GROWTH and INFLATION in the SOVIET ECONOMY

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Fyodor I. Kushnirsky

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Part II. Studies of Growth and Inflation

Introduction

Western students of the Soviet economy have paid considerable attention to the problem of estimating rates of Soviet economic growth. Progress made at the macrolevel has been reviewed by Ofer (1987). Most studies have been concerned with growth and inflation for specific sectors of the Soviet economy, the machine-building and metalworking (MBMW) sector being the most prominent. The estimates by Steiner (1978), Leggett (1981), and Converse (1982) discount the tempos reported for the MBMW sector because of the finding of concealed inflation there. The presence of hidden inflation was also found by Birman (1980) who analyzed the problem of too many rubles chasing too few consumer goods in the U.S.S.R. The different nature of inflationary processes in the Soviet consumer and producer-goods markets was stressed by Kushnirsky (1984).

An extended discussion of the real growth of Soviet fixed investment was initiated by Nove (1981), Cohn (1981), and Wiles (1982). The issue has been reexamined by Bergson (1987) who finds no conclusive evidence that Soviet data on real fixed investment are subject to concealed inflation, even though he does not exclude such a possibility. Hanson (1987) and Nove (1987) disagree and believe that the new criticism, expressed in the Soviet literature at both the official and unofficial levels, proves that the official data are inflated.

Western analysts have not ignored the Soviet problem of growth and productivity slowdown, either. Levine (1982) categorized the factors leading to the slowdown as exogenous, stemming from maturing economy, resulting from planning decisions and systematic. Some of these factors were further specified in a discussion by Gomulka (1985), Desai (1985), and Kontorovich (1985).

The attention paid to the estimation of Soviet real economic growth is quite understandable: Ordinary Westerners as well as their governments want to know how super is that superpower. What is less evident to an ordinary Westerner is why others estimate something that the Soviets have already calculated and published. The Soviet Union is not a less-developed country lacking sufficient resources to record, collect and process the necessary data. On the contrary, perhaps no other country has devoted so many resources to the cause of the organization, analysis, and verification of statistical information as the Soviet Union.

The Soviet national system of statistical information is organized and controlled by the State Committee on Statistics (*Goskomstat* or, formerly, *TsSU*). It collects different kinds of informational reports (*otchetnost'*) from industrial firms, collective farms and other organizations. Along with *Goskomstat*, information is collected by local authorities, republic economic and government bureaucracies, ministries, departments, State Planning Committee *(Gosplan)* and hierarchial party organs. Even more significant in numbers is the staff of industrial enterprises that compiles the information. The data are prepared by such enterprise departments as planning, technology, bookkeeping, labor and wages, and supply. Computerized data processing plays an important role at large and medium-size enterprises. In many instances, computer centers collect the information directly from the enterprise workshops.

At the same time, the reader is aware of the fact that the Soviets do not publish many essential statistical data which are not classified. The data that they do publish are frequently in a cryptic form or are otherwise distorted because of undisclosed changes in statistical methodology and definitions or the use of different prices for the same indicators in the same publications. Given these statistical puzzles, many of the published data allow for broad interpretation as well as misinterpretation. Certain types of reports, such as defla-

tionary wholesale prices or a decline in Soviet military expenditures from 12.7 percent of the national budget in 1960 to 4.6 percent in 1986 (*Narkhoz SSSR za 70 let*, 1987, p.63), are met with skepticism. This implies a lack of respect for Soviet official statistics.

While it is difficult to summarize the attitudes of Western analysts, the majority has not accepted the official information on Soviet economic growth. But, if one believes that the Soviets publish distorted information, it is also natural to believe that, along with the data for the public view, there should be another set of books. This follows from the fact that the Soviets continue to spend tremendous resources on national statistics and have a qualified cadre, software, and hardware. Moreover, it is clear that planners and government and party authorities want access to accurate data. The true secret information could, therefore, be used to serve the planning process and the authorities, and the published information is to mislead the enemies of socialism and its friends alike.

This picture is, of course, an oversimplification. Nevertheless, the notion of the existence of two parallel sets of accounts has interesting consequences. First of all, if there are true data, there are true growth rates. A Western analyst who estimates Soviet economic growth thus needs reliable data, and the closer these data are to the secret set, the "truer" are the estimates. There is a hope that the true growth rates will sooner or later be uncovered with the gradual progress in the search for information and in estimation. There remains a problem in knowing just when one has arrived at true rates.

However, the new developments in the Soviet Union seriously challenge this stereotypical line of reasoning. Gorbachev calls for a radical reform of Soviet statistics. The fact that he does not like what he sees could undermine any belief in the existence of the true secret information. Even more important is the evidence provided by some Soviet writers who critically assess the country's economic growth. For example, the estimates by Seliunin and Khanin (1987), Val'tukh and Lavrovskii (1986), and Fal'tsman (1987) dramatically depart from the official ones. This may not be surprising in the period of *glasnost'*. What may be surprising is that the writers themselves come up with quite different estimates for the same economic indicators.

The source of the writers' information must have been the materials of *Goskomstat*. A necessary condition for being permitted to use this information is that it is pertinent to an authorized study, i.e., included in a research institute's thematic plan (*tematicheskii plan*). In this case, having an official request from the institute, one would be given access to the information "for official use" (*dlia sluzhebnogo pol'zovaniia*). Ironically, all *Goskomstat* data are termed this way, including those that are actually published. Of course, classified information requiring special clearance (*dopusk*) is another story. The estimates of the Soviet writers vary for different reasons, in particular since they may use different techniques to refine official statistics. If they were able to obtain the alternative set of true data, such variation might not happen. If Gorbachev were given data he believes true, he would not call for a radical reform of their statistics. The Soviets now find themselves in the position of Western analysts struggling to reconstruct meaningful Soviet data. While this is no news to many knowledgeable Soviet economists who simply could not speak out in the pre-Gorbachev period, Soviet statisticians would not agree with such an assessment. This is quite natural for people who do their best when they are suddenly told that they spent time and effort on something which is meaningless.

The causes of Soviet statistical problems are analyzed in this book in a broad context of issues related to the measurement of Soviet economic growth. Summarized in just a few questions, the following are discussed: What do Soviet measures of growth and inflation mean? How are their prices set? What lies behind the official measures of growth, and how could alternative estimates be obtained? How does the Soviet system of distribution, as opposed to free-market sales of goods and services, affect their estimates? If inflation exists in the Soviet economy, what mechanisms conceal it? How could planners' perceptions on quality change be used for separating real from inflationary components of growth? In answering these and other questions, we believe that the complexity of the issues could be better understood when theoretical reasoning is combined with practical estimation.

In the first, theoretical part of the book we take into account the priority of Soviet economic planning in terms of physical commodities, not in monetary aggregates. Consequently, microeconomic

models and indicators are stressed. The investment process is one example. Total Soviet investment is planned on the basis of the capacities of the construction industry and the MBMW sector supplying producers' durables. Actual investment may deviate significantly from planned, but this, again, depends on whether the construction and MBMW sectors meet planning targets, rather than on any financing factors. Indicators of real growth and inflation can serve as another illustration. Inflation may always and everywhere be a monetary phenomenon; however, when it comes to transactions in the Soviet producer-goods markets, the nominal money supply is determined by the supplies and prices of material inputs. The State bank allows only those transactions that are foreseen by the national economic plan or otherwise authorized. If, for example, input prices rise, the funds appropriated to the producer will automatically increase. Hence, nominal money supply is endogenous and accommodates price changes. From this standpoint, trends in costs, not money supply, affect price inflation in the producer-goods markets.

An important feature of the growth of the Soviet economy is the emphasis on producer, not consumer goods. The importance of the MBMW sector has been stressed by the Soviet authorities because that sector induces technological change in the economy, provides machines and equipment for new construction projects, and turns out military systems and hardware. Western analysts also find the Soviet MBMW sector of primary importance. It is the most dynamic sector of the Soviet economy in terms of growth, varying product assortments, price fluctuations and quality change. It is therefore clear that the MBMW sector is paramount for the evaluation of Soviet long-term economic growth.

While growth figures are high for Soviet industry in general, they are especially impressive for the MBMW sector which has far outperformed other sectors of the economy. The official average growth rate for this sector equals 10 percent from 1960 to 1986 (*Narkhoz SSSR za 70 let*, 1987, p.130). The question widely debated in the U.S.S.R. now is whether these impressive figures actually reflect the growth of physical output. To put it differently, did the Soviet economy receive more machines and equipment as a result of this growth, and, if so, was the rate of real growth the same as the growth in value

terms? This question interests both western analysts and the Soviet planners who cannot track the production of all of the goods in physical units. But why would one raise such a question in the first place? After all, output in value terms is composed of prices and physical units; if constant prices are used, then economic growth must be the same in value terms and in physical units, with an adjustment for quality improvements.

To answer this and similar questions, the procedures of Soviet measurement of output, productivity, costs and prices have been analyzed in this study. Special attention is given to the processes of planning quality improvements and pricing new technological items. An analysis of procedures and methodological instructions used in planning and pricing MBMW products may be helpful in revealing possible discrepancies between prices of new goods and their quality characteristics. Other factors important to the Soviet sellers' market are also analyzed. The analyses are based on the consideration of Soviet theoretical price models and growth and price indices. Actual trends in the MBMW output, productivity, costs, and prices are demonstrated with the use of different statistical materials.

In the second, empirical part we first take a partial approach by estimating real and inflationary growth of the branches representing the Soviet MBMW sector – the automotive industry, the electrotechnical industry and the energy and power machinery. As usual, an extended reconstruction process is required in each case. Its task is to estimate the indicators of outputs in physical units, value terms and the end-use or quality characteristics of machines and equipment. For the automotive industry, individual prices play an important role in the reconstruction process, whereas, for the electrotechnical industry and the energy and power machinery, a more aggregate approach is used. The discussion of the estimation process could have been based on these materials without actually presenting them. But, since some of the readers may specifically be interested in the reconstructed data, we feel it is necessary to present as many as possible.

To separate the real and inflationary components of growth for the three industries, the growth of output in money terms is compared with the rise of output (measured in units of quality) by specific product group. For the electrotechnical industry and energy

and power machinery, single characteristics of quality are selected; for the automotive industry, there is a complex index of quality, incorporating six different characteristics of both cars and trucks. The growth and price indices obtained by product group are then averaged for each of the three industries.

In a general approach, the findings of the partial consideration for the three MBMW branches are interpreted in the light of an ongoing debate on Soviet official statistics. This debate was stirred by a 1987 article by Seliunin and Khanin (S-K) in a Soviet literary and social journal, *Novyi Mir*. There has been no lack of critical publications in the U.S.S.R. recently, and the harsh criticism of Soviet statistics by S-K would remain unnoticed but for their sensational assertion that Soviet national income did not grow about 90 times in the 1928-85 period, but only 6 to 7 times (Seliunin and Khanin, 1987, p.192). How is this possible? To answer the question, we compare several growth rates for the Soviet economy and its MBMW sector and try to understand why they significantly differ. For this purpose, the issue of the reliability of Soviet statistical information is investigated, and even greater attention is given to methodology. In particular, the S-K methodology is analyzed. Finally, the problems of statistical methodology are linked to the problems of the Soviet economic model in order to speculate whether there could be winners and losers in the Soviet statistical debate.

Chapter 1
Setting Prices in Producer Goods Markets

1.1. Prices Used in the Soviet Economy

The price mechanism is one of the most important parts of Soviet economic planning. Not surprisingly, regulations on price setting have been both rigorous and rigid. If one attempts to comprehend the specifics of the determination of prices, one will find that there are as many price setting schemes as there are different industries and even product groups. A typical Soviet handbook on pricing would have a short theoretical part, a longer description of the methodology, and an extended list of separate chapters on price setting for fuels, energy, chemicals, machines, agricultural products, consumer goods, etc.[1]

For industrial goods, all these prices can be of two general types: wholesale or retail. All other prices are variations of these two, resulting either from the methods by which they are set or from their interpretation in planning and statistics. Unlike prices in a free-market economy, only consumer goods have both wholesale and retail prices. Consequently, most heavy-industry products are sold at wholesale prices. Wholesale prices can be of two kinds: the enterprise wholesale price or the industry wholesale price.

The enterprise wholesale price (*optovaia tsena predpriiatiia*) is the price charged by the firm. It is comprised of the product's cost, a profit markup, and, for high-quality goods, a surcharge for quality. The purpose of this price is to compensate the producer's expenses and to provide a fair rate of return. The enterprise wholesale price is the basis for all other prices used for manufactured goods in the Soviet economy. The methodological framework for the computation

of the cost and profit components in the enterprise wholesale price is, as a rule, the same for all products. Within this framework the main distinction lies in pricing new products, a process described in Section 3.2.

The industry wholesale price (*optovaia tsena promyshlennosti*) is the enterprise wholesale price plus the markup for the sales organization (*snabzhenchesko-sbytovaia natsenka*) and the turnover tax (*nalog s oborota*). If a branch of industry has both the enterprise and the industry wholesale prices, the user pays the latter, i.e., the higher one, while the producer receives the enterprise wholesale price. The discrepancy is divided between the intermediary (the sales markup) and the state budget (the turnover tax). For machines and equipment, as well as for other producer goods such as chemicals, construction materials, nonferrous metals and coal, the industry wholesale price coincides with the enterprise wholesale price. For ferrous metals and timber, the industry wholesale price exceeds the enterprise wholesale price by the sales markup. For oil products, gas and electricity, the industry wholesale price includes both the sales markup and the turnover tax. The industry wholesale price of an oil product would then have the same structure as the industry wholesale price for a consumer good.

Figure 1.1 illustrates the structure of a hypothetical Soviet retail price set to equal 100 rubles. In this example, the enterprise wholesale price, as the sum of total cost and profit, equals 70 rubles. Three industry wholesale prices are shown. For a machine, it coincides with the enterprise wholesale price of 70 rubles. For a metal product, it also includes the sales markup of 6 rubles and equals 76 rubles. For a consumer good, the turnover tax of 20 rubles is added to the industry wholesale price, so that the latter amounts to 96 rubles. Finally, the retail markup of 4 rubles closes the gap between the industry wholesale and the consumer product retail price of 100 rubles.

Wholesale prices can be either permanent or temporary. Permanent prices are those officially approved by an organization responsible for a stipulated list of product groups (*nomenklatura*) and included in special price lists (*preiskurant*). *Preiskurant* is a price publication for a certain product group, with appendices for prices

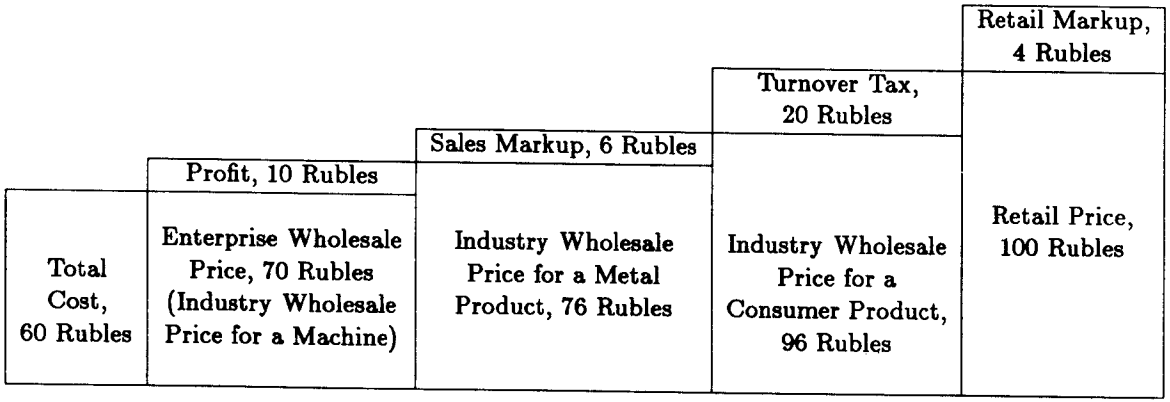

Figure 1.1. Structure of a Hypothetical Soviet Price

approved after the publication date. *Preiskurant* prices can be approved by the State Committee on Prices (*Goskomtsen*), the *goskomtsen* of the republics, U.S.S.R. ministries and departments or local authorities. The more important the product, the higher the authority approving the price. Most calculations on wholesale prices and their justification are performed by the ministries and departments, regardless of the organization issuing the corresponding *preiskurant*. *Preiskuranty* are numbered in accordance with the level of bureaucratic hierarchy which approves them. The numeration is different for wholesale and retail prices.

Preiskuranty for wholesale prices issued by the U.S.S.R. *Goskomtsen* have four-digit numbers. All products are classified according to their origin. The first two numbers correspond to the industry of origin, and the other two indicate the order of the product group within the industry. For example, ferrous metallurgy is assigned number 01, and the *preiskurant* of wholesale prices for its 25 product groups are numbered from 01-01 to 01-25. When a *preiskurant* is approved by a republic *goskomtsen* or a ministry, two additional numbers are added to the above classification. First, the fifteen Soviet republics are numbered in order of their economic importance: 01 stands for the Russian Soviet Federated Socialist Republic (R.S.F.S.R.), 02 for the Ukraine, etc. The ministries and departments follow. If a *preiskurant* is approved by province (*oblast'*) or city authorities, it is labeled, along with the above, by two letters, like "Mg" for Moscow. *Preiskuranty* of retail prices approved by the U.S.S.R. *Goskomtsen* have three-digit numbers, from 001 to 029 for food products and from 030 to I-138 for nonfood products. (The letter I stands for imports.) Along with the information on prices, a *preiskurant* contains a brief description of the goods' quality and technical characteristics.

The purpose of temporary wholesale prices is self-explanatory: they last until permanent prices are approved. The lack of reliable information on these prices creates difficulties for analysts studying Soviet pricing policies. Their effect on prices in various industries, especially in the machine-building and metalworking sector (MBMW), is usually noted rather than seriously analyzed. Soviet studies also use only *preiskurant* wholesale prices since, for planning