-year plans these indices have obtained an independent status.

The "conditional release of workers" (uslovnnoe vysvobozhdenie rabochikh) is an index of increased labor productivity. It takes into account that, at a given factory no worker will be released to improve the labor productivity index. Instead all "conditionally released" workers will be used at the same workplace to meet production volume increase targets. In the previous example the 45 percent production volume increase is distributed in the following manner: 36 percent from improved labor productivity and 9 percent from introduction of new

* In the Soviet Union this is called "sewing a new suit to an old button" and is more costly than new construction.

production capacities. The conditional release of workers is determined according to the formula:

$$\Delta W = W \times \frac{\Delta Q(1p)}{100 + \Delta Q(1p)} \quad (4.1)$$

where W is the overall number of workers and $Q(1p)$ is the percentage increase in production volume as a result of improved labor productivity. In the current example this is 36 percent.

In accordance with formula (4.1), approximately 27,000 out of 100,000 workers must be "conditionally released" during the five-year plan. This amount is determined in a similar manner for each enterprise, derived from its plan target. This part of the work is elementary. Official Soviet planning organizations, however, require that not only the number of "conditionally released" workers, but also their distribution among the components of labor productivity be indicated in the five-year plan. To answer this requirement the "Shadow Gosplan" compiles lengthy lists of measures pertaining to new equipment, new technology, improved organization of labor, etc. For many of these sections it is necessary to present detailed forms. The overwhelming majority of these forms are useless after submission. Their number is excessive and the information which they contain has virtually no validity. However, the "conditional release" total corresponds precisely to that number obtained using formula (4.1). This, in essence, is why these forms are compiled in the first place.

Soviet workers know that the main way to increase productivity (except for those cases when more modern equipment and technology are introduced) is labor intensification. Consequently, they request a

corresponding increase in wages. However, this desire contradicts the government policy of increasing production volume at a faster rate than wages. As discussed in Chapter 3, wage increases are normally calculated to a level up to 60 percent of the increase in labor productivity. In the current example, they must amount to no more than 20-21 percent for the five-year plan, or no more than 3-4 percent per year.

In contrast to other plan indices, which the "Shadow Gosplan" strives to reduce, it plans the maximum possible increase in average wages. Moreover, special techniques are used to further increase this index. This is done less in defense of the workers' interests, than to secure required manpower for a given ministry's enterprises, while complying with control figures on labor standards and wages. Demographic factors must be considered to deal with this problem. In areas with a relative labor surplus where workers, especially those with low qualifications, have virtually no freedom of choice in terms of employment the wage increase plan is set at a minimum. In enterprises located in small cities in central Russia, wages are 25-30 percent lower than those in enterprises located in Moscow or in the industrial cities of the Ukraine. A wage increase associated with increased production in these areas is relatively inexpensive even if the percentage of increase is higher than that given to other areas where salary standards are higher. On the other hand, in areas being developed (for example in Eastern Siberia) the wage level was raised to attract workers.

The overall amount of money planned for wages workers or the "wage fund," (fond zarabotnoi platy) is easily determined by the formula

$$S(pl) = \frac{S(\text{fact})}{W(\text{fact})} \times \frac{Q(lp) \times 0.6 + 100}{100} \times W(pl) \quad (4.2)$$

where $S(\text{fact})$ is the actual wage fund for the preceding period and $W(\text{fact})$ and $W(p1)$ represent the number of workers in the preceding and planned periods respectively. But, as with labor productivity, planning organizations require numerous forms to "justify" this previously established figure.

The forms are filled out separately for administrative-managerial and engineer-technical personnel. Lists of measures to reduce the number of managerial personnel are also required, as are separate forms for "junior service personnel", i.e., janitors, couriers, elevator operators and for security workers, although their share of the wage fund is insignificant. The most complex forms are reserved for the workers' wage fund. These are compiled individually according to types of wages (hourly, hourly with bonus, piecework, etc.) and according to qualifications category. The technique for obtaining the required limitation of the wage fund and at the same time providing the necessary level of wages demands many meticulous calculations, but is very simple in principle. Managers, engineers and workers receiving hourly wages comprise approximately 30-35 percent of the overall number of workers. For them the monthly wage rate is established by governmental directive, therefore, increasing the average wage for these categories of workers falls outside the scope of "Shadow Gosplan" planning. The entire wage fund increase is shown in the planning forms for workers earning piecework wages. Since the government finds it necessary to increase monthly wage rates and thus wage funds from time to time, the actual correlation between indices of wage increases and of labor productivity is not 0.6, as indicated in the preceding formula, but 0.8 or more. Needless to say, there have been cases when it exceeded 1.0.

Production volume, capital investments and labor are the basic indices used in formulating a five-year plan. There are also numerous lesser indices, such as introduction of new equipment, profit and profitability of production, utilization of industrial waste, etc., but these planning factors are not examined in this monograph.*

After the three main sections of a five-year plan are coordinated among themselves and with the "smezhniki;" i.e., the ministries'-- suppliers, buyers and builders -- the stage which, according to existing regulations, was to have served as the initial stage of planning, begins. The plan must be compiled "from below;" i.e., at the enterprise. The managers, engineers and economists at the enterprise level must officially justify a rigorous plan, and the workers must officially strive to develop additional capabilities and devise an even more rigorous plan. From there, planning is supposed to flow upward. Main administrations and ministries combine the enterprise plans and Gosplan combines the branch plans; as a result the five-year plan for the development of the economy emerges, corresponding precisely to the "control figures."

In reality, subordinate plan targets are worked out by the "Shadow Gosplan" members of their respective ministries and are distributed among subordinate enterprises. These targets are then used by managers as bases for developing enterprise plans. An enterprise manager cannot afford to disregard "Shadow Gosplan" plan targets because of his near

* In the 1970's it became popular to plan not only labor productivity and wages, but also so-called social indices, i.e., increases in the educational level of workers; housing; places in kindergartens and nursery schools; even increased longevity. This planning has no practical significance, since an industrial ministry, and even less a production enterprise, has no real means to influence these indices. But the data derived from such forms can be used to project an optimistic picture of the social development of the Soviet people. Much of the information used to fill out these forms is derived from the imagination of the members of the "Shadow Gosplan."

total dependence on his main administration or ministry for supplies. However, using informal channels, he can bargain for an easier plan. On occasion, a form of gamesmanship is exercised in which "Shadow Gosplan" members will deliberately include one or more overly high production indices in the plan for a particular enterprise to see whether an administrator or a ministry chief will respond to the concern of the enterprise manager by lowering the indices. If the administrator does so, he has demonstrated his understanding of the often difficult supply situation at the factory-level (see Ch. 2). Most often, however, the enterprise accepts the plan as given and provides required data on its production capabilities. The enterprise plan is returned to the ministry with three signatures: the factory director's, the factory party organization secretary's, and the factory trade union committee chairman's, in hierarchical order.

After the plans of all enterprises are received and approved over a two to four month period, the ministerial five-year plan begins its official life. It is reprinted and signed by the directors of the subordinate scientific research institutes and design bureaus, formally assigned the job of economic planning in the ministry. Members of the "Shadow Gosplan" do not sign these documents. They "concur" by initialing on the last copy, which is not sent to higher management. Telegrams requiring the presence of an institute director on matters concerning the plan are generally followed by a telephone call suggesting that he "get hold of his people." The same thing happens in formal discussion of the branch plan at all levels all the way up to USSR Gosplan. Members of the "Shadow Gosplan" do not attend meetings of the Party Central Committee, where they may not even be known. Even so, the plan indices worked out by the "Shadow Gosplan", the highest stan-

dard level are seldom changed. In every instance known to the author, the main plan indices approved by the Supreme Soviet, and returned to the ministry for execution with the acquired force of law have been unchanged from the originally devised by the "Shadow Gosplan" at the branch and ministry levels.

4.5 Summary

The "Shadow Gosplan," of an industrial ministry or Gosstroi, operating in an autonomous fashion, helps to reduce the influence of political decision-making and unrealistic proposals on economic planning. While it may also reduce the overall rate of economic growth, this effect tends to discourage planning administrators from proposing unrealistic production targets which can only result in economic reverses. In effect, the specialized planning abilities and personal contacts of "Shadow Gosplan" members at the ministerial level is what makes the Soviet planning system work. Moreover, in practice, the system operates in a much less centralized manner than many Western observers might imagine. Rational economic planning in the Soviet Union mandates a degree of mid and low-level autonomy capable of dealing with the many practical obstacles standing in the way of efficient centralized control over material and labor resources.

The reader is cautioned, however, that despite "Shadow Gosplans'" seeming effectiveness in shaping Soviet economic policy, they are informal groupings of specialists who remain under formal ministerial or committee control. They serve specific institutional interests and can thus be drawn into the bureaucratic infighting which plagues Soviet organizational management. Because of their members' non-administrative positions and unofficial status as economic planners their decisions can

be overruled. Finally, the members of a "Shadow Gosplan" have no access to the national leadership, a fact which drastically mitigates against them acquiring anything more than a reactive role in Soviet economic decision-making.

CONCLUSION

Soviet economic planning encompasses three basic concepts. First, it is a scientific method of economic planning, which, if applied consistently towards problem solving, could provide a balanced and sound plan, irrespective of political and ideological factors.

Second, it is a system of instructions or directives, which is worked out by the party of state apparatus and which causes the final result to differ significantly from the scientifically based, balanced economic plan. This system includes, for example, nomenklatura planning targets; the principle of accelerating development of production of heavy industry; holding back wage increases, etc. This system of instructions causes the final result to differ, and does not of itself improve or worsen it. From the standpoint of public consumption, it worsens the result since it tends to retard the rise in the standard of living; but from the standpoint of the Party and state apparatus it improves the result by making it possible to solve economic problems in accordance with their priorities (which, of course, are established by this apparatus).

Third, it is the actual practice of economic planning in an essentially autonomous manner which causes the real result to differ both from the requirements of scientific methodology, and from Party and state instructions. Within this framework there are four strategies Soviet planners utilize to implement an economic plan: product clustering, nomenklatura planning, adjusted material and labor standards. "Shadow Gosplan" members can utilize these techniques in an autonomous fashion due to the tacit acceptance of their immediate ministerial and Gosplan administrators, who are in the unenviable

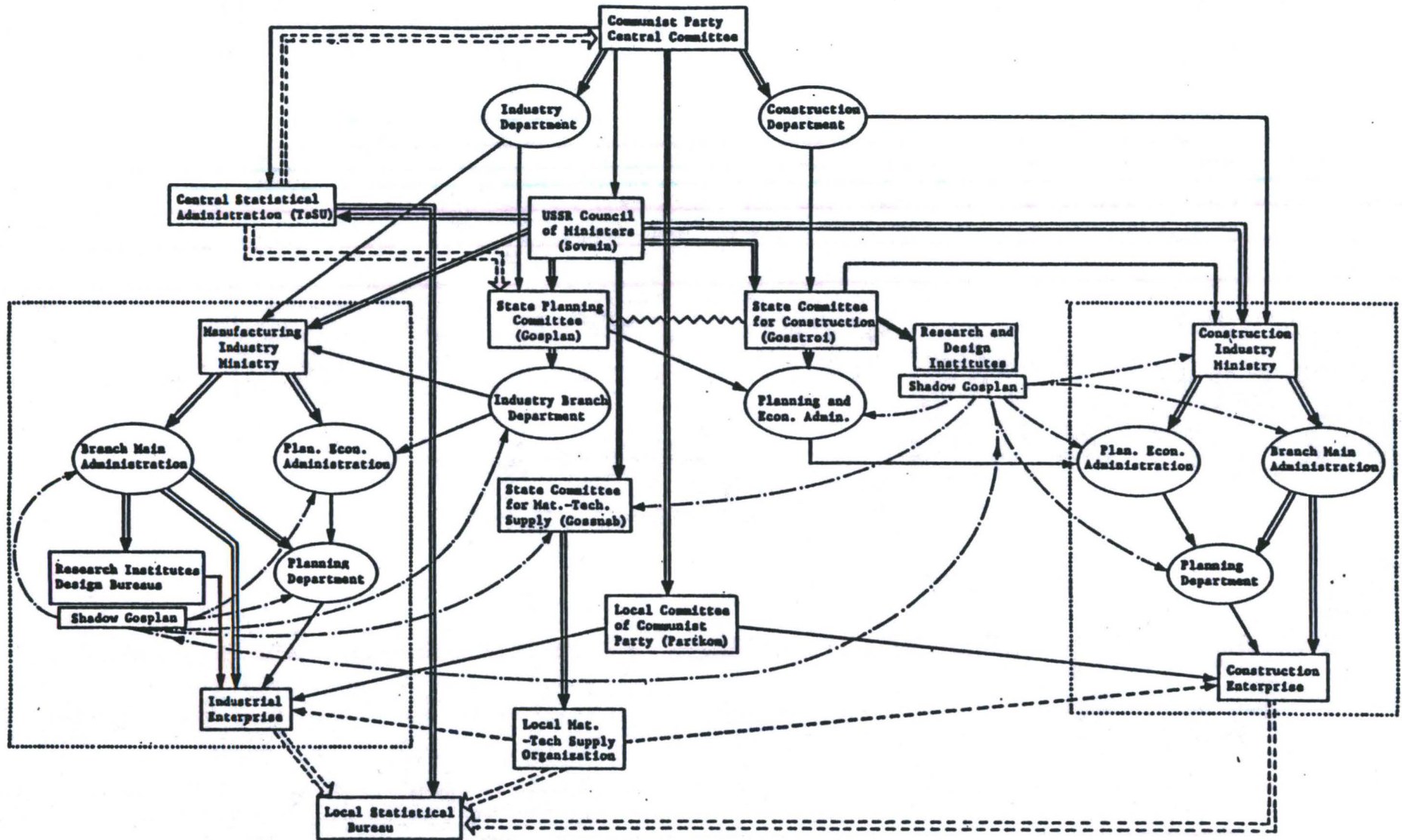
position of maintaining political conformity while increasing production efficiency. As in the previous instance, we do not assess the resulting divergence between practice and theory to be for "better" or "worse."

The presence of the above three concepts within the framework of economic planning is in itself sufficient evidence of the fact that economic planning does not determine the nature of the Soviet economy, but is a reactive mechanism. In practice, it is the particular characteristics of Soviet economic performance which determines the nature of Soviet planning.

APPENDIX

The functional view of Soviet All-Union planning organization shown in the accompanying figure (p. 86) may appear to be unconventional within the context of current Western scholarship. This is because the figure seeks to highlight the practical operation of the Soviet planning system, not its organizational hierarchy. Several explanatory notes are in order.

First the functional arrows and not the representative organizations, or actors, are the focus of the diagram. Their direction signifies, in broadest terms, the flow of plan directives from supervisory to subordinate actors. It should be noted that all arrows, as well as the Gosplan-Gosstroi coordinating link, imply bi-directional information flow or "feedback" from receiving organizations to issuing ones and vice versa. The official flow of plan directives and information as shown by the subordination, coordination and reporting arrows is highly centralized, centering on the Council of Ministers, Gosplan, Gosstroi, Gosstab and ministerial administrations. The oversight arrows depict generally recognized lines of subordination which supplement and, in many cases, supersede official economic management channels. Originating from the Party Central Committee and Gosplan, the oversight arrows show more precisely the relative positions of the various bureaucratic organizations. For example, while Gosplan and Gosstroi are ostensibly equal committees, Gosplan does oversee the Gosstroi planning and economic administration (planovo-ekonomicheskoe upravlenie). This role gives Gosplan considerably more bureaucratic "weight" than Gosstroi in the field of planning. The exception to this fairly standard presentation is represented by the Shadow Gosplan input arrows. They illustrate the



All Union Planning Organization for a Manufacturing Industry Ministry and a Construction Industry Ministry: A Functional View.

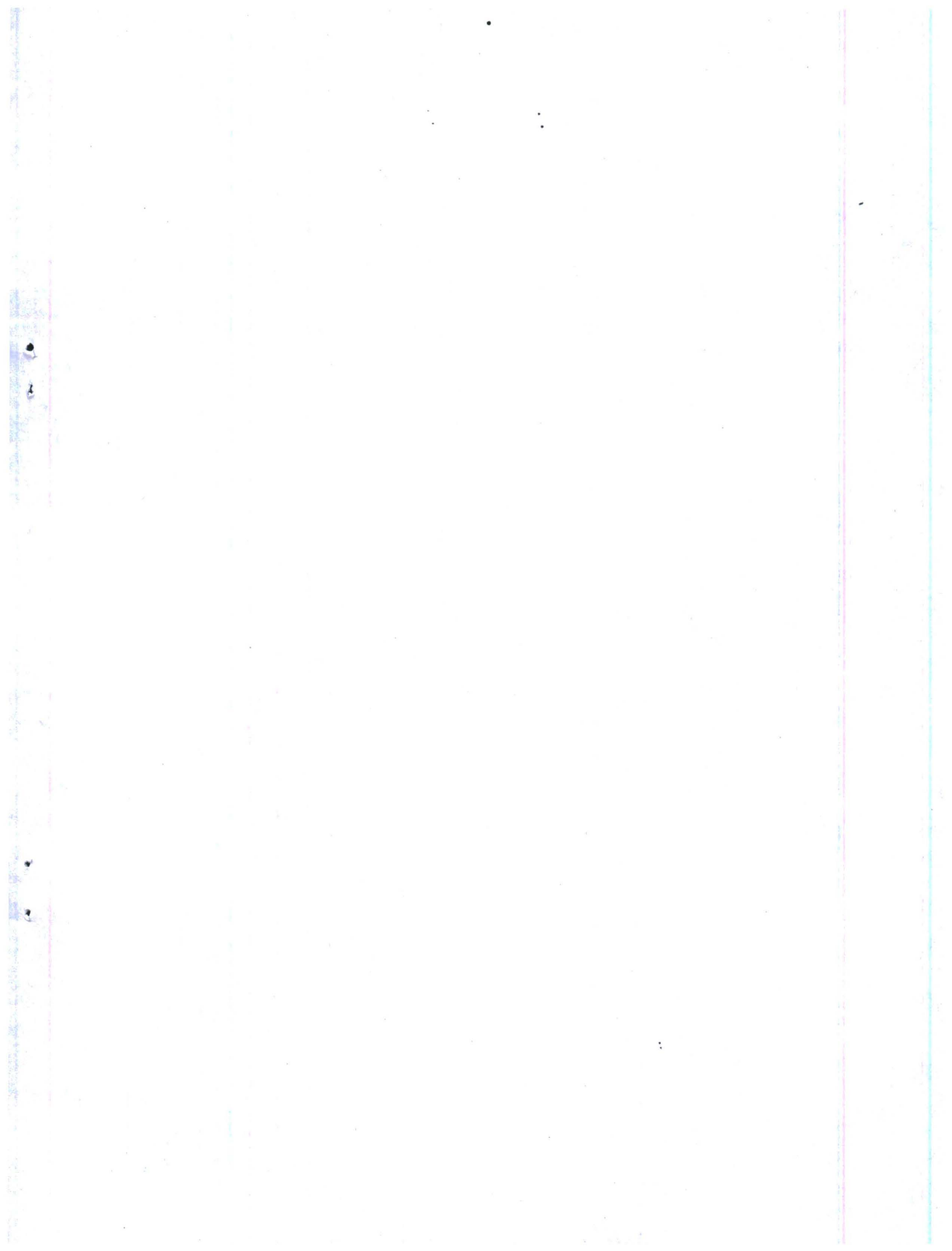
- Official Coordination
- Official Reporting
- Ministry
- Supervisory Agency
- Official Subordination
- Material Supply
- Shadow Gosplan Planning Input
- Oversight

practical channels used by ministerial level economists in order to facilitate the implementation of the planning process. As this paper has repeatedly sought to demonstrate, without this unofficial cooperation between like-minded officials, it would be impossible, in most instances, to even approximate the target figures set by and promulgated by Gosplan. The reader will note that the Shadow Gosplan channels are generally horizontal, supplementing the otherwise vertical planning process. It should be noted, that the Shadow Gosplan is no conspiracy and inter-"Shadow Gosplan" contacts are infrequent and generally limited to specific interministerial coordination for 5-year planning.

Second, the organizational scheme is simplified to represent only the national or All-Union actors relevant to two representative ministries from the manufacturing and construction industries, respectively. Representative local organizations, say on the raion level, are included to illustrate how ministerial and committee decisions reach the enterprise level. The diagram omits the Union-Republic Ministries, which are frequently subordinated to large All-Union ministries. Also omitted are committees and agencies found at the Union Republic, district (oblast' and krai), city, and raion levels.

Finally, the depiction of national level agencies is by no means exhaustive. In addition to portraying only two ministries, the figure omits committees such as the State Committee for Science and Technology (Gosudarstvennyi Komitet po nauke i tekhnike - GKNT), Goskomtsen, Goskomtrud, and others. The All-Union Central Trade Union Council (Vsesoiuznyi tsentral'nyi sovet profsoiuzov - VTSP) which establishes many economic standards pertaining to labor also does not appear.

Since the graph is primarily symbolic, it was decided not to show the Party Central Committee's two industry departments for heavy and light industry, respectively. Similarly, Gosplan has a sector, or branch, department for each industry. Also, within each ministry there is one planning and economic administration which coordinates the plans of several ministerial branches. Each branch is directly supervised by a branch main administration (Glavnoe otraslevoe upravlenie) with a subordinate planning department (planovoi otдел). The Shadow Gosplan shown for the manufacturing industry ministry represents the specialists within the ministerial research institutes and design bureaus. The construction industry Shadow Gosplan consists of planners in Gosstrois research and design institutes, (Proektnyi nauchno-issledovatel'skii institut) which are higher in the organizational hierarchy.



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