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HELEN BOSS

Origins of the Soviet Material Product System

How and when did the Soviet Union come to have a “material product” system of national economic accounts? The Bolsheviks took power in Russia before other countries had had much experience in evaluating overall economic performance.¹ Their Marxist ambitions led them to pioneer in the collection of socioeconomic data. This paper will show that Soviet statistical agencies accepted the basic “material” features of the MPS as early as the mid-1920s, and have, with minor exceptions, retained them.

The MPS is “material” in that it aims to exclude from measures of total output “immaterial services” which Western theory treats symmetrically with goods. How it came to do this is of more than historical interest. The treatment of “immaterial” services is one of three main reasons that aggregate and per capita economic statistics of Soviet-type economies cannot be readily compared with those of other countries. (The second, much studied reason is that aggregates in centrally-planned economies are derived from quantities multiplied by arbitrary rather than scarcity prices; the third has to do with the valuation of foreign trade under inconvertible currencies.) Cumbersome manipulations must therefore be performed to

1. “Material product system” is the United Nations’ term for Soviet methodology. E.g., UN ECE, “A Note on Some Aspects of National Accounting Methodology in Eastern Europe and the Soviet Union,” *Economic Bulletin for Europe*, XI (1959), pp. 52-67. The Soviet term *natsional’nyi dokhod* is conventionally translated “net material product.” See A. S. Becker, “National Income Accounting in the USSR,” in V. G. Treml and J. P. Hardt (Eds.), *Soviet Economic Statistics* (Durham, N. C., 1972), p. 73.

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render MPS economic data comparable to those of the mixed market economies of the first and third worlds.²

Since the late 1940s all countries except those of the then Soviet bloc have been using variants of the United Nations System of National Accounts (SNA) to capture economic activity of enterprises and households. In SNA, except for illegal transactions, all activities resulting in production of goods or provision of services, whether personal or collective, are treated as "productive." Only unpaid "non-primary" activities are excluded: no imputations are made in SNA for the value of housewives' services in rich countries but values are set for food grown and housing constructed for personal consumption.³ The MPS countries have long been omitted from these league tables for lack of comparable data, as evidenced by the banks of blanks for the USSR, China, and Eastern Europe in the economic yearbooks and atlases of the World Bank and the UN. Conversion of MPS numbers to standard GNP methodology has until recently been the arduous task of individual scholars rather than the routine business of international agencies.⁴ In 1982 the joint UN-World Bank International Comparison Project published 1975 benchmark data on some centrally-planned economies (but not the USSR) that were comparable in scope, detailed branch definition, and purchasing-power prices to those of other members of the world community; the World Bank has since 1983 brought out GNP estimates for China, the USSR, and six members of Comecon for 1980.⁵

Simon Kuznets has identified the main issues of economic measure-

2. UN ESC, Statistical Commission, *Conceptual Relationships Between the Revised SNA and MPS*, E/CN.3/397 (New York, July 1969), and R. W. Campbell, *The Conversion of National Income Data of the U.S.S.R. to Concepts of the System of National Accounts in Dollars and Estimate of Growth Rate* (Washington, D.C., 1985), World Bank Paper No. 777.

3. UN ESC, Statistical Commission, *Basic Principles of the System of Balances of the National Economy* (New York, 1971), Ser. F. No. 17, pp. 10-11.

4. E.g., A. Bergson, *The Real National Income of Soviet Russia Since 1928* (Cambridge, 1961).

5. I. B. Kravis, A. Heston, and R. Summers, *World Product and Income* (Baltimore, 1982); World Bank, *China: Socialist Economic Development*, Vol. 1, *Statistical System and Basic Data* (Washington, D.C., 1983), p. 244; P. Marer, *Dollar GNPs of the U.S.S.R. and Eastern Europe* (Baltimore, 1985).

ment as “scope, valuation, and netness.”⁶ Microeconomics treats scope and netness as mere corollaries of valuation (pricing) and is prepared to use costs or imputed prices to value non-marketed outputs such as those of government. Gerschenkron and Bergson and a generation of students of the USSR economy have with good reason been concerned primarily with valuation; it is particularly troublesome in the Soviet context owing to the arbitrary nature of ruble prices and the short space of time into which industrialization and urbanization were compressed. Industrialization reduces the price of industrial goods relative to traditional agricultural goods; rapid industrialization compresses this structural change in output and relative prices into a short time period. Cloth was *relatively* more expensive to produce, in poods of grain, in 1926/7 than in 1937. Evaluation of 1937 output, with its higher output of cloth, in 1926/7 prices, weights the new quantities by the old high relative prices, giving a “high” growth rate. This index-number problem is known in the development literature as the “Gerschenkron effect.” The conventional way around it is to take a geometric mean of the growth rates obtained with early and late prices.

Kravis *et al.* address a related problem. Services have relatively low prices in traditional societies: they are labour-intensive and wages are low. Low price weights generate low apparent service “shares” in GNP when the actual “number” of services enjoyed per capita may not really be so far behind the “number” consumed in richer countries, or in the same countries when they get richer. The apparent “tertiarization” of output in rich countries is partly an illusion due to high wages.⁷

Netness is a problem when the economy is divided into many enterprises producing inputs for each other. The aim is to estimate the value of final output (bread) without double-counting the wheat, flour, transport, and energy that went into it. GNP is gross of depreciation of capital stock, so that depreciation must be added back in order to estimate Soviet GNP from net material product. Having a “nonproductive sphere” is also a question of netness. In theories of surplus and transfer (S and T) like those of Marx and Smith, public services are said to depend parasitically on a (net) “surplus” *transferred* from the “productive sector” via the state’s power to tax. Neoclassical and Keynesian theories can accommodate a fair if

6. S. Kuznets, “Concluding Remarks” in M. Moss (Ed.), *The Measurement of Economic and Social Performance* (New York, 1973), pp. 580-83.

7. Kravis, *et al.*, *World Product and Income*, p. 193. n. 13.

non-market *exchange of equivalents* between government and private producers and consumers.

The present paper is mainly concerned with scope, in theory a simpler problem than valuation or netness, but one of importance for two reasons. The first is that of international comparability already mentioned. The second has to do with the possible influence of the accounting system on resource allocation. A nation's accounting conventions, once adopted, tend to acquire institutional momentum, since policy may be formulated with a view to enhancing the growth of those types of output which the scheme valorizes. The likelihood of this is increased when planners' preferences affect prices as well as target sectors. One-party socialist states have been relatively successful in forestalling changes of the political and statistical guard. Soviet, if not all Western, writers agree that relegating services to a separate "nonproductive sphere" (*neproizvodstvennaia sfera*) has legitimized their continued low priority.⁸

Before hazarding an interpretation of the origins of the "material product system" it is useful to review the treatment of "immaterial services" in Classical and Marxian economics. We then deduce what Soviet output was from statistical and plan documents from 1921 to the outbreak of World War II.

Adam Smith's version of the surplus-generation and transfer theory was notorious in discriminating against the "immaterial" services of the government and domestic servants. Smith believed that even though such "services" involve real costs and are in the main desired by consumers, the fact that their services are not resold insulates service producers from the discipline of the market, and weakens the obligation to provide value for money. Exchanges involving services, therefore, contain a large element of *transfer*. In Smith's basic growth model a surplus of "material" wage goods makes possible the accumulation of a "material" capital stock.⁹

Marx's doctrine in *Das Kapital* and *Theories of Surplus-Value* was ambiguous enough to permit several interpretations of the "productiveness" of service occupations. Although Marx for example saw no basic difference between teaching factories and sausage factories, teaching

8. H. Boss, *Productive Labour, Unproductive Labour and the Boundary of the Economic Domain, 1662-1980* (PhD dissertation, McGill University, 1982), pp. 455-81.

9. H. Boss, "Division du travail et travail improductif dans un système de liberté naturelle: le dilemme d'Adam Smith," working paper 8611D, Department of Economics, Université du Québec à Montréal, July 1986.

factories were exceptional in that their services were performed mostly by and for individual members of the “ideological classes,” allies of the bourgeoisie.

Analytically, much of the difficulty in deriving national accounting principles from Marx stems from his incomplete utilitarianism. The pathological concern with ownership (*formes de propriété*) and with whether or not wage labour is hired makes it strictly illegitimate for orthodox Marxists to add up outputs across “mode” lines such as would be required for a GNP total. Marx’s “welfare economics” is also singular. Even under pure capitalism, citizens come in at least two classes, only one of which is productive and whose welfare therefore “counts.” To Adam Smith’s list of economic parasites, Marx’s main addition—a corollary of the axiomatic “productive-labour theory of value”—is the capitalist entrepreneur, from industrialist and financier to kulak. The Marxian normative analysis engenders a strong distrust for “the market” and fosters the belief that its antithesis, “conscious” planning, is necessary and will be near total under “socialism.”¹⁰

Since Marx treated mixed systems as inherently unstable, perhaps even as “contradictions” in the dialectical sense, Soviet theoreticians of the NEP period had their work cut out for them. Questions easy for Marxists to answer with respect to full socialism became decidedly more difficult when applied to the NEP economy, with its 25 million peasant households who, as Stalin put it, “[breed] capitalism . . . constantly, every day, every hour, spontaneously, massively.”¹¹ Acute “mode-mindedness” among the leadership was revealed in intense concern with whether or not goods were produced and sold under “capitalist conditions.” The journals and statistics of the NEP and the first Five Year Plans were careful to spell out the different ownership structures of each industry. Concern with changes in “mode” was placed on a par with the recovery of output itself.¹²

This is not to say that key elements of the orthodox Marxian *Stufenlehre* were not quickly set aside by voluntarist Bolsheviks who seized power and used it to build socialist industry in a backward country. The role

10. H. Boss, “Mode versus matter in Marx: the factory paradigm and the nature of the base,” chap. 5 of *Theories of Surplus and Transfer: Parasites and Producers in Economic Thought* (Allen & Unwin, forthcoming).

11. J. Stalin, *Works* (Moscow, 1953), Vol. 12, p. 43.

12. E.g., R. E. Vaisberg, “Narodnoe khoziaistvo SSSR kak perekhodnoe,” *Planovoe khoziaistvo*, 1925, No. 9, p. 59.

of Marxism was not that of a method for discovering the objective laws of capitalist development, as Berliner argues was its original mandate.¹³ Rather it provided the justification for, and potential ingredients of, a specifically “socialist” value theory with its own product concept—as well as insistence on planning as means.

Marx has little to say about the post-revolutionary economy except that it will be “antithetical to” the capitalist one. There is to be a “common plan.”¹⁴ The average wage will not equal per capita GNP because of deductions for investment, administration, free education, invalid and old-age pensions, and other benefits; workers will continue to be paid according to their contribution to total social product for the duration of the pre-communist scarcity phase.¹⁵ But many questions remain. Does social product consist of material private goods, food and clothing, “necessities?” Are services somehow bourgeois luxuries by nature, i.e., irrespective of “mode?” Should planning be conceived as an intermediate good alongside, or “prior to,” the production of coal and steel or the distribution of pots and pans? Is Marx’s archaic distinction between “production” and “circulation” relevant to socialism? How to deal with the “immaterial,” non-storable, but highly capital-intensive services of transport and communications, in particular, the fractions of them consumed by workers going to work or by enterprises communicating with the (nonproductive) centre and each other?

Should progressive socialization of the economic mechanism—in Marxian terminology, the “mode”—affect the boundary of “production?” Will the fact that the expenses of, for example, the Ministry of Education are paid out of the state budget, so that teachers’ services are allocated directly to the population rather than being sold at a market price (as per the “law of value”), be reason enough to label such activities “nonproductive?” On a more philosophical plane, will the economic base under socialism still be a “material” one? Or does proletarian sovereignty over the commanding heights now mean that basic “immaterial” services, such as education for literacy, belong not in the “superstructure” but in the “base?”

13. J. S. Berliner, “Marxism and the Soviet Economy,” *Problems of Communism*, 13, no. 5 (Sept.-Oct. 1964), p. 2.

14. Karl Marx and Friedrich Engels, *Communist Manifesto*, 1848 (Chicago, 1954), p. 55.

15. Karl Marx, *Critique of the Gotha Programme*, 1875 (New York, 1974), pp. 346-47.

A materialist outlook on economic life was not a Bolshevik monopoly. Western theorists since Say and Walras made no distinction of principle between services and goods even though they pointed out that welfare is augmented by “outputs” of services, not their labour inputs.¹⁶ Political realities in the Soviet Union virtually guaranteed the non-participation of economists holding such “reactionary” neoclassical views. But other groups who were often quite hostile to Bolshevik policy were employed in economic data-gathering and analysis until the late 1920s. Mensheviks and ex-Mensheviks, for example, were prominent in Gosplan and the Central Statistical Administration (TsSU) until the launching of the First Plan. Their quarrel with the Bolsheviks concerned the speed and financing of an industrialization and socialization drive which both ardently desired, and not such matters as whether primary education belonged within the sphere of “production.”¹⁷

The former Social-Democrat S. N. Prokopovich (1871-1955) provided the first estimates of Russian national income in a form unwittingly useful to the regime. During the war he served as Minister of Commerce and Industry and then of Food in the Provisional government. He narrowly escaped execution by the Bolsheviks in 1922 for his role in the Committee on Famine Relief. Though he had broken with Lenin and Marxism at the turn of the century, Prokopovich never felt the need to revise his view of immaterial services as unproductive. Over a fifty-year scholarly career in Russia and in emigration, he conceived the national economy as comprising only six productive sectors: agriculture, fisheries and forestry, industry, transport, construction, and trade.¹⁸

Intellectually the most impressive national accounting scheme proposed in the debate over the proper measure of socialist economic achievement was a “socialist-utilitarian” one presented by Stanislav Gustavovich Strumilin in the Gosplan organ *Planovoe khoziaistvo* in August 1926. Though an ex-Menshevik, Strumilin (1877-1974) had become by the late

16. J. - B. Say, *Traité d'économie politique*, 1803 (Paris, 1972), pp. 121-30; Léon Walras, *Elements of Pure Economics*, 1874 (Philadelphia, 1984), p. 213; Boss, *Theories of Surplus and Transfer*, sec. IV. 5.

17. N. Jasny, *Soviet Economists of the Twenties* (Cambridge, 1972).

18. S. N. Prokopovich, *Voina i narodnoe khoziaistvo* (Moscow, 1917), p. 83; *Opyt ischisleniia narodnogo dokhoda 50 gubernii Evropeiskoi Rossii v 1900-1913 gg.* (Moscow, 1918), p. 6; *Narodnyi dokhod zapadno-evropeiskikh stran* (Moscow-Leningrad, 1930); “National Income of the USSR,” *Birmingham Memorandum of the*

1920s an ardent *planovik* and vice-president of Gosplan and initially supported the high variant of the First Five Year Plan.¹⁹

Strumilin's proposal, which rivalled in sophistication anything in the West at the time, had several economic and ideological points in its favour. It anticipated those modern writers who venture beyond the market boundary to impute values to leisure, housewives' services, protection of the environment, stocks and flows of defence, and similar problem items.²⁰ Marx's influence on Strumilin was mainly manifest in his short list of social parasites and in subaggregation by mode. As he saw things, both material goods and immaterial services, including externality-rich "public" ones (defence, infrastructure), belong in output so long as they pass his test of "social necessity:"

The services of a doctor or a teacher are without productive effect only in those cases where they are applied to the healing or the instruction of rentiers, priests, fortune-tellers, thieves, prostitutes and similar parasitical elements of society. In all other cases, when they serve the reproduction of socially-useful labour power, their productive [*proizvodstvennyi*] effect is indisputable.²¹

Since labour power must be "reproduced," education, health and everyday services (water, electricity, sewerage), cafeterias, day-care centres, etc. are all productive. The way is paved for their inclusion by pointing up their similarity to investment, an approach likely to appeal to Classico-Marxians.

The degree to which a little nationalization can alter the product and welfare picture for those who care about *formes de propriété* may be seen in Strumilin's dramatic rehabilitation of peasant and household production, which in Marx are "outside the capitalist mode" and beyond the pale of economic analysis:²²

Bureau of Research on Russian Economic Conditions (1931-2), No. 3, p. 1, and *Narodnoe khoziaistvo SSSR* (New York, 1952), pp. 296-98.

19. S. G. Strumilin, "Narodnyi dokhod SSSR," *Planovoe khoziaistvo*, 1926, No. 8, pp. 140-63.

20. F. T. Juster, "A Framework for the Measurement of Economic and Social Performance," in Moss (Ed.), *The Measurement of Economic and Social Performance*, pp. 25-83.

21. Strumilin, "Narodnyi dokhod SSSR," p. 156.

22. Boss, "Mode vs. Matter in Marx," *Theories of Surplus and Transfer*, sec. V. 4.

We have of course to include separately . . . o a par with the natural [*natural'noe*, non-marketed] agricultural production of the peasant farmer, also the unpaid services of his wife or other members of his family in his household. All these: commodities, non-marketed subsistence [*natural'nye*] goods and services [are the product of] socially-necessary labour. Any increase in their production . . . denotes a rise in the general level of productive forces of the country . . . irrespective of commodity-hood [*tovarnosti*] or marketedness [*platnosti ili besplatnosti*].²³

Considering Lenin's view of the housewife as a "domestic slave,"²⁴ Strumilin's view of housework is unorthodox. Finally, in a worker's state, even the army and the entire state administration are not only "socially-necessary" but wholly productive [*produktivnye*]. The withering away of the state is not mentioned.

Strumilin's scheme should have appealed to Bolshevik voluntarists in that it treats the complex mode structure of the NEP economy as different enough from Marx's capitalism to have its own economic mechanism. The Bolsheviks are seen as masters in their own house, capable of determining the optimal welfare mix of material and immaterial final goods and of directing inputs to those ends without regard for mode. For reasons unknown, his proposal fell on deaf ears.

A quite different view of the aggregate appropriate to a transitional system was put forward by the *courant* we describe as "socialist-materialist." Its most strident representative was Roman Efimovich Vaisberg (?-1935), like Strumilin a member of the presidium of Gosplan and editor of *Planovoe khoziaistvo*. When faced with the Marxian dilemma of a panoply of modes, Vaisberg opts for materiality as the one Marxist universal. Vaisberg's argument turns on the claim that social (*obshchestvennyi*) product under socialism should be limited to material branches because (*sic*) Marx had once written that the "mode of production of material life conditions the social, political and intellectual life-process in general."²⁵ In Marx transportation is a non-storable service even if a "productive" one.²⁶

23. Strumilin, "Narodnyi dokhod SSSR," pp. 147, 160.

24. V. I. Lenin, *Sochineniia*, 1950, Vol. 30, p. 25, and *On the Emancipation of Women* (Moscow, 1965), p. 65.

25. Karl Marx, "Preface" to *A Contribution to a Critique of Political Economy*, 1859 (Peking, 1976), p. 3.

26. Karl Marx, *Capital*, Vol. II, 1885 (Moscow, 1956), pp. 53-55, 152-55.

According to Vaisberg, the “material product of our country is produced in industry, agriculture, and transport. Nowhere else [*Nigde bol'she*].”²⁷ Moreover he states categorically that no “material products or values (*tseennosti*) of any kind are produced in either state or co-operative trade or in credit institutions.”²⁸ Contrast this with Stalin’s January 1933 pronouncement that Soviet trade is now “trade without capitalists.”²⁹

“Withering away” was by then a taboo subject. Vaisberg advocated nonproductive status for public administration while holding out the prospect of the labour “of this part of the *apparat* . . . becoming productive.” He warned against the inclusion of education and culture in *narodnyi dokhod*: The “first step,” he wrote, “is to declare the labour of the intelligentsia equal in value to the labour of a worker; the next step is to declare it more valuable.”³⁰

Between them, Strumilin and Vaisberg outlined the range of theoretical possibilities open to party members in search of a defensible Marxist concept of output for an economy with several “contradictory” modes. The schemes in use in statistical agencies during the NEP and the prewar Plans were closer to Vaisberg’s than to Strumilin’s, and demonstrably closer to the ex-Marxist Prokopovich’s.

The accounting conventions in use during the interwar period can be deduced from the organization of economic and demographic data in statistical yearbooks and plan documents. There are numerous minor variations in the nomenclature of product branches and in the lists of income-earning occupations and modes. These reflect stages of the campaign against capitalism in large- and small-scale industry, trade, and agriculture. Our major finding is that the basic “material-product” view of output (*narodnyi*, later *natsional'nyi dokhod*) as consisting of “industry,” “agriculture,” “construction,” “transport,” and “trade” on the product side is a constant from at least 1923.³¹ The occupational and mode categories

27. R. E. Vaisberg, “Obshchestvennyi produkt pri kapitalizme i v SSSR,” Part II, *Planovoe khoziaistvo*, 1927, No. 6, p. 136.

28. *Ibid.*, p. 142.

29. J. V. Stalin, *et al.*, *From the First Five Year Plan to the Second* (Moscow, 1933), p. 47, and *KPSS v rezoliutsiakh i resheniakh*, II (Moscow, 1953), p. 722 (speech of 7 January 1933).

30. Vaisberg, “Obshchestvennyi produkt,” II, pp. 147, 152.

31. *Cf.* Gosplan, *Trudy Gosplana*, kn. 1, 1922, with S. A. Pervushin’s chap. of

change relatively more, in order to highlight the elimination of “bourgeois” occupations and the “socialization processes” which progressively circumscribe activities of NEPmen traders, peasants, and owners of factories still in private or concessional hands.³²

Whether the materialist slant can be said to have had anything to do with ideology depends in some measure on the statistical heritage of the empire. P. R. Gregory reports in his book on Russian national income from 1885 to 1913 that tsarist ministries gathered output and price data for series on grain output, domestic trade turnover, rail and water shipments, and state budget expenditures. They made no attempt to derive a constant-price national product aggregate or series for major components such as investment or personal services.³³

Nar. Kom. Finansov, *Narodnoe i gosudarstvennoe khoziaistvo Soiuz sovetskikh sotsialisticheskikh respublik k seredine 1922-23 gg.* (Moscow, 1923), p. 7. Gosplan SSSR, *Piatiletii plan narodno-khoziaistvennogo stroitel'stva SSSR* (Moscow, 1930) (henceforth *1st FYP*), table 8, *narodnyi dokhod*, p. 156, refers to: agriculture, industry, construction, transport and communications, including railroad, and “trade profits.”

32. TsSU, *Statisticheskii spravochnik SSSR 1927* (Moscow, n.d.), p. 452; *1st FYP*, Vol. 1, pp. 121, 136; Vol. 2, pt. 2, pp. 330, 400-401; *Narodnoe khoziaistvo SSSR na poroge tret'ego goda piatiletki i kontrol'nye tsifry na 1931 god*, 1931, pp. 210, 256-60. V. I. Zeilinger and B. A. Gukhman, “K metodike postroeniia balansa narodnogo khoziaistva SSSR,” *Planovoe khoziaistvo*, 1928, No. 4, p. 175, provide the most ambitious modal scheme: three basic subdivisions: socialized (state) (1), communal (2) and cooperative sectors (3), with capitalism subdivided into state-capitalist including concessions (4), private-capitalist (5), and petty-commodity (*prostoi tovarnyi*) (6); ending with semiproletarian (*poluproletarskii sektor*) (7). The most detailed occupational breakdown we have found is the 377-item “basic classification” of the 1926 Census, with 10 mode-related subgroups: workers, employees, free professions, proprietors with wage and those with family labourers, people working alone, family members assisting in the family business, plus the unemployed, the military, and no profession given. (TsSU, Otdel perepisi, *Vsesoiuznaia perepis' naseleniia 1926 goda*, Vol. 18 [Moscow, 1929], pp. 522-34.) The 1925 handbook (TsSU, *Narodnoe khoziaistvo Soiuz SSR v tsifrakh: statisticheskii spravochnik*) no longer refers to the doctors, monks, gold prospectors, coachmen, rentiers and speculators, and *deklassirovannye* (beggars, etc.), students, and unemployed who figure so prominently in the 1926 Census and the *1924 Handbook* (TsSU, *Narodnoe khoziaistvo Soiuz SSR v tsifrakh, kratkii spravochnik [1924 Handbook]* [Moscow, 1924], pp. 319-38).

33. P. R. Gregory, *Russian National Income, 1885-1913* (Cambridge, 1982), pp. 10-19.

In 1917-18 Prokopovich published estimates of Russian national income for 1900 and 1913, using the six-sector material concept described above. Gregory concludes that Prokopovich seriously underestimated tsarist output. But the matter was never reopened in the USSR for the likely reason that his 1913 figure provided Soviet statisticians with an advantageously low benchmark against which to set the growth achievements of the Stalin Plans.³⁴

On the day of the revolution, Lenin presented Iu. Larin with the task of reorganizing the Soviet economy along the lines of the Imperial German High Command. Soon fifty-odd *glavki* (departments) of the Supreme Council of the National Economy (VSNKh) had taken over the affairs of nationalized industry and transport.³⁵ It did not apparently occur to anyone that “service” activities, as “part of” the “national economy,” might need departments too.

After the devastation of the Civil War, concern was with quantity indicators covering a limited number of physical items (grain, fuel), with a corresponding lack of interest in value aggregates. The early focus on quantities made sense in that the huge price changes since 1913 rendered statistics in current rubles of dubious value.³⁶ But practices born of war and hyperinflation legitimized “ton-mentality” and aggravated tendencies to leave services out of account.

A number of Western economists in the 1920s also doubted the usefulness of *national* economic aggregates. The German A. Amonn, for example, took methodological individualism so far as to argue that since the nation was not an economic agent, its income, being a statistical fiction, could be of interest to no one.³⁷ The Americans in the early 1920s favoured keeping apples and oranges as separate as possible. Under A. Burns and W. C. Mitchell, the NBER’s “central concept of economic activity [was] a some-

34. Prokopovich, *Voina i narodnoe khoziaistvo* and *Opyt ischisleniia narodnogo dokhoda*. This point is made by Gregory, *Russian National Income*, p. 10.

35. L. Smolinski, “Planning Without Theory,” *Survey*, Vol. 67 (July 1967), p. 114.

36. *Narodnoe khoziaistvo Rossii za 1921/22 gg.* (Moscow, 1923), pp. lvi-lvii, focuses on grain procurements and distributions to “the army, industry, transport, the hungry (*golodaiushchikh*), and other groups of the population.” On inflation cf. A. Nove, *An Economic History of the USSR* (Harmondsworth, 1969), rev. ed. 1972, p. 91.

37. Discussed in P. Moskvina, “Narodnyi dokhod i problema proizvoditel’no-

what fuzzy cocktail” of 811 monthly series from which no “meaningful summary measure” could be derived.³⁸ The dominant neoclassical school of microeconomic theory (Walras, Marshall, Pigou) could, however, deal with any degree of aggregation. Scarcity prices mean that one can build up from individual to firm, to sectoral, to national output consistently, depending on the problem at hand. If consumers are sovereign and government is by consent, then whatever consumers are willing to pay or be taxed for should be included. Even before the advent in 1936 of “Keynesian” macroeconomics, according to which “national income” acquired an independent economic role, the contentious issues in economic measurement were valuation and netness. Scope was endogenous.

Professor L. N. Litoshenko, co-author with P. I. Popov of the celebrated 1923/24 *Balans*, and compiler of the first estimate of Soviet national income (*Natsional'nyi dokhod*, 1925), stressed the magnitude of the enterprise:

Only countries which are very rich in statistical materials can permit themselves the luxury of calculating their national income and only after eight years of intensive development of state and bureau statistics is there at last the possibility of a more or less well-founded determination of the size of the national income of the USSR.³⁹

The problem was to decide what “national income” was.

In a closed economy, final output in rubles equals costs plus profits, which are incomes (wages and profits) to the factors themselves. Once an unproductive sector is postulated, as in surplus and transfer theory, “incomes” exceed “product,” since some “wage and profit earners” are not “producers.”

go truda,” *Vestnik statistiki*, 1929, Nos. 3-4, p. 98. Cf. L. N. Litoshenko, *Natsional'nyi dokhod SSSR* (Moscow, 1925); Prokopovich, *Narodnyi dokhod zapadno-evropeiskikh stran*; K. Rubinshtein, “Metody ischisleniia narodnogo dokhoda v germanskoi literature,” *Planovoe khoziaistvo*, 1929, No. 8, p. 213. In Russia the ultra-individualist “idiographic” view was associated with anti-Hegelianism. E.g., Petr Struve, *Khoziaistvo i tsena* (Moscow, 1913), pt. I, pp. 38-39, and R. Pipes, *Struve, Liberal on the Right* (Cambridge, 1980), chap. 3. Interestingly the Austrian school resisted Keynesian macroeconomics for this reason. See E. Kauder, *A History of Marginal Utility Theory* (Princeton, 1965), p. 227.

38. A. Maddison, *Phases of Capitalist Development* (Oxford, 1982), pp. 65-66, 211.

39. L. N. Litoshenko, “Natsional'nyi dokhod,” *Vestnik finansov*, 1926, No. 2, p. 113.

Litoshenko, who was “definitely a Kadet” and “not even a left-wing one,” is described by E. H. Carr and R. W. Davies along with Kondratiev, Vainshtein, and Iurovskii of Narkomfin, as “thoroughly versed in contemporary western economics.”⁴⁰ Yet the “real” product of his “real (*real'nyi*) method” includes only agriculture, industry, transport, trade (*tovarooborot*), and construction. It gives a smaller total than the “personal (*lichnyi* or *personal'nyi*) method,” “since the latter covers in principle all citizens and treats income as income, irrespective of branch or mode. He lays himself open to the accusation of failing to care about fundamental *qualitative* differences between the socialized (state and cooperative) and non-socialized (private) sectors, and between bourgeois and proletarian occupations.”⁴¹

Litoshenko’s only difference from Prokopovich on the product side is his use of a “Western” nomenclature for transport and trade, exemplified in his observation that those sectors’ outputs, as distinguished from their inputs, cannot be “stored.”⁴² The labelling of transport and trade as services (*uslugi*) seems to be the substance of whatever compromise there was between the socialist-materialist and socialist-utilitarian views; it leaves plenty of room for Smitho-Marxian S and T theory to characterize the treatment of public and personal services.

Non-marketed “collective” personal and administrative service branches (education, health, science, and culture), housing and what the So-

40. E. H. Carr and R. W. Davies, *Foundations of a Planned Economy, 1926-1929*, Vol. I, pt. 2 (New York, 1969), p. 740; Jasny, *Soviet Economists of the Twenties*, p. 156.

41. R. E. Vaisberg, “Burzhuaiznaia ideologija v ekonomicheskoj literature,” *Planovoe khoziaistvo*, 1925, No. 11, pp. 261-75; A. Nikitskii, “Opyty ischisleniia narodnogo dokhoda v SSSR,” *Ekonomicheskoe obozrenie*, 1926, No. 1, pp. 91-103; Marie Falkner-Smit, *La statistique au pays des Soviets*, 18e session de l’Institut international de statistique (Moscow, 1929), p. 17. This was still a sore point in 1960: E. N. Freimundt, “K istorii balansa narodnogo khoziaistva (1917-1928 gg.),” *TsSU, Ocherki po istorii statistiki SSSR* (Moscow, 1960), sb. 3, pp. 181, 188.

42. Litoshenko, “Natsional’nyi dokhod,” p. 113. The “Western” view that trade and transport are “services” because they cannot be stored was accepted at the Chicago conference of economic statisticians in 1895. See Ia. A. Kronrod, *Voprosy sotsialisticheskogo vosproizvodstva* (Moscow, 1958), pp. 42-43. However, the heavy investment requirements and large scale of transport, communications, and utilities have frequently led economists to include them in “industry,” e.g., S. Kuznets, *Modern Economic Growth* (New Haven, Conn., 1966), pp. 86 ff. On the

viets call “communal economy” (municipal water and sewers, public baths and laundries, trams and buses [*sic*], roads and bridges, street lighting, fire-fighting, sanitation, manure removal),⁴³ administration, and defence seem not to have been regarded (except by Strumilin) as anything but final transfer recipients of resources generated in “economic” sectors. This led to the irony, still unacknowledged in Soviet political economy, that the activities of Gosplan are treated in MPS accounts as final nonproductive luxuries, similar to those of the Bolshoi, rather than as necessary intermediates “Ur-primary” to everything else, from the design of mining equipment on down.

Because of these asymmetries, estimates made using the personal method exceed those of the real method by the amount of final nonproductive services. Proponents of narrow “material” concepts like Prokopovich recognized this, correctly noting that for the methods to provide checks on each other’s accuracy only incomes earned in “material” branches should figure on the “personal” side. By the time of the publication of the *Slovar'-spravochnik po sotsial'no-ekonomicheskoi statistike* in 1944, a one-to-one correspondence was established between excluded incomes of persons and the labour force of the unproductive sphere (*neproizvodstvennaia sfera*).⁴⁴

That was, however, for the future. In the 1920s there was a notable lack of correspondence between the coverage of occupational and output data, even though they were published in adjoining chapters of the Groman-sponsored statistical yearbooks of the Central Statistical Administration (TsSU). Little indication was given that the relationship was one of factor-using product to income-earning factor. It has been suggested that bureaucratic rivalry between the industrial, labour, and census departments (*otdely*) of the Central Statistical Administration had something to

other hand, following T. P. Hill, “On Goods and Services,” *Review of Income and Wealth*, 1977, ser. 23, No. 4, pp. 315-38, the International Comparison Project includes transport and communications and electricity in the “service sector.” Kravis, *et al.*, *World Product*, chap. 5, pp. 129 *ff.*

43. Gosplan, *Kontrol'nye tsifry narodnogo khoziaistva SSSR na 1926-1927 god* (Moscow, 1927), p. 143; *1st FYP*, Vol. 1, pp. 152, 156-58; Vol. 2, pt. 2, p. 48. The nonproductive status of communal economy is definitive by TsUNKhU, *Materialy k postroeniui sistemy pokazatelei ucheta narodnogo khoziaistva SSSR* (Moscow, 1932), table 3, p. 167. *Cf.* Gosplan, *Ukazaniia i formy k sostavleniiu narodnokhoziaistvennogo plana na 1935 g.* (Moscow, 1934), pp. 320 *ff.*

44. Prokopovich, *Narodnyi dokhod zapadno-evropeiskikh stran*, pp. 6-7; A. I. Petrov, P. I. Moskvina, and I. D. Morozova, “Svodnyi razdel” of TsSU Gosplana,

do with it.⁴⁵ Whatever the reason, personal marketed services did not figure next to industry, agriculture, construction, transport, and trade on the product side, despite data for long lists of entrepreneurial and service-producing occupations in the yearbook sections on employment and wages. Those lists were based, with varying degrees of subaggregation, on what in 1926 was a 377-item Census Department nomenclature of occupations. Long after 1929 there was a separate employment category for Adam Smith's archetypal unproductive, the domestic servant, whose number and average wages figure in the labour sections of the First Five Year Plan and in the Annual Plan for 1931; including day labour (*peremennopodennye*) there were still 282,000 servants in 1932!⁴⁶

Household budget studies of the urban population in the mid-1920s allowed as workers themselves might buy marketed services such as *stirka* (clothes washing) and *lechenie* (health), though these "immaterial activities" did not count as "products."⁴⁷

Reliance on quantity indicators might have abetted the lack of correspondence between income and product data. But the most important factor was the unwillingness of Marxian surplus and transfer value-theorists to admit the implications, for the productiveness of various "bourgeois" and superstructural (*nadstroechnye*) professions, of the producer and consumer sovereignty which underlay data on service occupations and workers' budgets.

Non-marketed "public" services financed through the state budget were nowhere presented as output or *tsennosti* (values) in the same fashion as goods sold on markets (*tovary*), or even as trade and transport, although their output had utility and their material and labour inputs represented

Slovar'-spravochnik po sotsial'no-ekonomicheskoi statistike (Moscow, 1944), pp. 40-43.

45. Falkner-Smit, *La statistique au pays des Soviets*; A. S. Gordon, *Sistema planovykh organov SSSR* (Moscow, 1929), p. 59. Also author's conversation with M. Feshbach, Dallas, December 1984.

46. *1st FYP*, Vol. 2, pt. 2, p. 16; *Narodnoe khoziaistvo SSSR na poroge tret'ego goda piatiletki i kontrol'nye tsifry na 1931 god* (Moscow, 1931), p. 299. TsUNKhU, *Narodnoe khoziaistvo SSSR* (Moscow, 1932), p. 416; TsUNKhU, *Sotsialisticheskoe stroitel'stvo SSSR* (Moscow, 1935), p. 482; TsUNKhU, *Trud v SSSR* (1935), table 1, p. 11.

47. TsSU, *1924 Handbook* (Moscow, 1924), table 8, p. 182; cf. TsSU, *1925 Handbook* (Moscow, 1925), p. 498.

real costs.⁴⁸ Possible parallels between “planned but not marketed public services” and “planned but centrally-allocated capital goods” were not drawn, perhaps due to a residual loyalty to the doctrine of the withering away of the state. It is hard, though, to imagine Lenin envisaging a communism without fire stations.

The question of public services as possibly intermediate was discussed in theoretical journals of the late 1920s. A. I. Petrov, for example, declined to include them in USSR national income: (assuming tax finance) if public services were to be treated as elements of the *c* (non-direct-labour or constant-capital costs) of an industrial good subject to turnover tax, rather than as paid out of that good’s surplus-value *m*, they ought to be given product branches in their own right, like Department I capital goods.⁴⁹ The possibility was broached by Petrov in order to forestall it. Similarly V. Smirnov argued that Marxian value theory applied only (*sic*) to “the productive [externality-poor, material] part of capital.”⁵⁰ With the exception of Strumilin, economists took for granted the notion that non-priced public services were “nonproductive” and “supported by” the surplus of industry. Institutions produce “final” consumers’ goods alone, not “intermediate” social infrastructure.

It has been argued by E. Tsur that the Soviet “material product system” was essentially a Cold War development designed to facilitate the bringing of Stalinist economics to Eastern Europe.⁵¹ The main evidence is J. Drewnowski’s interesting account of the imposition of the material product concept on the Polish statistical office in 1948.⁵²

48. E.g., Gosplan, *Itogi vypolneniia vtorogo piatiletnego plana razvitiia narodnogo khoziaistva Soiuzs SSR* (Moscow, 1939), p. 71; Gosplan, *Tretii piatiletnii plan razvitiia narodnogo khoziaistva Soiuzs SSR (1938-1942 gg.)* (Moscow, 1939), pp. 225, 228-29, 238.

49. A. I. Petrov, “Teoreticheskie predposylki ischisleniia narodnogo dokhoda,” *Planovoe khoziaistvo*, 1927, No. 2, p. 111, n. 1.

50. V. Smirnov, “Po povodu tezisov tt. Gromana i Strumilina o balanse narodnogo khoziaistva,” *Vestnik statistiki*, 1927, No. 1, p. 68.

51. E. Tsur, “Productive and Unproductive Labor—Marx versus the Soviet Material Misinterpretation,” p. 5, to which is appended “Annotated Bibliographical List of Russian Original Texts Concerning the Problem of Productive Labor and National Income Computations.” (Ramat, Israel, n.d.) I am very grateful to Professor A. Nove for suggesting to Mr. Tsur that he send me his papers.

52. J. Drewnowski, “The Central Planning Office on Trial: An Account of the

It is true that in the USSR the hard line on the non-productiveness of passenger transport and communications was not finalized until after the war. Until the 1950s the then separate Central Statistical Administration (TsSU) excluded them while Gosplan included them. In the 1950s the TsSU's narrow version won out, apparently for good. Strumilin, while he retreated from his 1926 socialist-utilitarian position, never made peace with the exclusion of passenger transport. He ridiculed the nineteenth-century physics of ultramaterialists who hesitated to include electric utilities in "material" product.⁵³

Against Tsur's view of timing is the fact that not only the basic production boundary but also other features unique to the MPS were already present in the statistics of the NEP and prewar plans. Most notable was the treatment of non-priced public services (activities of administrative organs and so-called *uchrezhdeniia*) already discussed. In Popov's 1926 *Balans*, the Smitho-Marxian "productive/unproductive" terminology, modified from *proizvoditel'nyi/neproizvoditel'nyi* to *proizvodstvennyi/neproizvodstvennyi* for "socialism," was used to subdivide expenditure on means of production, raw materials, and structures. The First Five-Year Plan document made constant casual references to nonproductive activities, investment, workers, cadres, engineers, and so on.⁵⁴

It is perhaps not surprising that the ouster from economic organiza-

Beginnings of Stalinism in Poland," *Soviet Studies*, XXI, no. 1 (January 1979), 23-42.

53. S. G. Strumilin, *Statistiko-ekonomicheskie ocherki* (Moscow, 1958), pp. 148-49. The official view is articulated in K. V. Ostrovit'ianov, et al., *Politicheskaiia ekonomiiia: uchebnik* (Moscow, 1954), p. 542, but was in wide use long before, viz, D. I. Chernomordik (Ed.), *Narodnyi dokhod SSSR: ego obrazovanie i uchet* (Moscow, 1939), pp. 192, 198, 203-204; and *Slovar'-spravochnik*, p. 43.

54. Examples abound: e.g., P. I. Popov in Popov (Ed.), *Balans narodnogo khoziaistva Soiuzna SSR 1923/24 goda*, transl. in Nicolas Spulber (Ed.), *Foundations of Soviet Strategy of Economic Growth* (Bloomington, Ind., 1964), pp. 28-29, 43, 80-81 (nonproductive consumption of materials, fuel, tools of production); Zeilinger and Gukhman, "K metodike," p. 168 (accumulation), pp. 170, 174 (*neproizvodstvennaia nadstroika*); G. F. Grin'ko (Minister of Finance, 1930-37), *Planovoe khoziaistvo*, 1929, No. 2, p. 55 (cadres); TsUNKhU Gosplana, *Sotsialisticheskoe stroitel'stvo SSSR* (Moscow, 1935), p. 464, e.g., "zhilishchnoe, kommunal'noe, sots.-kul'turnoe i prochee neproizvodstvennoe stroitel'stvo." Within industry itself, a distinction is made favouring "productive" (*produktivnyi, proiz-*

tions of the last Mensheviks around 1930 coincided with the apposition of a “material” stamp of approval to several other types of activity which ill fitted the Marxian factory paradigm. (Mensheviks tended to see trade, transport, and communications as “services” but no less output for all that.) Public catering (cafeterias and restaurants but not hotels) were labelled “material” and moved next to trade in the “productive” sphere.⁵⁵ I. M. Krasnolobov remarked, however, that TsUNKhU left (“productive”) communications serving enterprises of material production out of *narodnyi dokhod* before 1936 “by mistake.”⁵⁶ In 1931 a new Gosplan-VSNKh industrial classification system replaced the rather different one of TsSU in use from 1918. The only change which crossed the productive/nonproductive boundary appears to be the sector “cleaning of houses,” which was moved to (unproductive) “communal economy” from “industry.”⁵⁷

The fact that a narrow, “materialist” view of output prevailed in the USSR from the early 1920s raises the question of the relationship between Marxian economic theory and Bolshevik practice in the formative years of the Soviet economic system. The revolution was after all made in the name of an economic theory which makes fundamental distinctions between goods and some services, between mental and manual labour, and between the outputs of peasant, capitalist, and socialist “modes.” Were Soviet commissars and their chief economists indeed “ruled,” in the manner of Keynes’s famous aphorism, by the economic theory of a defunct economist?⁵⁸ Or did (self-imposed) “practical” imperatives somehow dictate

vodstvennyi: machinery, equipment) over “nonproductive” (*neproduktivnyi*, *neproduktivnyi*: buildings, inventories, transportation equipment) by M. A. Barun, *Osnovnoi kapital promyshlennosti SSSR* (Moscow, 1930), pp. 56-61. For vocabulary for capitalism, cf. A. I. Notkin and N. A. Tsagolov, “O teorii i skheme balansa narodnogo khoziaistva SSSR akademika S. Strumilina,” *Planovoe khoziaistvo*, 1937, No. 4; *1st FYP*, Vol. 2, pt. 2, pp. 9, 11, 38, 48, 74 ff.

55. *1st FYP*, Vol. 2, pt. 2, p. 298; *Na poroge*, p. 269.

56. I. M. Krasnolobov, *Planirovanie i uchet narodnogo dokhoda* (Moscow, 1940), p. 58. Cf. TsSU, *Materialy po balansu narodnogo khoziaistva SSSR za 1928, 1929, 1930 gg.*, ed. A. I. Petrov (Moscow, 1932).

57. A. I. Rotshtein, *Osnovy statistiki sotsialisticheskoi promyshlennosti*, Pt. I (Moscow, 1932), p. 80.

58. J. M. Keynes, *The General Theory of Employment, Interest and Money* (London, 1936), p. 383.

the exclusion of “immaterial” services from the list of planned targets? More confident weighing of the various hypotheses must await access to the Strumilin archive and other unpublished sources.

Can Marx (or Smith) be blamed for the placing of Soviet “trade without capitalists” and the output of restaurants in the sphere of “material” production? The heavier apparent pro-material stance as compared with sophisticated readings of *Das Kapital* or the *Wealth of Nations* can probably be attributed to the common, not to say vulgar, error of identifying “necessaries” with “material goods” and “luxuries” with their “opposite.”

Strumilin’s creative use of Marx’s *Critique of the Gotha Programme* shows that for the seriously mode-minded anything was possible, in the circumstances of NEP and *a fortiori* in the still “mixed,” but much more “socialist” economy of the Plan Era. Stalin declared capitalism eliminated in 1934, but the declaration did not move him to instruct TsUNKhU to transfer planned baths and laundries or the activities of the Commissariat of Enlightenment to the productive sphere.⁵⁹ “Materiality” tells only part of the story: the materiality of agriculture, or for that matter, industrial consumer goods (group B) was never in doubt.

Tsur’s argument raises another question which cannot be addressed here: How did the material product definitions not only survive but flourish after Stalin’s death? The definitions given in the textbook *Političeskaia ekonomiiia* have been subjected to only trivial modification since 1954.⁶⁰ Recent commitment to the MPS has been strong enough to get the UN to introduce a *Dienstrein* compromise statistic, “gross domestic product excluding services,” in order to be able to provide internationally comparable league tables.⁶¹

A. Kurskii complained as early as 1940 that the material system was understating “real” Soviet output by as much as 20 per cent.⁶² G. Ofer, in

59. Speech at the XVII Party Congress of the CPSU(B), 26 January 1934, B. Franklin (Ed.), *The Essential Stalin* (Garden City, 1972), pp. 245-46; socialism was declared achieved in the 1936 Constitution.

60. V. Gur’ev, “Novaia klassifikatsiia otraslei narodnogo khoziaistva i promyshlennosti,” *Vestnik statistiki*, 1968, No. 1, discussed in A. S. Becker, “National Income Accounting in the USSR,” in Trembl and Hardt (Eds.), *Soviet Economic Statistics*, p. 117.

61. UN, *Statistical Yearbook* (New York, 1981), pp. 4-5, 89-90.

62. A. Kurskii, *Planovoe khoziaistvo*, 1940, No. 1, cited in A. Nove, “Some

his cross-section econometric comparison of the Soviet Union with some seventy other countries around 1958-60, found the Soviet service share, made up of a much lower trade share but also of a low administration share, to be smaller than predicted by per capita income or urbanization levels.⁶³ G. E. Schroeder and M. E. Denton note the flat share of resources devoted to services to the population over the period 1950-1980.⁶⁴ S. H. Cohn's study showing measured Soviet growth rates to be little affected by differences in coverage⁶⁵ is not decisive, for it merely proves that there was growth without tertiarization at a time when advanced economies have seen industry's share of product and labour totals decline, and those of services to rise, with income. The share of services excluding transport and communications (Kuznets' S-) declined from 1928 to 1958 (1937 prices, Bergson NNP). It has hovered at around 30 per cent of GNP from the late 1950s to 1980 (1970 prices, Block, CIA and Pitzer estimates), barely half the US share. After adjusting industry for services bought from research laboratories, insurance agencies, doctors, etc. Campbell finds USSR GNP in 1980 to exceed official net material product by only 28.6 per cent, 8.5 per cent of which is depreciation and only 12 per cent wages and profits in non-material sectors.⁶⁶

These low figures indicate that having a Soviet economic system is still associated with underdevelopment of the service sphere. Indirect confirmation comes from Soviet economists' unanimous assumption that placing "immaterial" services on the same accounting footing as goods would strengthen the claims of service ministries in bargaining for investment and

Notes on Soviet National Income Statistics," *Soviet Studies*, VI, no. 3 (January 1955), 248, 278.

63. G. Ofer, *The Service Sector in Soviet Economic Growth* (Cambridge, 1973), pp. 148-61.

64. G. E. Schroeder and M. E. Denton, "An Index of Consumption in the USSR," in US Congress JEC, *USSR: Measures of Economic Growth and Development, 1950-80* (Washington, D.C., 1982), pp. 325-26, 333, 343-52.

65. S. H. Cohn, "National Income Growth Statistics," in Trembl and Hardt (Eds.), *Soviet Economic Statistics*, pp. 125-27.

66. S. Kuznets in A. Bergson and S. Kuznets (Eds.), *Economic Trends in the Soviet Union* (Cambridge, 1963), chap. VIII, p. 346; J. Pitzer, "GNP of the USSR, 1950-1980," in JEC, *USSR: Measures of Economic Growth and Development, 1950-80*, pp. 60-61; CIA, *Handbook of Economic Statistics* (Washington, D.C., 1981), p. 57; H. Block, "Soviet Economic Performance in a Global Context," in

wage funds, and they support or oppose it according to their prejudice.⁶⁷

An International Comparison Project study of the Soviet Union would provide evidence on the real service share with which to test Kravis's hypothesis that specifically *public* provision of "comparison-resistant" services like health may have exerted downward pressure on all wages. To the extent that services are wage-intensive, this would depress the measured share of services in socialist GNP by an additional factor.⁶⁸

What can be learned from the adoption of the material product concept about how economic doctrines affect the institutional and policy choices of those empowered to make them? According to Keynes's epigram about the power of ideas, "the world is ruled by little else," for good or ill. Gerschenkron held to the contrary view that Marxian economic doctrine has had little influence on Soviet economic historical events or institutions.⁶⁹

It seems plausible that planned immaterial services were excluded from output under socialism because no one (except Strumilin) could be found to defend them as *intermediate (capital) goods*, capable of contributing, in the manner of machines to make machines, to the growth of priority sectors. What better compromise than something in the Smitho-Marxian tradition already familiar to the statisticians, e.g., from the work of Prokopovich? It looked Marxist: contributions by *apparatchiki*, rentiers, bourgeois professionals, priests, were out. What was said to be "matter" was in. Never mind that transportation is more material in its inputs than in its outputs, or that even Soviet trade is not all preservation of material values in state warehouses and refrigerators. Here, noting the general assent economists like Prokopovich gave to the narrow material concept, I would incline to the Keynesian view while reiterating that prejudice in favour of material output was not a Marxist monopoly but an outlook common to the Classical, historicist, and otherwise non-Walra-

JEC, *The Soviet Economy in a Time of Change* (Washington, D.C., 1979), p. 112; Campbell, *The Conversion of National Income Data*, p. 8 and table 7.

67. Becker, "National Income Accounting," p. 117; Ofer, *The Service Sector*, pp. 148-49; Boss, "Productive Labour," pp. 455-81.

68. Kravis, *et al.*, *World Product*, p. 193, n. 13.

69. A. Gerschenkron, "History of Economic Doctrines and Economic Theory," *American Economic Review Papers and Proceedings*, LIX, no. 2 (May 1969), 13-16.

sian schools which constituted *non-Marxian* economics in Russia before 1917.

The ability and widespread use of quantitative indicators to capture performance of “nonproductive” as well as “productive” sectors argues against the idea that Marxian doctrine had only a minor impact on the ingredients of the Soviet “nonproductive sphere.” It is easier to measure total factor productivity in branches producing series of industrial goods than in ones producing comparison-resistant services. But Soviet accountants were concerned with output as measured by quantity indicators, and by their lights the number of graduates of higher educational institutions was no harder to count than the output of scientific instruments, the annual crop of technicians no harder to quantify than biological yield. So long as quantity targets remained the principal means of communication between centre and enterprise, and output rather than output per unit of all inputs (productivity) remained the primary success indicator, sociocultural institutions cannot have been at much of a disadvantage to industry. The possibility that service activities were omitted because they *could not be planned* given the techniques then in use is simply not convincing. They *were* planned, but the Soviet economic leadership, perhaps with some of the economic sentimentality of the pre-neoclassical world view, shrank from regarding health, education, science, and culture as “products.”

A final word on the role of Marxist economic theory is perhaps in order. The aim of destroying capitalism in the first place and substituting “socialized ownership” and “planning” for it does not make sense without Marxian mode-mindedness and distrust of the market. That there was no coherent theory of how to do this is secondary. Belief in the efficacy (not to speak of the feasibility)⁷⁰ of central control, in the importance of property forms, in some kind of “material” base, in the primacy of the industrial proletariat, in “nonproductive” wage-earners—all but the last of these notions come from Marx, not Adam Smith. The Stalinist economic system was established in light of them, with consequences for enterprise autonomy, information and input economy, and output structure which students of the Soviet economy have long recognized.

70. Marxists of the 1920s would have been perplexed indeed by the “rational expectations” view that under symmetric information government policy is *unable* to alter enterprise and individual behaviour from what it would otherwise have been.