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Further Thoughts on the First Soviet Five-Year Plan

In his pioneering article,¹ Professor Holland Hunter set himself the limited but difficult task of checking the First Five-Year Plan approved in the spring of 1929 for its internal consistency. He did not attempt to find out whether the targets of the plan for production and investment, and for "qualitative" indicators such as the capital-output ratio, were feasible: he took these targets as given, and tried to find out whether they were mutually compatible. In Professor Hunter's words, his test "confines itself to the question whether the targets for 1933 could have been achieved under the optimistic parameters embodied in the plan" (p. 239). This point seems to have been overlooked by some of the contributors to the discussion in *Slavic Review*.

The present comment begins with some observations on the tests of the internal consistency of the plan undertaken by Professor Hunter. We then turn to the wider issue of the feasibility of the plan: having concluded that the version of the plan adopted in the spring of 1929 was not feasible, we then discuss some of the trends within the Bolshevik Party and the state administration in the 1920s which favored its adoption.

Two assumptions made by Professor Hunter seem to be unjustified, and bias his data toward the conclusion that the plan was internally inconsistent. First, he assumes that the effect on the capital-output ratio of the planned fall in costs of production can be ignored. The costs of capital investment in his test are consequently measured throughout in fixed 1926/27 prices.² But the plan itself is quite specific on this point:

1. Holland Hunter, "The Overambitious First Soviet Five-Year Plan," *Slavic Review*, 32, no. 2 (June 1973): 237-57.

2. See Holland Hunter's mimeographed paper, "A Test of Five-Year Plan Feasibility" (June 1973), p. 1, and mimeographed appendix, p. 1.

The authors are most grateful to Professor Hunter for generously making his working papers available and to colleagues attending the Birmingham Work-Group on the Economic History of the USSR in the 1920s and 1930s, especially Dr. A. Vyas, Mr. J. Butterworth, and Dr. R. A. Lewis, for valuable suggestions.

The general line for the reconstruction of industry must be the organic combination of a large growth of production with a maximum fall of the costs of production. . . . Without this it is inconceivable that we will be able to ensure the rate of growth of capital investment indicated in the plan.³

The plan evidently assumed a greater growth of labor productivity in the capital goods sector than for industrial production as a whole. As a result, while the reduction in the costs of capital investment in industry over the five-year period was planned at 23.7 percent in the basic and 33.5 percent in the optimum variant, costs of gross industrial production were planned to fall by only 18.3 percent and 22.9 percent respectively.⁴ The reduction in industrial capital investment costs was thus planned to be some 5–10 percent greater than the overall fall in industrial production costs.⁵ The effect of this planned differential fall in costs was to reduce the resources required for capital investment and to lower the planned future capital-output ratios.⁶ To this extent the capital stock planned for 1932/33, *given all the assumptions of the plan*, would be more easily achieved than Professor Hunter claims.

The second significant shortcoming in Professor Hunter's test lies in the method used for constructing a standard gestation pattern for all capital investment (that is, for both structures and equipment, for both the construction of new plants and the reconstruction and enlargement of existing facilities). The gestation pattern for the construction of *new projects* given in the supplement to volume 3 of the First Five-Year Plan is taken as the standard for *all* capital investment. Professor Hunter himself accepts that the gestation period for outlays on equipment and for the reconstruction and enlargement of existing facilities would most probably be shorter than for new construction,⁷ but does not take this point into account owing to the lack of adequate data to evaluate the gestation period for such investment.

The effect of both these points is to build into Professor Hunter's test a bias which substantially exaggerates the degree of intertemporal inconsis-

3. Gosplan SSSR, *Piatiletñii plan narodno-khoziaistvennogo stroitel'stva SSSR*, 2nd ed. (Moscow, 1929), 1:86.

4. Calculated from growth coefficients in current and constant prices given in *Piatiletñii plan*, 1:131.

5. Similar assumptions were made for agricultural investment and production costs. See *Piatiletñii plan*, 1:133.

6. Admittedly, the differential fall in capital investment costs would only directly affect the marginal capital-output ratio. But since the marginal additions to capital stock over the five-year period accounted for over 72 percent of all 1932/33 capital stock in the optimum and 68 percent in the basic variant (excluding depreciation), the overall planned capital-output ratios would nevertheless be significantly lower than Professor Hunter assumed. See *Piatiletñii plan*, 1:130.

7. See Holland Hunter, "A Test of Five-Year Plan Feasibility," p. 34.

tency of the plan, given the parameters embodied in the plan.⁸

Although the plan may have been more consistent in its internal structure than Professor Hunter believes, there is no doubt that the assumptions on which it was based were quite unrealistic.

Thus both the basic and the optimum variant of the plan for industry turned on heroic assumptions about the increase in labor productivity (85 percent in the basic, 110 percent in the optimum variant), the fall in industrial costs (30–35 percent), and the reduction in the retail prices of industrial goods (20 or 23 percent) which were to be achieved by 1932/33.⁹ As Dr. Lewin reminded us, the process of planning was such that these coefficients were, in effect, obtained as a residual. The production and investment targets of the plan were taken as a starting point; and the industrial costs' reduction target was then fixed so as to enable industry to increase its profits sufficiently both to provide finance for capital investment and simultaneously to reduce its prices to improve the terms of trade for the peasant. Moreover, in view of the political requirement that nominal as well as real industrial wages must rise, all this could be accomplished only by assuming, in turn, that an enormous increase would be achieved in labor productivity (output per man-year)—this was the crucial prediction of the plan, from which the targets for costs and prices were then derived. There was a further element in this procedure. Each successive variant of the plan provided for more capital investment in industry; and it was a dogma of the planners that the share of the budget in financing capital investment must fall. A higher level of industrial profit therefore had to be attained. At the same time almost every successive variant of the plan assumed both a higher rate of increase in money wages and a greater fall in industrial prices than in the previous variant.¹⁰ Thus the planned rate of industrialization and the planned rate of increase in the standard of living happily increased in each successive variant.

The plan for agricultural development was constructed in a similar way. It assumed high increases in both grain yields (17 or 25 percent) and the sown area to grain (15 or 14.3 percent). This would result in an increase in grain

8. The way in which some of the planning data are fitted into the input-output tables in Professor Hunter's article may also be open to criticism. In our opinion it has resulted in an underestimation of the significance of the critical nature of the intersectoral relationships and in particular of the planned agricultural contribution to economic development. For a detailed account of our own attempt to fit the agricultural data into the base year and target year input-output tables, apply to us at CREES, The University of Birmingham, Birmingham 15, England.

9. *Piatiletii plan*, 1:85, 96, 107.

10. See table 51 in E. H. Carr and R. W. Davies, *Foundations of a Planned Economy, 1926–1929*, vol. 1 (London, 1969), p. 983, and the discussion of successive plan variants, pp. 842–97. The financial philosophy of the plans was well set out in M. I. Bogolepov, *Finansovyi plan piatiletiia* (Moscow, 1929).

output of 36.4 percent in the basic and 44.7 percent in the optimum variant; this in its turn would allow an increase in grain marketings by 111 or 143 percent and in grain export by 1,016 or 1,745 percent. Enough grain would still be left in the countryside to increase the allocations of grain to livestock feed by 33 or 49.4 percent, which in turn would enable an increase in the number of livestock by 32 or 34 percent.¹¹ These targets, like the productivity and costs targets in industry, appear to have been derived as the residual necessary to create an intersectoral balance, given the ambitious targets for industrial production and investment.

Why were these targets set so high? Like some of the other contributors, Professor Hunter in his concluding remarks discusses this important issue in terms of the situation in 1928 and 1929, when optimism based on recent progress was combined with fear of military intervention and recognition of the need to modernize agriculture with the aid of industry, all in the context of an atmosphere of enthusiasm for high targets and of Stalin's struggle for supreme power against the Right Opposition.

We would hold that the emergence of an unrealistic plan must be traced further back, and that in the period 1925–27 a growing section in the Bolshevik Party was already moving implicitly if not explicitly outside the NEP framework.

Within Gosplan, the compilation of the control figures for 1925/26 in the summer of 1925 already marked the emergence of a more dynamic approach to industrialization, prepared to place financial stability in some jeopardy for the sake of increased investment, and tending to overoptimism about agricultural prospects.¹² This approach, supported in Gosplan by Krzhizhanovskii, Strumilin, and (for the moment) Groman, was rebuffed during the inflationary crisis of the autumn of 1925. But the setback proved only temporary. When Strumilin, with the backing of Krzhizhanovskii, presented the second draft of the Five-Year Plan to the Second Gosplan Congress in March 1927, he pressed the cause of industrialization much harder than seemed reasonable to his more moderate colleagues (such as Groman), and his point of view prevailed. Strumilin argued at the congress that the transformation of the economy must be brought about by preparing "engineering projects," which would set quantitatively realistic targets for each subsector of industry. An integrated version of these industrial plans would then be prepared, and the plans for agriculture and other sectors would later be fitted into it. In the draft submitted by Strumilin to the congress, the planned rise in

11. *Piatiletñii plan*, 1:144; *Piatiletñii plan narodno-khoziaistvennogo stroitel'stva SSSR* (Moscow, 1930), 2 (pt. 1): 324, 325, 332, 333.

12. See E. H. Carr, *Socialism in One Country, 1924–1926*, vol. 1 (New York, 1958), pp. 500–506; see also p. 796 below.

labor productivity and reduction in industrial costs were the key variables, as they had been in the first draft a year earlier, but no serious arguments were presented to demonstrate that these targets were feasible.¹³ Until late in 1927 it was not the Politburo that was pressing for higher targets; it was the group of party members in Gosplan, allied at first with several radical nonparty specialists, who were trying to persuade the Politburo that a higher rate of industrialization was feasible.

Professor Cohen is right in supposing that pressure for increased industrialization was also coming from within Vesenkha. It is significant that in July 1926, just before he died, Dzerzhinskii was having great difficulty, in the Presidium of Vesenkha, in holding back pressure to adopt higher plan targets. He vigorously criticized the draft industrial control figures for 1926/27, and got them cut down, but only one member of the Presidium is recorded as speaking in his support.¹⁴ When Kuibyshev took over Vesenkha in the following month, he had no difficulty in restoring the original figures and in leading Vesenkha into battle for them in the government agencies.¹⁵ At a discussion about the control figures in the Communist Academy held at the end of September 1926, both Strumilin and Kraval (a protégé of Stalin, who was head of the Department of Labor Economics of Vesenkha) publicly defended a higher level of capital investment in industry, even though at the same session half-a-dozen speakers from the united opposition were also urging greater rates of industrialization.¹⁶ Twelve months later, in the discussion about the control figures for 1927/28, the pressure within Vesenkha for an increased level of capital investment in industry was again very marked.¹⁷ During July 1927 a Vesenkha commission, headed by the moderate ex-Menshevik A. M. Ginzburg, in the course of a protracted argument with

13. S. G. Strumilin, *Ocherki planovoi ekonomiki* (Moscow, 1928), pp. 422–34, 441–42, 456.

14. *Torgovo-promyshlennaia gazeta*, July 19, 1926. The control figures were presented to the Presidium by A. B. Shtern, an ex-Menshevik; Piatakov, who was absent, was chairman of the commission which compiled them. *Ibid.*, April 30, 1926. Incidentally, we would not agree with Professor Cohen that under Dzerzhinskii, Vesenkha was a “bastion of Bukharinist economic thinking.” But that is another story.

15. *Ibid.*, August 29, 1926, reporting Presidium session of August 27.

16. A verbatim report appears in *Vestnik kommunisticheskoi akademii*, 17 (1926).

17. It seems uncertain how far the pressure from these high officials in 1926 and 1927 reflected enthusiasm for industrialization among their own subordinates. A scrutiny of *Predpriiatie* (the organ of the Red Directors for the years 1926–28), made in the hope of ascertaining something of Red Directors' attitudes from reports of the meetings of their clubs, perhaps not surprisingly yielded quite inadequate information about their attitudes toward industrialization. And the accounts of their meetings in 1927 and 1928, far from revealing any organized pressure from the Red Directors, were greatly concerned with the declining attendance at the meetings; the explanation was said to be the large amount of time which the Red Directors were devoting to their studies.

Gosplan,¹⁸ agreed to a reduction in the Vesenkha investment plan for 1927/28.¹⁹ At a meeting of the Presidium of the Ukrainian Vesenkha also held in July 1927, the capital investment plan was strongly criticized as too low.²⁰ Objections to the revised investment plan were pressed extremely hard at the plenum of Vesenkha on August 11, 1927. All major industries were represented at the plenum, and party members overwhelmingly predominated. The plenum, apparently without open encouragement from the platform (Kuibyshev did not speak), called for the plan to be increased.²¹ A fortnight later, on August 25, the Politburo tentatively increased the planned allocation to industrial investment from the budget.²² Characteristically, while the eventual decision of Sovnarkom and STO was to approve the higher figure for capital investment in Vesenkha, they also instructed industry to obtain the bulk of the proposed increase not from a budget allocation, but by reducing costs by 6 percent instead of 4.5 percent.²³

These developments in Gosplan and Vesenkha were accompanied by a decline in the influence of the spokesmen for agricultural interests. When Gosplan was established in 1921, Lenin appointed Popov, one of the most authoritative early supporters of agriculture, as chairman of its agricultural sector.²⁴ By late 1924, after initial disagreements, Popov's sector was working in close contact with the planning sector of Narkomzem, in which Kondratiev's

18. In Gosplan, the control figures both for 1926/27 and 1927/28 were primarily the responsibility not of the enthusiastic Strumilin, but of the more moderate Groman and Bazarov.

19. Kuibyshev was on holiday during July while the Vesenkha proposals were being discussed in the various sections of Gosplan. Rukhimovich, his deputy, wrote warning him: "They have all turned on us, and argue that the claim for finance and the amount of capital construction cannot be met in the present circumstances." Kuibyshev replied that he would not return at once from holiday but would get really well "so as to enter the fight with fresh energy." See G. V. Kuibysheva et al., *Valerian Vladimirovich Kuibyshev* (Moscow, 1966), p. 271.

20. *Torgovo-promyshlennaia gazeta*, July 23, 1927.

21. *Ibid.*, August 12, 1927. The report was presented by Rukhimovich, a leading party member in Vesenkha. Critics included V. I. Iakovlev (from the timber industry), Mezhlauk (chairman of Glavmetall), Lobov (chairman of Vesenkha of the RSFSR), Matrosov (from the Northern Chemical Trust), Lepse (from the Metalworkers' Trade Union), and Sukhomlin (chairman of Vesenkha of the Ukraine).

22. *Industrializatsiia SSSR, 1926-1928 gg.* (Moscow, 1969), p. 514.

23. *Torgovo-promyshlennaia gazeta*, October 5, 1927. Actual costs reduction in 1927/28, according to official figures, was either 5.1 or 6.2 percent, so the revised costs plan was not unrealistic. This success formed the basis, however, for arguing in favor of annual costs reduction targets which proved unrealistic for 1928/29 and later years. See *Kontrol'nye tsifry narodnogo khoziaistva SSSR na 1928-1929 god* (1929), pp. 280-81 and *Promyshlennost' SSSR v 1927/28 godu* (1930), pp. 109-15.

24. Popov continued as chairman of the Central Statistical Administration (TsSU), which he had directed since its foundation in 1918.

influence predominated. At the beginning of 1925, Kritsman, the leading agricultural specialist in the Communist Academy, published an all-out attack on the current Narkomzem five-year agricultural plan.²⁵ At the same time, during discussion of parts of this plan, some members of Gosplan's agricultural sector, notably the radical Golendo, rebelled against the moderate leadership of Popov and his support of the Narkomzem plan.²⁶ At sessions of the Presidium of Gosplan in late July and August 1925, when the Narkomzem plan was discussed further, both Kondratiev and Popov were attacked by Kritsman, Groman, and Golendo.²⁷ Within a few months of this dispute (early 1926), Popov was dismissed from his posts in TsSU and Gosplan, and replaced by Osinskii²⁸ and Vyshnevskii, both of whom were supporters of more dynamic industrialization policies. Narkomzem itself had little political influence. All the other economic commissariats were established at both the all-Union and the republican level, but only republican Narkomzems existed. A. P. Smirnov, people's commissar for agriculture of the RSFSR, though a respected Old Bolshevik, was a mere candidate member of the party Central Committee and had much less influence than Kuibyshev (in charge of Vesenkha from August 1926) and Mikoyan (people's commissar for trade from January 1926). Significantly, from the beginning of 1926, the Narkomzem economists contributed little to the planning work of Gosplan.²⁹ Against the advice of Narkomzem, the annual control figures for agriculture were drawn up in Gosplan before the harvest for the previous year was known, and in both 1925/26 and 1927/28 embodied substantially overoptimistic evaluations of the harvest. In 1925/26, the failure to achieve planned marketings led Gosplan, reluctantly, to revise the control figures.³⁰ In 1927, the overoptimistic evaluation of the harvest in the control figures for 1927/28—resisted on this occasion by Groman in Gosplan as well as Narkomzem—played its part in the grain crisis of the autumn of 1927 and in the “extraordinary measures” which followed it. Nor did Narkomzem exercise much influence

25. See Kritsman's articles in the new journal of the Academy, *Na agrarnom fronte*, 1925, nos. 1, 2 and 3.

26. See the report of Golendo's speech in *Puti sel'skogo khoziaistva*, 1926, no. 1, p. 192.

27. See reports in *Planovoe khoziaistvo*, 1925, no. 8, pp. 125–33, 135–37 and *Puti sel'skogo khoziaistva*, 1926, no. 1, pp. 192–97. An ambiguous resolution, affirming the plan on the proviso that certain corrections be made, was passed on September 1, 1925 and finally published in the Narkomzem journal in mid-1926 (*Puti sel'skogo khoziaistva*, 1926, no. 4, pp. 159–67), but was apparently not published in *Planovoe khoziaistvo*.

28. Kritsman soon became Osinskii's deputy.

29. See Vyshnevskii's complaints of Narkomzem “isolationism” in *Planovoe khoziaistvo*, 1927, no. 3, p. 112 and similar complaints by Oganovskii in *Ekonomicheskoe obozrenie*, 1927, no. 2, p. 77.

30. See *Planovoe khoziaistvo*, 1926, no. 2, p. 86.

on the preparation of the Five-Year Plan in 1926 and 1927. Both Gosplan and Vesenka prepared their own agricultural five-year plans, and the critical contributions of Narkomzem economists to the second Gosplan Congress in March 1927 were spectacular but ineffective. The stand of Narkomzem and Narkomfin economists against the extraordinary measures, described by one of them as “a return to the methods of ‘War Communism,’”³¹ resulted in removal from their posts.

By autumn of 1927, the needs of industrialization appeared to demand a rapid improvement in agricultural production, and the People’s Commissariat for Workers’ and Peasants’ Inspection (Rabkrin), headed by Ordzhonikidze between 1926 and 1930, came forward with wildly optimistic proposals. In November 1927, Tsilko, a leading Rabkrin official, proposed that the yield of grain should be “doubled in ten years” (at this time the most ambitious proposal in a five-year plan was for an increase in yield of 11.4 percent and an increase in production of 25 percent³²). A month later, at the Fifteenth Party Congress, Iakovlev, deputy people’s commissar for workers’ and peasants’ inspection, attacked all the preceding drafts of the Five-Year Plan for agriculture, and called for an increase of the yield of grain by 30–40 percent over five years and 100 percent over ten years.³³ Thus by December 1927, Rabkrin was already calling for a planned increase in grain yields which equalled the figure of 35.5 percent called for by the optimum variant of the plan that was approved only in the spring of 1929.³⁴

A further notable development in economic policy in this period was the increased use of administrative measures to regulate trade and to control prices, a tendency associated with the rise of Narkomtorg. Although 1926 and 1927 are often considered the apogee of NEP, the whole period from 1924 to 1927 was one of increasing efforts to regulate state and cooperative trade, control prices, and limit private trade. From 1926 onward, prices began to be forced below the market equilibrium levels. On July 2, 1926, a decree of STO called for “the reduction of retail prices of products of state industry in short supply.”³⁵ From the summer of 1926, a reduction in the state delivery price for grain was enforced. In February 1927, the Central Committee of the party resolved to reduce the retail prices of industrial consumer goods by 10 percent, relying partly on a planned fall in industrial costs and partly on measures to

31. See Vainshtein’s article in the *Ekonomicheskii biulleten’ koniunktornogo instituta*, no. 11/12 (1927), p. 15. This was the last edition edited by Kondratiev and Vainshtein.

32. N. P. Oganovskii in *Planovoe khoziaistvo*, 1927, no. 7, p. 54; Oganovskii implied, however, that this proposal was less realistic than a lower variant.

33. *Piatnadsatyi s’ezd VKP (b)* (1961), 2:1358–63.

34. *Piatiletii plan* (1930), 2:324–25.

35. *Sobranie zakonov*, 1926, no. 51, art. 374.

reduce trading overheads.³⁶ This was not the first attempt to bring down industrial prices, but, unlike previous efforts in 1926, the campaign, which was led by Mikoyan as people's commissar for trade, was administratively successful, even though it brought prices below the equilibrium position and thus was a major factor in the goods' shortages of the autumn of 1927. Some party leaders hailed the administrative forcing down of prices as a great success: Kuibyshev told the plenum of Vesenkha that "to reduce prices when there is a goods shortage" was "a very great achievement of the planning principle."³⁷

Clearly, between 1925 and 1927, at least three trends were eroding determination to maintain market equilibrium—a cardinal feature of NEP. First, Gosplan began to increase plan targets to a level which was incompatible with equilibrium on the market and hence with the full continuation of NEP. Second, within Vesenkha, there was strong pressure for higher levels of industrial investment. Narkomzem was unable to resist the onslaught of politically influential groups in Gosplan and Vesenkha, especially when Rabkrin became committed to their support. Third, there was a tendency on the part of the authorities to attempt to manipulate the economy by administrative order in defiance of market equilibrium, strikingly illustrated by the course of the campaign to reduce prices for industrial goods.

Some of Stalin's principal associates—Kuibyshev, Mikoyan, and the lesser figure of Kraval—were publicly connected with these shifts in attitude from the autumn of 1926 onward. While Rykov and even Bukharin were also manifesting greater enthusiasm for the industrialization drive at this time, there was a distinct crack—though our hindsight must not lead us to exaggerate it—between the expressed views of the two groups. The enforced grain collections of January and February 1928 were a natural continuation of the activities and statements of Narkomtorg and Vesenkha during 1927 in favor of administrative control and rapid industrialization, and were an abrupt departure from the stated views of Bukharin and Rykov. However, Stalin's role in this is not free of ambiguity. Until January 1928, he was cautious in his pronouncements, appearing as a devoted admirer both of industrialization and of NEP.³⁸ On present evidence it would perhaps be going too far to conclude that Kuibyshev was responding actively to pressures from within Vesenkha, conveying these pressures into the Politburo in 1926 and 1927,

36. The reduction in grain prices and in industrial prices formed links in a chain. On September 16, 1926, the Politburo resolved that the reduction of grain prices made it necessary to reduce industrial prices (*Industrializatsiia SSSR, 1926-1928 gg.*, p. 510).

37. *Torgovo-promyshlennaia gazeta*, August 14, 1927.

38. For some evidence that Stalin was already envisaging a revolutionary approach to the construction of socialist society in 1925-26 see R. C. Tucker, *Stalin as Revolutionary, 1879-1929: A Study in History and Personality* (New York, 1973), pp. 395-404.

and hence playing an important part in changing the prevailing assumptions of Stalin and his circle, rather than deliberately encouraging pressures for industrialization from Vesenkha, manipulated by Stalin as the master organizer. But there is no doubt that a group of men around Stalin was by 1927 showing sympathy for the appeals from industry and the ideas of Krzhizhakovskii and Strumilin—as well as being influenced, without admitting it, by the arguments of the Left Opposition in favor of rapid industrialization.

Here we have some of the strands in the background to the crisis of the grain deliveries in the autumn of 1927—substantially a result of policies of industrialization and price control which, in practice if not in theory, stepped out of the framework of NEP. The crisis was resolved by emergency measures which led the economic system further out of that framework. From the beginning of 1928 onward, no serious attempt was made to return to the policies of 1925 and earlier. While the resolutions of the Sixteenth Party Conference in April 1929 remained, as Professor Cohen says, “within the framework of NEP,” it was only a formality, a mixture of deceit and self-deception. By the spring of 1929 grain deliveries had involved the use of administrative pressure for two successive harvests, inflation was taking place, and rationing was being introduced in the towns.

Although pressure from within Vesenkha, the prevalent ideology in Gosplan, and the weak position of Narkomzem all played an active part in bringing about the break with NEP at the end of 1927, they appear to have been less important as factors promoting the further rapid rise of five-year plan targets in 1928 and 1929. Of course, there is a touch of the sorcerer's apprentice about Gosplan's role. As is well known, by the end of 1928 even Strumilin was convinced that the latest (December 1928) variant of Vesenkha, which was the basis for the optimum variant of the Five-Year Plan approved in the spring of 1929, was not feasible in physical terms—he argued that insufficient building materials and capital equipment would be available.³⁹ Oganovskii, as early as December 1927, declared that the Rabkrin project of doubling the yield of grain in ten years and increasing it by 35 percent in five years was irresponsible.⁴⁰ Vol'f, the new head of the agricultural sector in Gosplan, clearly held much the same attitude.

In Vesenkha the position was more complicated. While the party leadership of Vesenkha was pressing consistently for higher five-year plan targets, there is little evidence that any substantial section of the nonparty specialists, whether engineers or economists, was supporting the party position at any time in 1928; there is, however, much evidence of resistance. The most bitter discussions concerned the Five-Year Plan for the iron and steel industry. In

39. Carr and Davies, *Foundations of a Planned Economy, 1926–1929*, pp. 884–86.

40. *Ekonomicheskaiia zhizn'*, December 19, 1927.

Vesenkha, the principal iron and steel specialists were grouped in Glavmetall around the engineer Zhdanov, who consistently opposed higher targets. The main pressure within Vesenkha for higher iron and steel targets came from its planning and economic department and was led by Sabsovich, soon to become notorious as an advocate of fantastic plans. Sabsovich's proposal to increase the target for pig iron from the 6.7 million tons earlier planned for the end of the Five-Year Plan, first to 8.5 and then to 10 million tons, was resisted within Vesenkha by both the specialists in Glavmetall and the Scientific and Technical Council of the iron and steel industry, and also seems to have been regarded skeptically by Iugostal, the principal iron and steel trust. The proposal was pushed through only as a result of the support of Mezhlauk and other leading party members in Vesenkha.⁴¹ While nonparty specialists resisted higher targets in the autumn of 1928, pressure from the heads of the principal trusts (nearly all by this time party members) to increase the annual capital investment plan appears to have been stronger than ever.⁴² This pressure was evidently an important element of support at the Gosplan Congress in October 1928 where the struggle of the Vesenkha leaders for a high capital investment plan was resisted by both Strumilin and Krzhizhanovskii. The support was also useful to Kuibyshev in his fight for this plan against Rykov at Sovnarkom and to Stalin in the Politburo and Central Committee during October and November.⁴³

In Narkomzem the position was greatly changed when the more politically influential Kubiak replaced A. P. Smirnov as people's commissar for agriculture early in 1928. Throughout 1928, right up to the session of TsIK of the USSR which affirmed the Rabkrin project on yields, Kubiak firmly rejected, as unrealistic, the proposal to increase grain yields by 30–35 percent. In November 1928, at a session of VTsIK of the RSFSR, he attacked Tsilko and the Rabkrin proposals as “utopian” and “impossible.”⁴⁴ But Kubiak's deputy, Kviring, who was at the same time first deputy chairman of Gosplan of the USSR, had by this time already enthusiastically supported the Rabkrin project.⁴⁵ In December 1928 Kubiak also gave way.⁴⁶

41. The course of the debate may be traced in *Torgovo-promyshlennaia gazeta*, April 20, July 10, August 1, August 4, September 21, and December 11, 1928.

42. It is difficult, perhaps impossible, to assess how much this pressure by 1928, if not earlier, amounted merely to the standard kind of struggle for resources among administrators who accept, without troubling themselves with the wider consequences, that they are in a situation in which available resources are increasing.

43. See Carr and Davies, *Foundations of a Planned Economy, 1926–1929*, pp. 316–17, 321–28.

44. For a report of the session see *Ekonomicheskaiia zhizn'*, November 24, 1928.

45. *Ekonomicheskaiia zhizn'*, July 18, 1928.

46. At the December session of TsIK of the USSR which affirmed the Rabkrin project, Kubiak seconded Iakovlev and stated that Narkomzem considered that the pro-

Gosplan as a whole, however, continued to refuse to accept the 35 percent target. In March 1929 at the Fifth Planning Congress, Gosplan announced that it was not prepared to go beyond assuming an increase in grain yield by 17 percent in the basic and 25 percent in the optimum variant of the Five-Year Plan. Grinko informed the congress that "it is with some timidity that we stand out against the social opinion of the country which awaits and demands a 30–35 percent increase in yield by the end of this five-year period."⁴⁷

Thus, in the period after the grain crisis at the end of 1927, the alignment of forces had changed. In 1926–27, pressure from within Vesenkha and Gosplan undoubtedly played a significant part in the movement toward a rate of industrialization which threatened to undermine the framework of NEP. In 1928–29, the main driving force for even higher targets had become the Politburo majority and the Rabkrin leadership, relying on or using enthusiasts who temporarily appeared in the limelight—for example, Sabsovich in Vesenkha, Kvirring in Gosplan and Narkomzem, Feldman and Vaisberg in Gosplan, Motylev, and the ubiquitous Larin.

The enthusiasts of 1927 were perhaps only vaguely aware of the fateful implications of their high targets. But it is clearly the case that the political leaders and others who pressed for the optimum variant of the Five-Year Plan in the spring of 1929 were advocating a rate of industrial expansion which could be formally made compatible with a smooth course of development only by such devices as the unrealistic qualitative coefficients with which the plan was studded. While Mikoyan, Kuibyshev, and Ordzhonikidze (and Stalin himself) may not yet have envisaged the immensity of the struggles which faced them in the next few years, they were committed by the spring of 1929 to rates of growth which were quite incompatible with market equilibrium, peaceful taxation of the peasantry, and rising standards of living.

It remains unclear how widespread was the enthusiasm evoked in the party at large, or in the industrial working class, by the continuing drive to increase the targets of the plans. Evidence exists both of increasing élan and of resentment and apathy. The economic historian turns hopefully to the sociologist and the political scientist for better understanding of the means to investigate the interrelationship between the Soviet social situation and the immense effective powers already exercised by the Politburo at the time the First Five-Year Plan was approved.

posed growth rates could be exceeded! See report of the session in *Ekonomicheskaiia zhizn'*, December 15, 1928.

47. See report on Grinko's speech in *Ekonomicheskaiia zhizn'*, March 9, 1929. Grinko went on to justify this stance by interpreting the TsIK decree as referring to an unspecified five-year period and not to the current Five-Year Plan. If 1929 was counted as the first year, the full 35 percent increase need not be expected until 1933/34.

We would wish to modify the conclusions of most of the contributors to the *Slavic Review* discussion on three points. First, the internal inconsistency (as distinct from the feasibility) of the Five-Year Plan does not seem to have been conclusively demonstrated by Professor Hunter. Both its basic and its optimum variants were, however, quite unfeasible. Second, we have tried to show that the history of the adoption of an industrialization program which was incompatible with NEP does not begin with the extraordinary measures of January 1928. Important developments of thought and policy in this direction took place in 1925–27, and in circles far wider than the Stalin group. Third, after the extraordinary measures at the beginning of 1928, the further increases in the targets for industrial and agricultural production, eventually embodied in the Five-Year Plan approved in the spring of 1929, were pressed for by the Rabkrin leadership, the Politburo majority, and a new group of enthusiasts within Gosplan and Vesenkha, rather than emerging spontaneously within these economic agencies.