

Tea Leaves and Productivity:  
Bergsonian Norms for Gauging the Soviet Future

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Paper prepared for the  
Bergson Memorial Conference  
Harvard University  
November 23-24, 2003

**Abstract**

Abram Bergson's attitudes toward the reliability of Soviet statistics and the feasibility of socialism took shape in two distinct phases. He convinced himself and the profession that Soviet data were reliable "enough" and socialism's comparative merit an open question by 1953. But, he reversed field a decade later on the issue of merit concluding that while the USSR would surely survive, negative factor productivity growth made it inherently inferior. Official Soviet statistics never borne him out, and the Soviet Union perished, raising the question anew whether official data really were reliable.

Lenin's decision to wrest economic control from the private sector by criminalizing business, entrepreneurship, and private ownership was a rash attempt to test the feasibility, and as he supposed the superiority of socialism. Most economists in 1917 considered the experiment suicidal, just as their descendants would today, but the Soviet Union somehow managed to survive, and purportedly thrive even after Joseph Stalin "liquidated" all vestiges of private activity.

As a young scholar Abram Bergson set out to discover whether there was any truth to Soviet claims, and if so, to explain how planning had produced the results. This was a daunting task, not only because it required mastery of socialist economic theory and Soviet statistics, but because there was a widespread perception that official data were doctored. He had visited Moscow in 1937 (the year 353,074 people were "official" shot by the NKVD) (Getty, et. al, 1993)), and was acutely aware that truth could be suborned to the Party line. Gauging Soviet performance under these circumstances required a firm scientific basis to advance analysis beyond speculation and "tea leaves."

Judging from the public record, Bergson solved all three problems to his own satisfaction before 1953, but it took another decade to reach a firm verdict on the Soviet Union's merit. The first step, prefigured in "A Reformulation of Certain Aspects of Welfare Economics," (Bergson, 1938), related plan decisionmaking to Pareto efficient social choice. Bergson concluded in "Socialist Economics" (Bergson, 1948) that planning was feasible, and could excel in various respects depending on how closely "capitalism" itself measured up to the Pareto ideal. Moving from the abstract to the concrete, he observed that market socialism of the Oscar Lange type could solve the Walrasian simultaneous equation problem in principle, and by analogy that the same result conceivably could be achieved by "supermen" applying optimal programming.<sup>1</sup> This

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<sup>1</sup> Bergson, 1948, reprinted in (Bergson, 1966a), *Essays in Normative Economics*, p.234. Bergson didn't speak explicitly about optimal programming in 1948, but this is how the issue of equivalence between perfect planning and perfect competition was treated by Kantorovich a decade earlier. Duality proofs in pure mathematics and microeconomics like constrained household utility maximization had been around earlier. See (Hotelling, 1932, 1935).

"conceivability" claim, combined with the fact of Soviet survival, was then used to infer that planning was feasible, without venturing an assessment of comparative systems merit. Apparently, preliminary results from his work in progress on "Soviet National Income and Product in 1937" (1950), and the Great Depression in the west didn't justify sweeping conclusions.

The second step involved coming to grips with the data. After being appointed director of the Russian division of the OSS (Office of Strategic Services) during President Franklin Roosevelt's wartime administration, Bergson had an opportunity to familiarize himself with the requisite statistics and begin developing the methods which later allowed him to recompile Soviet national income accounts (NMP) according to the western GNP standards.<sup>2</sup> The undertaking was part accounting exercise, audit, price sensitivity experiment (Gerschenkron, 1947), and an exploratory attempt at transforming Marxist labor cost output prices into surrogate western production values. In the initial phase it suggested that Stalin's prewar economy performed far better than anything Ludwig von Mises, Frederich Hayek and Lionel Robbins ever imagined possible (Bergson, 1948). Although, it was premature to judge conclusively from the initial successes of "five year planning," the beginning was certainly auspicious.<sup>3</sup>

But were Soviet data reliable enough to support this tentatively favorable conclusion? A defense of the reliability of Bergson's findings (Bergson, 1950) was the next step. In a short, but incisive article, "Reliability and Usability of Soviet Statistics: A Summary Appraisal," (Bergson, 1953a), Bergson argued:

Contrary to a common supposition, the Russians seem generally not to resort to falsification in the sense of free invention and double book-keeping. I have explained that there is falsification

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<sup>2</sup> Bergson completed *The Structure of Soviet Wages* begun at Harvard in 1937 by the end of 1942. There is no published record of the origins of his national income research. (Bergson, 1950), presumably completed in 1949 refers only to SSRC and Columbia Russian Institute support. He asserts that his estimates are "seemingly the first for the USSR on any scale," p. 208.

<sup>3</sup> Note at this early stage Bergson hadn't independently re-computed Soviet GNP growth, and really wasn't in a position to hold a strong opinion about the USSR's economic performance. Peter Wiles characterized Bergson's assessment of Soviet planning before 1964 as unduly "rationalistic," far removed from the crudities of administrative command planning (Wiles, 1965).

of a local sort....I am now concerned primarily with falsification of a comprehensive character at the center. This distinction, I fear, is a fine one. Almost all the deficiencies that have been discovered lead to unduly favorable impressions of the Soviet economy. If the Russians do not wilfully introduce such deficiencies to create such impressions, they are at least notably tolerant of them, p.15.

The judgement "the Russians seem generally not to resort to falsification in the sense of free invention" is then restated more broadly:

While it has seemed in order to distinguish in this essay between falsification by lower echelons and falsification at the center, it will be evident that in a number of the grounds for thinking that the latter is not a general practice must also apply to the former. As a result, there is some upper limit to the margin of error introduced by falsification by lower echelons, p.16.<sup>4</sup>

The conclusion was clear, albeit carefully hedged. Soviet data were good enough to gauge aggregate performance based mostly at this time on official growth series, but should be taken with a modest dose of salt, and bear the burden of the doubt, whenever there were compelling reasons in specific instances for suspicion.<sup>5</sup>

These premises provided a clear road map, even though all were rejected in whole or part by (Alexander Gerschenkron, 1960).<sup>6</sup> The ensuing decade can be viewed as a spectacular laboratory

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<sup>4</sup> Later Bergson would add, "The measurement of national income, it has been said, is an art rather than a science. If this is so (and few practitioners would disagree), for Russian national income it may be felt the art must even assume an occult character. Is it really worth while to attempt such measurements in this case?...Great as the difficulties are, they do not appear to be overwhelming. With sufficient care and industry, it should be possible to limit the range of conjecture, and even uncertain knowledge may be highly valuable on a vital theme." Abram Bergson, *The Real National Income of the Soviet Union Since 1928*, 1961. Quoted in CIA, *Measures of Soviet Gross National Product in 1982 Prices*, Joint Economic Committee of Congress, Washington, DC, November 1990, p.1.

<sup>5</sup> Bergson's reliability argument was persuasive as far as it went, but it was also illogical because (Bergson, 1950) already noted the distortionary impact of new good pricing which later caused his Laspeyres measure of Soviet growth 1928-37 of 11.9 percent per annum to be 4.8 percentage points less than the official Soviet claim of 16.7 percent (Bergson, 1963a). This wouldn't have mattered if the gap were explained by NMP accounting, or adjusted factor costing, but it was attributable instead to the difference between the sub-aggregate data he used to recalculate Soviet GNP and the official Soviet national income aggregate. He subsequently argued that the primary cause of the disparity was new goods pricing (Bergson, 1972). Cf. (Bergson, 1950) and (Harrison, 2000 and 1998). But Stanley Cohn's re-computations using sector of origin instead of expenditure data indicated that there was more to the discrepancy than new product pricing (Cohn, 1972). Also, the "hidden inflation" issue which began dogging the profession in the seventies was unaddressed.

<sup>6</sup> "It is doubtful that a consumption economy can be established in Russia. A decentralized economic system geared to a steady rise in levels of consumption would leave the Soviet dictatorship without a social function, without a justification for its existence. It is much more likely that the dictatorship will continue the policy of wilfully provoking one international crisis after the other and of maintaining a high rate of investment as the economic pendant to such a policy. Then a renewed curtailment of such managerial freedoms as have been granted since Stalin's death, followed by a general reversal of the decentralization policy, should be only a matter of time, and enterprise and management in Russia should once more return to the normalcy of Soviet mercantilism, concealed beneath a generous veneer of socialist phraseology. (Gerschenkron, 1960), pp.294-95.

experiment, in which tools, interpretations and theories were refined, and calculations made to assess whether Stalin's promising beginning would continue to bear fruit, and lead to a more humanistic set of outcomes (Bergson, 1951), sheared of mass killings, terror, Gulag forced labor and structural militarization.<sup>7</sup>

Bergson published three major Soviet national income studies during this period (Bergson, 1953b, 1954, and 1961), and commented on the major themes of the time, Soviet economic reform (Bergson, 1956, 1968), and the great rivalry between capitalist and communist economic systems (Bergson, 1963b). The new post-Stalin data emanating from Moscow suggested that the growth experience of the thirties wasn't a flash in the pan, and that the west was going to be seriously challenged by the USSR's growth model (Bergson, 1953c, 1956). Bergson also reconsidered the theoretical possibilities of socialist and capitalist social welfare (Bergson, 1954).

The evidence produced by this enormous effort appeared to suggest continued caution in judging the merit of the rival systems. But by 1963 something fundamental had changed which brought Bergson's outlook a step closer to Gerschenkron's blacker view of Soviet "socialist" mercantilism (Gregory, 2001, 2003; Gregory and Lazarev, forthcoming), reshaping the whole course of Bergson's future analysis. He concluded on the basis of his findings 1928-40 valued at 1937 adjusted factor cost, and what were essentially preliminary postwar and post-Stalin economic productivity data through 1958 that the Soviet system was intrinsically inferior (Bergson, 1963a). Perhaps, this change of heart was prompted by working through operational aspects of the system in his Soviet economics text (Bergson, 1964, 1966c Cf. Wiles, 1965, 1966), or reflected a growing skepticism about the merit of socialist economics more broadly expressed in (Bergson, 1966b), and (Bergson, 1967), but the principal cause seems to have been the discovery that combined factor

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<sup>7</sup> These troublesome issues were discussed, but never placed front and center.

productivity 1928-58 computed at 1937 and 1955 ruble factor cost was negative(Bergson, 1963a).<sup>8</sup>

Whatever the precise weight of these influences, the new perception lead him to conclude that diminishing returns to what Paul Krugman now calls “perspiration” would reduce growth rates to levels well below western market norms (Krugman, 1994).

His revised judgment was unmistakable:

"...I should at least express my opinion that, in view of the experience with socialism to date, the critics of this system have turned out to be nearer the mark than its proponents. At any rate, if we may judge from the experience of the USSR, there are reasons to doubt that socialism is especially efficient economically."<sup>9</sup>

And he continues

"Lately, however, growth has slowed, and even rapid growth could be especially indicative of economic efficiency only if that desideratum is seen in a novel way, with material alternatives valued in terms of ‘planners’ preferences." With valuation in terms of the more conventional standard of ‘consumers’ preferences,’ the rapid growth arguably must in some degree indicate economic waste. It must do so precisely to the degree that, in respect of the volume of savings, consumers’ preferences are violated. Moreover, even in terms of such planners’ preferences, economic efficiency must turn not simply on the rate of growth but on how near this rate is to what it might have been, and beyond this, on the effectiveness of resource use generally. Even to the casual observer, it must be evident that socialism in the USSR must often leave something to be desired from this standpoint, and more systematic inquiry seems only to confirm this impression. Even in the form that has lately become familiar where reference is to the output of labor and capital together, factor productivity is not the same thing as economic efficiency, but if it is at all indicative of the latter, economic waste in the USSR probably much exceeds any recent experience in the United States. Factor productivity in the USSR has been calculated to be far below that in the USA.<sup>10</sup>

The tone is guarded, but all the essentials are there. Bergson had apparently lowered his appraisal of the significance of planners’ preferences, and come to stress the consumer sovereign failings of the Soviet system. Growth not only was decelerating, but his appraisal of its welfare content had been reduced, and most importantly he had come to see "productivity" as the USSR's Achilles' heel, although he allowed for the possibility of limited improvement within the inferior

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<sup>8</sup> Both official and western series showed growth deceleration, but official rates were still well above those in the west.

<sup>9</sup> Bergson, (1966b), pp.237-38. At this point he references Bergson, (1964).

<sup>10</sup> Bergson, (1966b), p.238.

paradigm.<sup>11</sup> He hadn't turned bearish enough to foretell the Soviet Union's demise, and indeed continued to believe that planning worked well enough to endure. But, he decided that the system couldn't borrow, innovate and diffuse technology effectively enough to prevent the long term growth rate from falling substantially below the market capitalist rate, both before and after adjustment for the lower welfare content of Soviet GNP statistics.

These judgments superficially seemed out of character. They represented an early call against the possibility of constructive socialist reform.<sup>12</sup> But, they were actually quite characteristic. Bergson's overzealous defense of the reliability and usability of Soviet data also had been more of a hunch than a definitive proof.

Virtually the rest of his career was devoted to corroborating this verdict. These later studies were cast in an east/west context to take account of the Soviet Union's relative backwardness vis-a-vis the United States (1968, 1971, 1972a, 1972c, 1974), and were linked with analyses of the new Soviet growth model, and the USSR's economic slowdown (Bergson, 1973 and 1978). They took account of advanced production function estimating techniques (1983b), and were broadened into a general appraisal of socialist economic inferiority (1991, 1994).

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<sup>11</sup> Research undertaken by Rosefelde on the Hecksher-Ohlin efficiency of Soviet trade (Rosefelde, 1972), Ofer on the service sector (Ofer, 1973), Gregory on modernization patterns (Gregory, 1970) and Spechler on the quality of Soviet products fell into this middle ground (Spechler, 1981). They confirmed Bergson's earlier work that the system was viable, but not that it could be as productive as western market systems.

<sup>12</sup> It is universally accepted that Soviet productivity growth declined after Bergson's call in 1963. Combined factor productivity turned negative on the CIA's calculations; that is, combined input growth exceeded output growth indicating that technological progress wasn't sufficient to offset diminished factor return (Noren and Kurtzweg 1993), pp. 14 and 17. Combined input factor productivity using official Soviet data however doesn't confirm this negative trend (See Table 4, this paper).

**TABLE 1**

**Soviet Factor Productivity Trends 1961-1988 CIA Estimates**

	1961-70	1971-80	1981-85	1986-88	1989-90
GNP	4.9	2.4	1.7	2.4	-.5
Combined Inputs	-0.3	-0.6	-1.4	1.3	-

*Sources: Measures of Soviet Gross National Product in 1982 Prices, Joint Economic Committee of Congress, Washington DC, November 1990, pp.54-57. James Noren and Laurie Kurtzweg, "The Soviet Economy Unravels: 1985-91," in The Former Soviet Union in Transition, Joint Economic Committee, Washington DC, February 1993, pp.14 and 17.*

The CIA's combined factor productivity estimates presented in Table 1 which extend Bergson's calculations after 1975, show that the Soviet combined factor productivity not only was low, but predominantly negative after 1960. Bolstered by this deteriorating productivity profile, Bergson repeatedly rejected all challenges to the reliability of Soviet data, even after the CIA became increasingly jittery about "hidden inflation" (CIA, 1991).<sup>13</sup> He defended his comparative size estimates of the Soviet GNP (Bergson, 1991, Aslund 1991), and parried concerns about his interpretation of adjusted factor costing (Rosefielde and Pfouts, 1995).<sup>14</sup>

By holding steadfast on these matters, he was able to emphasize the inferiority of Soviet factor productivity and productivity growth,<sup>15</sup> while continuing to assert that the Soviet planning

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<sup>13</sup> It should be noted however that while Bergson resisted the idea that the Soviet capital series he constructed were biased by hidden inflation, and hence that the low combined factor productivity he computed was illusory, he nonetheless tacitly accepted the CIA's hidden inflation adjustment to its civilian and military series by refraining from public criticism. See (Rosefielde, 2004), chapter 3.

<sup>14</sup> Although Bergson acknowledged the dubiousness of his planners' preferences concept (Bergson 1966b), he continued to defend the idea that adjusted ruble factor cost prices measured opportunity cost (marginal rate of enterprise product transformation) on average, given planners' preferences (Bergson, 1950, 1961, 1995). His tenacity on this point stems from the perception that the comparative merit of his estimates of Soviet national income turned on adjusted factor costing. "...I in fact made it a major concern to explore the problem posed by the divergences of Soviet ruble prices from 'scarcity values' and that because of such divergences I was led to reject the usual expedient in national income measurement, which is simply to value goods and services produced in terms of prices actually prevailing in the country in question. Instead I applied an 'adjusted ruble' standard of valuation, attempting to correct ruble prices for major distortions. In the calculation of a complex aggregate, such as national income, valuation in terms of some standard is, of course, unavoidable." (Bergson, 1966c). This assessment is wrong in two respects. First, the elimination of retail turnover taxes is standard SNA practice. Second, substituting capital charges for official profit doesn't transform Soviet fiat prices into measures of enterprise marginal rates of transformation.

<sup>15</sup> Bergson, like Francois Joseph du Tremblay, confidant to Cardinal Richelieu was a "gray eminence" in the area of Soviet defense spending and real military production. Based on his own earlier work, he accepted the official Soviet defense budgetary statistic as accurate before the 1975 "bombshell" intelligence discovery that this wasn't so for 1969 and 1970 (See

improved living standards after 1928, and had allowed the USSR to partially catch up with the developed west, despite shouldering a comparatively high defense burden (Table 2).<sup>16</sup>

**TABLE 2**

**Soviet Defense Burden 1928-90 Ratio of Defense Spending to GNP (Percent)**

	<u>BERGSON</u>	<u>CIA</u>
1928	1.0	
1937	6.2	
1940	13.8	
1944	38.8	
1950	10.3	
1951		24.2
1955	10.2	19.5
1960		14.5
1965		16.0
1970		15.4
1975		15.5
1980		15.3
1985		14.9
1990		13.8
2000		13.2

*Sources:* Abram Bergson, *The Real National Income of the Soviet Union Since 1928*, Harvard University Press, Cambridge, MA, 1961, Table 3, p.46, Table 4, p.48, pp.61, 364. Noel Firth and James Noren, *Soviet Defense Spending: A History of CIA Estimates, 1950-1990*, Texas A&M University, College Station, 1998, Table 5.10, pp.129-30. Table 6.4, this volume.

*Note:* Bergson's estimates are derived from the official Soviet defense budget, and are valued in established 1937 ruble prices. The CIA's numbers are valued in established 1982 ruble prices. The estimate for 2000 was computed by Rosefelde in 2000 dollars, using CIA methods.

Most interpretations of the Soviet Union's collapse have been driven by these key assumptions of 1953, and 1963 (Noren and Kurtweg, 1993; Berkowitz, et.al., 1993). The dissolution has been attributed primarily to Mikhail Gorbachev's purported realization that communist planning was inherently inefficient and could not keep up with the west. The Soviet system wasn't a shipwreck. It could have endured on the terms Bergson elaborated, but the Kremlin reasonably

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Firth and Noren, 1998), and sided with the CIA on William Lee's estimates, without categorically rejecting them(Lee, 1975).

<sup>16</sup> The latter was never verified using official series. See (Rosefelde, 1998; 2004a)

concluded that this wasn't good enough.

**TABLE 3**

**Soviet and Western Per Capita GNP Growth 1960-90 (Compound Annual Rates: Percent)**

	<b>Soviet</b>	<b>America</b>	<b>Japan</b>	<b>Europe</b>
1960-70	3.8	2.7	9.7	3.9
1970-80	1.3	1.6	3.3	2.5
1980-90	0.6	1.3	1.0	1.0

*Source:* United Nations, *Human Development Report 1998*, Oxford University Press, New York, 1998. *Measures of Soviet Gross National Product in 1982 Prices*, Joint Economic Committee of Congress, Washington, DC, November 1990, Table A1, pp.53-57. *The Former Soviet Union in Transition*, Joint Economic Committee of Congress, February 1993, Table 4, p.17. *Narodnoe Khoziaistvo SSSR, za 60 Let, Iubileinyi Statisticheskii Ezhegodnik*, Statistika, Moscow, 1977, p.40, and *Narodnoe Khoziaistvo SSSR v 1990*, Finansy i Statistiki, Moscow, 1991, p.67.

*Note:* Soviet per capita GNP growth was computed from CIA GNP growth estimates.

Bergson himself didn't offer an exergesis on the Soviet Union's premature demise. But his 1963 judgment that Soviet productivity growth, and hence the growth of national income would fall below the west's long term golden age rate appears to have been on target, at least appraised with CIA's series which play fast and loose with data that Bergson supposed were reliable. The cross over point occurred in the 1970s (See Table 3) using the Agency's Soviet GNP estimates, but would have been delayed well into the 21st century on Goskomstat's statistics (Rosefielde, 1998), if trends east and west persisted. Bergson's combined factor productivity for example switches from negative to positive merely by replacing the CIA's SPIOER industrial output sub-series with Goskomstat's (Table 4).

**TABLE 4**

**CIA Estimates of Soviet Factor Productivity Growth 1965-85  
(Official Industrial Output Series) Percent**

	1965-70	1970-75	1975-80	1980-85	1965-85
GNP	6.2	4.3	3.1	2.8	4.1
Combined Inputs	3.8	3.8	3.1	2.5	3.3
Workhours	2.0	1.7	1.2	0.7	1.4
Capital	7.4	8.0	6.9	6.3	7.1
TFP	2.4	0.5	0	0.3	0.8

TFP is total factor productivity.

*Sources: Allocation of Resources in the Soviet Union and China - 1985, Joint Economic Committee of Congress, March 19, 1986, Table 4, p.80 and Table 5, p.81; Rosefield, Economic Foundations of Soviet National Security Strategy, unpublished manuscript 1987, Tables 9.4 and 9.14; Abram Bergson, Productivity and the Social Systems, Harvard University Press, Cambridge, MA, 1978, Appendix Table 11, p.236 . Bracketed entries were obtained from Measures of Soviet Gross National Product in 1982 Prices, Joint Economic Committee of Congress, November 1990, Table A-1, pp.54-57.*

*Method: Factors are combined, following Bergson, according to the Cobb-Douglas specification (See Bergson, 1978, p.159-60 note 8). The income elasticities (shares) imputed to capital (.328 GNP, .217 industry) are provided in (Bergson 1978), Appendix Table 11. Labor is .672 GNP, and .683 industry. Cf. Appendix Table 22, p.245. The input data are taken from CIA sources: the industrial component of the CIA's GNP is the official Goskomstat series. Total factor productivity growth for aggregate output and industry are computed with the following function:*

$$TFP = Y/[aK + (1-a) L]$$

where Y, K, and L are output, capital, and labor growth, and a and (1-a) are the output elasticities of these factors measured in 1955 rubles (GNP), and 1959 rubles (industry). Capital weights are net of depreciation.

The official Soviet perception of comparative USSR/US national income growth corresponding to the positive combined factor productivity statistics is shown in Table 5. Soviet GNP growth is much more vibrant on this score than Bergson's 1963 assessment seems to allow, but the per capita GNP figure previously displayed in Table 3 are more supportive.

**TABLE 5**

### Comparative National Income Growth 1961-86 (Average Annual Growth: Percent)

	<u>USSR</u>	<u>USA</u>
1961-86	5.5	3.1
1971-75	4.3	3.4
1981-85	3.6	2.5
1986	4.1	2.5

*Source: Narodnoe khoziaistvo SSSR za 70 Let, Finansy i Statistika, Moscow, 1987, p.654.*

Bergson's larger verdict that Soviet living standards would rise in perpetuity, albeit more slowly than in the West, and with lower consumer utility content obviously didn't pan out, as Gerschenkron had predicted. His axioms and methods provided useful clues about the cause of the Soviet Union's collapse, but were incomplete because his founding "reliability and usable" assumptions excluded a host of plausible explanations consistent with Mikhail Gorbachev's claim that the Soviet economy and living standard had succumbed to "zastoi," (stagnation) by 1980. This disparity highlights a fundamental flaw in Bergson's theory-normed positivist method, (Rosefelde, 1981) going back to 1953, the absence of a dependable mechanism for determining when Soviet data should have been denied the benefit of the doubt, and how to have measured "hidden inflation." The CIA had tried to fill the void, but its approach was ad hoc. The Agency simply replaced value series it suspected were contaminated by hidden inflation with proxy physical series, a procedure that could have been wide of the mark in both directions. Consequently, despite a half century of research we still do not know with any precision how the Soviet economy actually performed although the haste with which the Kremlin dismantled 73 years of communism bespeaks more than numbers ever can.

This raises intriguing questions:

1. Would American foreign policy have been better served by a softer stance on the "reliability and usability of Soviet data (Bergson, 1953), and other axiomatics

(Bergson, 1963)?

2. Was Gerschenkron's assessment more astute than Bergson's?
3. Were von Mises and Hayek ultimately right that Lenin's criminalization of business, entrepreneurship and private property would eventually destroy the Soviet Union (Gerschenkron), (Bergson, 1948)?

The answer to the first no doubt depends on one's convictions, while the second and third depend on the Communist Party's willingness to falsify data, tolerate corrupt statistical practices at all echelons, and deceive. Bergson never seemed to think that Soviet statistics could be corrupted enough to matter, but the USSR's unexpected demise suggests that he may have been mistaken.<sup>17</sup>

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<sup>17</sup> Official Soviet statistics 1926-28 reported NMP and industrial growth in excess of 30 percent per annum. It isn't clear why these and similar by preposterous statistics from the twenties weren't treated as prima facie proof of their unreliability. See Rosefielde (2004b).

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