

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Soviet Statistics of Physical Output of Industrial Commodities: Their Compilation and Quality

Volume Author/Editor: Gregory Grossman

Volume Publisher: Princeton University Press

Volume ISBN: 0313-32462-8

Volume URL: <http://www.nber.org/books/gros60-1>

Publication Date: 1960

Chapter Title: Some Characteristics of the Statistical System

Chapter Author: Gregory Grossman

Chapter URL: <http://www.nber.org/chapters/c2453>

Chapter pages in book: (p. 22 - 30)

CHAPTER 2

Some Characteristics of the Statistical System

NEARLY every Soviet work on statistics asserts the superiority of the Soviet statistical system over its "capitalist" counterparts. It is said that under capitalism comprehensive and truthful economic statistics are not to be expected because of the secretiveness of private firms, the lack of centralized coordination in and authority over the generation and collection of data, the class interests of the governments in power and the mendacity of their statisticians, etc. Soviet statistics, it is claimed on the other hand, have the decisive advantages of correct ideological and scientific foundations, administrative centralization and methodological unity, completeness of coverage, rapid reporting, the intellectual and scientific integrity of statisticians uncorrupted by special interests, and so forth.¹

The relative merits of the two "types" of statistical system do not concern us at the moment. (Besides, for many purposes the more meaningful contrast is between statistics in a command economy and those in a market economy, rather than between "socialist" and "capitalist" statistics.) Instead, let us ask what are the specific features of the Soviet statistical system that are pertinent to the problem at hand, the collection and compilation of physical output data.

Ideological Foundations

Soviet statistics—using the term now in the sense of an intellectual discipline—has been rather turbulently affected throughout its history by ideological and philosophical cross currents, although its required allegiance to "Marxism-Leninism" has never been formally open to question, of course. The full story remains to be told in the West. A spirited discussion on the nature of statistics filled the journals between 1949 and the formulation of an official position in 1954. The developments since 1949 have been analyzed in an interesting article by Schattman, who sees an attempt to subordinate statistics

¹ Cf. L. M. Tsyrlin and A. I. Petrov, *Burzhuznaya statistika skryvaet pravdu* [Bourgeois Statistics Conceal the Truth], Moscow, 1953, *passim*; D. B. Savinskii, *Kurs promyshlennoi statistiki* [A Course in Industrial Statistics], Moscow, 1954, pp. 24-28; and S. K. Tatur, *Organizatsiia narodnokhoziaistvennogo ucheta v sotsialisticheskom obshchestve* [The Organization of Economic Record-Keeping in a Socialist Society], Moscow, 1955, p. 10.

(as a science) to the ideological and propaganda needs of the regime, but finds a distinct relaxation since 1954 in this regard.²

The latest doctrinal position is summarized in the following excerpt from an article in the Encyclopedic Dictionary published in 1955:³

“Statistics is a distinct [*samostoiateĭnaia*] social science which studies the quantitative aspects of mass social phenomena inseparably from their qualitative aspects. . . . The theoretical bases of statistics are historical materialism and Marxist-Leninist political economy. . . . With due regard for the nature and basic characteristics of the object of its study, statistics develops special techniques and methods of research (mass observation, frequency distributions, descriptive measures) which in their totality comprise statistical methodology. In some instances statistics may employ the methods of mathematical statistics, including the probability theory. . . . Statistics is a class and party-oriented [*partiinaia*] science. Its main purpose is *the processing, analysis, and timely submission to the agencies of state planning and administration of accurate and scientifically founded statistical data that show the course of fulfillment of state plans, the growth of socialist economy and culture, the supply of material resources in the economy and their utilization, the development of the various branches of the economy relative to each other, and the potentialities for the overfulfillment of the plan.”*

That this definition is “loaded” politically and ideologically is clear. But it does not necessarily follow that the collection and compilation of physical output statistics—as distinct from their publication and propaganda use—are affected by the “slant.” The tendencies toward distortion of physical output data that may be inherent in the sta-

² S. E. Schattman, “Dogma vs. Science in Soviet Statistics,” *Problems of Communism*, January-February 1956, pp. 30-35. For an analysis of the discussion in its earlier stages, see Stuart A. Rice (“Statistical Conceptions in the Soviet Union,” *The Review of Economics and Statistics*, February 1952, pp. 82-86, and “Statistics in the Soviet Union,” *Bulletin of the Atomic Scientists*, June 1952, pp. 159-162), who also interpreted the developments as an encroachment of ideology and politics on the science of statistics. For an English translation of one of the recent authoritative statements, and a brief comment thereon by C. E. V. Leser, see *Soviet Studies*, January 1955, pp. 321-331.

³ *Entsiklopedicheskii slovar'* [Encyclopedic Dictionary], Moscow, 1955, Vol. III, p. 320. Interestingly, the passage between the asterisks (inserted by me) is identical with a passage describing the task of the Central Statistical Administration in the same volume (p. 577). That is to say, statistics as a science is what the Central Statistical Administration does.

tistical system seem to be explainable without necessarily resorting to ideological factors in the strict sense.

Purposes of Soviet Statistics

While to some extent economic statistics may be collected and compiled in the Soviet Union for the "general use" of the leaders of the regime, or for employment in propaganda at home and abroad, or for the preservation and extension of bureaucratic "empires" within the statistical apparatus and other departments, they are primarily collected and compiled for a number of purposes related to the planning and administration of the economy. These purposes are:

1. Guidance of managerial decisions (*operativno-tehnicheskoe rukovodstvo*) in the enterprise and at higher levels.
2. Checking on the course and extent of plan fulfillment.
3. Aid in future planning.
4. Aid in the allocation of equipment, materials, manpower, and other resources.
5. Dispensation of individual and group rewards and penalties.
6. Checking on compliance with various laws and regulations (e.g. inventory control, wage and price control, etc.).

It must be noted that, by and large, the same flow of statistical data serves several of these objectives at once; that some of the purposes are intimately connected with the fortunes of individuals and groups; and that frequently the interested individuals participate in the generation and reporting of the very statistical data on which their performance is judged. This is particularly true of statistics of output. But the same flow of data culminates in regional and national sets of compiled statistics, from which the data released to the world at large are presumably drawn. Thus, in a sense, the regional and national statistics of output are largely declared by parties who have a vested interest in them. Although its effect is limited by fear of the strict penalties imposed for false reporting, as well as by various institutional checks discussed below, this fact is perhaps the greatest defect in the Soviet statistical system, and perhaps the strongest reason to suspect the reliability of the published physical output data.

Statistics and Planning⁴

As we have seen, a major purpose of Soviet statistics is to report on the progress of plan fulfillment and the availability of resources, and

⁴ The following Soviet sources, among others, refer directly (if not fully) to

to facilitate future planning. The other purposes—such as guidance of day-to-day operations or the dispensation of rewards and punishments to management—are also closely related to the execution of economic plans. Given the nature and scope of Soviet planning, statistics clearly should be not only accurate and timely, but at least as detailed as the plans themselves. (In fact, they are much more detailed than the plans.) Further, there should be methodological uniformity and consistency not only within the body of statistical data, but also between it and the corpus of planning categories and concepts. Operational statistics are the language of Soviet-type planning. “Without statistics there can be no planning.”⁵

This would seem to argue for the closest organizational contact between statistical and planning authorities, if not for their complete integration. However, the picture is not as simple as that, for the statistical apparatus is an agency of supervision (*kontrol*), in addition to being a source of information for planners—supervision not only of the activity of producers (enterprises, departments, etc.) but also of the efficiency of the planners—and, one should add, the economic commanders—themselves. Beyond this lies the danger that statisticians will dominate planning by virtue of their hold on information. Thus, a certain amount of organizational independence between statistics and planning is also desirable.

Here is how Devons, a percipient observer of planning, albeit under conditions of a relatively “mild” command economy in Britain during the last war, sees the dilemma:⁶

“Attempts were made to avoid this danger [of statisticians guiding policy by selecting or manipulating statistics—G.G.], by separating the collection and issue of statistics from decisions and discussions of policy. But such attempts invariably failed [in the Ministry of

the relation between statistics and planning: *Bol'shaia sovetskaia entsiklopediia* [The Great Soviet Encyclopedia], 1st ed., Vol. 56, pp. 477ff.; B. I. Braginskii and N. S. Koval', *Organizatsiia planirovaniia narodnogo khoziaistva SSSR* [Organization of Economic Planning in the USSR], Moscow, 1954, p. 126; A. I. Petrov (ed.), *Kurs ekonomicheskoi statistiki* [A Course in Economic Statistics], 2nd ed., Moscow, 1954, p. 6; A. I. Gozulov, *Ekonomicheskaiia statistika* [Economic Statistics], Moscow, 1953, pp. 26-29; S. A. Shchenkov, *Otchetnost' promyshlennykh predpriatii* [Reporting by Industrial Enterprises], Moscow, 1952, p. 8; and L. M. Volodarskii, *Statistika promyshlennosti i voprosy planirovaniia* [Statistics of Industry and Planning], Moscow, 1958, *passim*.

⁵ Ely Devons, *Planning in Practice: Essays in Aircraft Planning in Wartime*, Cambridge, 1950, p. 133.

⁶ *Ibid.*, pp. 163ff.

CHARACTERISTICS OF THE STATISTICAL SYSTEM

Aircraft Production]. First, because the analysis of data about the past is so intimately concerned with the planning of the future, that any attempt to separate the two functions usually resulted either in the planners paying little attention to the past and so making the most unrealistic plans, or in the planners setting up their own fact-finding staff which by-passed the statistical division and so deprived it of any influence. Secondly, life in a statistics division which was separated from policy was apt to be dull, and there was great difficulty in attracting efficient staff to such a division. In any case, unless the staff of the statistics division were closely concerned with the policy decisions, they had no easy means of knowing which were the most significant statistics to collect and analyse; and they had the greatest difficulty in ensuring that some notice was taken of the results of their analyses. The danger that planners who have a monopoly of the statistics might distort the figures to prove their case cannot be avoided. Where planning is necessary, great power must inevitably fall into the hands of the statistician."

While these observations do not entirely apply to the Soviet scene (where, for one thing, the structure of information-gathering, planning, and command-issuing authorities and agencies is a much more complex one than in Devons' experience), the basic dilemma is fundamentally the same.

The history of the Soviet statistical apparatus, as sketched in the preceding chapter, fully reflects this dilemma. As we have seen, during the twenties the planning and statistical authorities were separate organizations. To improve methodological coordination between the *Gosplan* and *TsSU*, the latter was dissolved early in 1930, and its functions were completely absorbed by the former, so that the statistical agencies virtually lost all independent identity. This was the high-water mark of integration. Less than two years later, *TsUNKhU* was established as an autonomous administration within the framework of the *Gosplan*, and the newly created local statistical agencies were likewise affiliated with their respective local planning commissions. As planning became more comprehensive and detailed, complaints of the inadequacy and lack of methodological agreement with planning were directed to the statistical apparatus, culminating in a more complete absorption of *TsUNKhU* by the *Gosplan*. And finally, in August 1948, the statistical administration, now renamed *TsSU* again, was completely separated from its parent body under circumstances that at least suggest the desire, for internal political

reasons, to employ the fact-gathering apparatus as a counterpoise to the planning machinery.⁷ At present, the local statistical agencies are administratively entirely subordinated to TsSU.

As already mentioned, inadequate conceptual coordination between statistics and planning received much attention in the thirties.⁸ The problem came to the forefront during the work on the Second Five-Year Plan and the annual plan for 1934. In the course of compiling the 1935 plan, an interdepartmental committee (consisting of representatives of the *Gosplan*, *TsUNKhU*, heavy industry, and the Commission of Soviet Control) on methodological unity between planning and statistics was constituted.⁹ The concrete results of this attempt are not known, but in 1937 (during work on the next five-year plan) and in 1938 the literature registers new complaints on the same subject, this time coupled with accusations of intentional "wrecking."¹⁰

Methodological Unity

The launching of comprehensive and detailed national economic planning brought up the necessity for thorough consistency and comparability of statistical data, i.e. for a "uniform system of record-keeping" (*edinaia sistema ucheta*) for the entire economy. Considerable efforts were made, especially in the early thirties, to realize this goal.¹¹ It involved essentially working out (1) standard definitions, (2) mutually consistent definitions for such different items as might be brought together in the course of economic analysis and planning, and (3) uniform and standardized methods of collecting, reporting, and classifying data.

To this end, the power to prescribe, supervise, and direct statistical work throughout the whole economy has been centralized in TsSU (and its predecessors),¹² which has been carrying out this

⁷ See pp. 18ff.

⁸ A list of complaints may be found in A. Sperlina, "Uviazat' pokazateli ucheta s pokazateliami plana" [Coordinate Statistical Indicators with Planning Indicators], *Plan*, 1934, No. 5, pp. 41-43.

⁹ *Plan*, 1934, No. 4, p. 65.

¹⁰ *Plan*, 1937, No. 10, p. 61; *P.Kh.*, 1938, No. 3, p. 13; *ibid.*, 1938, No. 7, p. 7.

¹¹ See, for example, the order of the Supreme Council of the Economy (*VSNKh*), dated July 24, 1931 (*B.F.Kh.Z.*, 1931, No. 26, pp. 20ff.).

¹² The earliest serious step in this direction was apparently the Resolution of the Council of Ministers of May 9, 1931 (see p. 15) which charged the *Gosplan*, and specifically its Sector of Economic Record-Keeping, with this function.

See *B.F.Kh.Z.*, 1931, No. 15, p. 70; it will be recalled that this was shortly

function primarily by standardizing the statistical reporting forms¹³ throughout the economy, providing detailed instructions for them, requiring complete adherence to these forms and instructions, and prohibiting the solicitation of unapproved—so-called “wild”—reports. The enforcement of this last injunction has been a major perennial problem for the statistical authorities, as there seems to be a strong propensity on the part of the Soviet (or any other) bureaucracy to bypass established reporting channels and to assert its authority over subordinates by demanding endless periodic and *ad hoc* reports. The subordinates, on their part, apparently find it either impossible to resist these demands or convenient to accede to them as part of a live-and-let-live arrangement.

Despite the early efforts to impose methodological unity, complaints on this score continued well into the thirties and have been cropping up even in more recent years. For instance, as late as 1938 there were two sets of data on the number of workers in large-scale industry, compiled by the industry sector and the labor sector of *TsUNKhU*, respectively.¹⁴ On the same date there was still lack of uniformity in the reporting of tractor work, wages, construction, and so forth.¹⁵ The blame for this situation was laid on “wreckers” and, more justifiably, on the organization of reporting along functional lines (*funktSIONalka*), which had led to the drawing up of definitions, forms, and instructions independently by the various sectors of *TsUNKhU*.¹⁶ As we have already seen, these charges contributed to the reorganization of *TsUNKhU* later that year.

Since 1938 such complaints have been much less frequent in the literature. To what extent this is due to less cause for complaint, and to what extent to mounting secrecy, cannot be determined, but time may have brought some improvement in this regard, in any case. There can be little doubt, everything considered, that by now the Soviet system of industrial reporting, as of economic statistics in general, not only is extraordinarily comprehensive, but also possesses a high degree of internal methodological unity.

before the organization of *TsUNKhU* in December of that year, but after the dissolution of the old *TsSU*.

¹³ Forms for the annual report and for all accounting reports are prescribed jointly by *TsSU* and the Ministry of Finance.

¹⁴ *P.Kh.*, 1938, No. 3, pp. 173-175. ¹⁵ *Ibid.*, pp. 13-15.

¹⁶ On methodological discrepancies in the reporting by heavy industry due to “functionalism” in *TsUNKhU*, see also M. Tsaguriia, “Voprosy ucheta v sviazi s planom raboty *TsUNKhU*” [Problems of Record-Keeping in Connection with the Plan of Work of *TsUNKhU*], *Plan*, 1935, No. 12, p. 32.

Directness, Speed, and Volume of Reporting

All statistical systems, of course, aim at completeness of coverage, directness of observation, and timeliness of reporting, insofar as their needs so require and their budgets so allow. But the existence of a command economy in the Soviet case, which shapes the relation of statistics to planning and economic administration, makes these desiderata particularly imperative, while at the same time the authoritarian nature of the regime can demand compliance with a voluminous and highly exacting set of reporting requirements.

Soviet statistics of physical output of industry are thus eventually based on complete or near-complete coverage of all producing enterprises, with all but the smallest of them reporting continuously and under highly standardized conditions. The smallest enterprises are accounted for in periodic censuses. The reporting is always direct, i.e. in units of the product itself, rather than in such indirect measures of output as man-hours worked or materials consumed (which may be reported too, however)—a characteristic which is usually listed among the alleged superiorities of Soviet over “capitalist” statistics. Insofar as some “capitalist” output statistics are based on indirect data, this is so—at least, if the direct information is reliable, and if data-gathering costs are disregarded. The last, in turn, must be seen in the light of differential needs for full, prompt, and exact output information in command and in market economies.

This brings us to the next two features that strike the outside observer: the extremely early due dates for the regular reports, and the enormous volume of reporting in general to which Soviet enterprises and other entities are subject. For instance, comprehensive monthly and quarterly reports must be submitted within 15 days of the end of the reporting period, and the definitive annual report is due by January 25.¹⁷ Output data as such, however, must be reported even faster—within a few days (see Chapter 3)—and are apparently processed, or at least consolidated, equally fast. Witness the fact that since the war *TsSU* has usually published annual, semiannual, and quarterly plan fulfillment reports between the 20th and the 31st day following the end of the period. The annual report

¹⁷ V. I. Pereslegin, *Novoe polozhenie o bukhgalterskikh otchetakh i balansakh* [The New Statute on Accounting Reports and Statements], Moscow, 1952, p. 10. See also Chapter 3, the section on continuous reporting of industrial output.

for 1958 was published in the Soviet press as early as January 16, 1959, and the report for the first half of 1959 as early as July 14, 1959.

There is great pressure on the part of the statistical authorities to ensure the prompt reporting by enterprises and their economic-administrative superiors. The pressure undoubtedly originates with the highest political authorities and the planning agencies, both ever hungry for factual data on which to base policy decisions or routine planning. It is probably reinforced by the fact that, from the standpoint of the statistical authorities, promptness of report submission is a convenient criterion—much more so than the accuracy of the submitted information—by which to appraise the “efficiency” of the reporting system.¹⁸ Nonetheless, tardiness of report submission by enterprises seems to be common.¹⁹ How TsSU still manages to publish the periodic plan fulfillment announcements within three or four (or even two) weeks of the close of the period in question remains unclear; presumably a certain amount of estimation of missing data is resorted to on such occasions.

I shall not dwell here on the inordinate volume of reporting,²⁰ except to note that it entails an enormous amount of recording, bookkeeping, computing, and other paper work.²¹ The sheer volume of the work, coupled with the speed that is demanded of much of it, cannot but dilute the quality of the statistics by both inviting error and providing opportunities for distortion to the more skillful practitioners of the art.²²

¹⁸ Cf. Robert W. Campbell, “Accounting for Cost Control in the Soviet Economy,” *The Review of Economics and Statistics*, February 1958, p. 61.

¹⁹ R. W. Campbell, “The Mechanization of Accounting in the Soviet Union,” *The American Slavic and East European Review*, February 1958, pp. 73-74.

²⁰ See G. Grossman, “In the Land of Paper Pyramids,” *Problems of Communism*, July-August 1955, for a discussion of this problem and of recent efforts to alleviate it. The problem is an old one; it has been the subject of bitter complaints in the press at least since the beginning of the Plan Era.

²¹ It was said in 1953 that 2.3 million persons were engaged in doing work of this sort in the Soviet economy (*P.Kh.*, 1953, No. 4, p. 94). More recently the number was placed at “about three million, almost 80 per cent of whom are engaged in so-called primary record-keeping” (*Pravda*, May 12, 1958). In 1957, over 10,000 separate industrial commodities were subject to regular centralized production reporting (A. N. Efimov, *Perestroika upravleniia promyshlennost'iu i stroitel'stvom v SSSR* [Reorganization of Administration of Industry and Construction in the USSR], Moscow, 1957, p. 90).

²² The journal of accounting editorially rebuked those chief accountants, “who are still to be found,” who hold that “the timely submission of reports is incompatible with their high quality” (*B.U.*, 1954, No. 10, p. 3). Cf. Campbell in *The Review of Economics and Statistics*, p. 61.