

Soviet Growth & American Textbooks

David M. Levy
Center for Study of Public Choice
George Mason University
Fairfax VA 22030

Sandra J. Peart
Jepson School of Leadership Studies
University of Richmond
Richmond VA 23173

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Abstract

JEL A20, P17, P27

We examine the treatment of Soviet growth in successive editions of American economics textbooks published between 1960 and 1980. What we find repeatedly is over-confidence in the potential for Soviet growth and an asymmetric response to past forecast errors. More than this, the textbooks report faster Soviet income growth combined with a constant ratio of Soviet–US income. Textbooks that abstracted from these institutional details (thin) offered a wider range of application than those which focused on one society (thick). A simple way to distinguish these two traditions is whether the book used a productivity possibility frontier [PPF] for cross-societal comparisons. Thick accounts did not while thin ones did. It was in the institutional dimension that the account by Tarshis differed from that of Samuelson.

Department of State

22 October 1963

Dear Warren,

Many thanks for your kind invitation of September 24th. This autumn is too tied up for me to take the trip to Charlottesville. Could we fix it for the spring? Your name and your work are very much on my mind these days. Our loyalty to the notion that key Soviet sectors were subject to deceleration, a loyalty we both pursue against the views of the intellectual establishment appears increasingly to be vindicated. Should you come this way I should very much like to chat with you.

All the best.

Walt Rostow.

Introduction

The collapse of the Soviet Union came as a surprise to many western economists in part because its economy had long been portrayed in textbooks as a viable alternative to democratic capitalism. Textbooks had shown that the Soviet economy was growing faster than the US and Soviet citizens would soon enjoy a higher standard of living than Americans. Of course the Soviet economy was not growing faster than the US economy.

In what follows, we examine the treatment of Soviet growth in successive editions of American economics textbooks published between 1960 and 1980. What we find repeatedly is over-confidence in the potential for Soviet growth and an asymmetric response to past forecast errors. More than this, the textbooks report faster Soviet income growth combined with a constant ratio of Soviet–US income. This trust in the future and skepticism about the past was the basis of a standard Soviet-era joke: “Under Communism, the Poles are fond of saying, only the future is certain; the past is always changing” (Nutter 1969). This fact, that accounts of Soviet “growth” emerged and changed over time in successive editions of American economics textbooks, has passed almost unnoticed. More than this, at some key junctures textbook authors disagreed about how to characterize the Soviet economy and, indeed, whether US-style economic analysis might appropriately be applied to the analysis of Soviet growth.

A number of textbook reviews late in the 1940s and early in the 1950s complicate the account below. These reviews surely altered the textbook landscape in the early 1960s. Textbooks that persisted in the early 1960s survived earlier attacks from libertarian writers, Rose Wilder Lane (1947), V. Orval Watts (1950) and William F. Buckley (1951). One great textbook (Paul Samuelson’s) passed through the attendant political controversy, while another (Lorie Tarshis’) succumbed. Why one survived and the other did not has been a puzzle; their authors’ ideology is by all accounts very similar (Elzinga (1992), Colander and Landreth (1995 & 1998) Samuelson (1997)).

So there are two puzzles for what follows. Why were important textbooks of the 1960s and 1970s so over-confident about Soviet economic growth that evidence of model failure was repeatedly blamed on events outside the model's control? Second, how did the earlier libertarian attack on particular textbooks affect the discussion of Soviet growth by changing the mix of surviving textbooks? The counter-factual question is this: absent a libertarian censoring would a Tarshis-influenced textbook universe offer the same analysis as what we observe and describe below? On this question, our conjecture is that competition among differing viewpoints was prematurely suppressed by the attacks. As a result, "too few" viewpoints persisted in the textbook landscape, where by "too few" we mean too few to penetrate the non-transparent institutional arrangements and economic outcomes of the Soviet Union.

A critical aspect for the Soviet-American comparison is whether the textbook offers a model by which the economist can compare one society with another. Textbooks written in what might be described as a thick, empirical_institutionalist tradition focused on a particular society and as such they offered no basis for comparison in the analysis. By contrast, textbooks that abstracted from these institutional details offered a wider range of application using a thinner model. A simple way to distinguish these two traditions is to check whether the book used a productivity possibility frontier [PPF] for cross-societal comparisons. Thick accounts did not while thin ones did.

The difference between thick and thin models in the textbooks was replicated in the specialist controversy over Soviet-American growth. Nutter (1958, 1962) insisted that growth comparisons preserve institutional information by asking whether the Soviet Union was catching up with America. His many critics saw no need for institutional details to enter into the accounts.

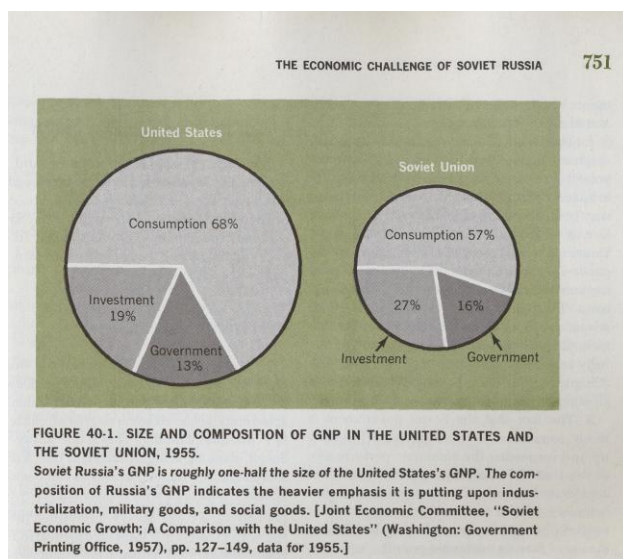
It was in the institutional dimension that the account by Tarshis differed from that of Samuelson. Like Samuelson, Tarshis wrote in a reformist tradition. He was, however, immersed in the details of the American economy. Consequently, he offered little by way of cross country comparisons. Samuelson's text, on

the contrary, pioneered the use of the PPF as the means by which to compare different economies. His model, which collapsed societies into a two-dimension production possibility set, bought elegance by abstraction. Of course, if an omitted variable was important in only one of the societies in the comparison, the model's predictions would be incorrect.

We turn next to the textbooks after Sputnik's October 1957 launch. The texts discussed in most detail below were selected for attention in Kenneth Elzinga's study of market leaders (Elzinga 1992).¹ The first two constitute the most successful multi-edition post-World War II texts, Campbell McConnell's *Economics: Principles, Problems and Policies* first published in 1960 and Samuelson's *Economics: An Introductory Analysis* first published in 1948. The other successful text noted by Elzinga is George Bach's *Economics*. Elzinga also offers a careful discussion of Tarshis' 1947 *Elements of Economics*. We use Tarshis' little-known 1967 *Modern Economics* to address the counter-factual question of how a Tarshis-dominated textbook market might have considered Soviet growth. Three others are selected to illustrate related issues. Robert Heilbroner's influential book speaks to the question of ideology and institutional thickness. Rendiz Fels' first edition seems unique in recognizing the consequence of the two ways specialists measured the US-Soviet competition. Royall Brandis' textbook suggests that the PPF gained popularity because of its use in US Soviet comparisons.

McConnell

McConnell published the first edition of his textbook, *Elementary Economics*, in 1960. There, apologizing to the reader for the brevity of the "survey of a



¹ Documentation of the treatment of Soviet growth and the use of the PPF in all principles textbooks catalogued in the Library of Congress under HB 171.5 between 1948 and 1970 is available on request.

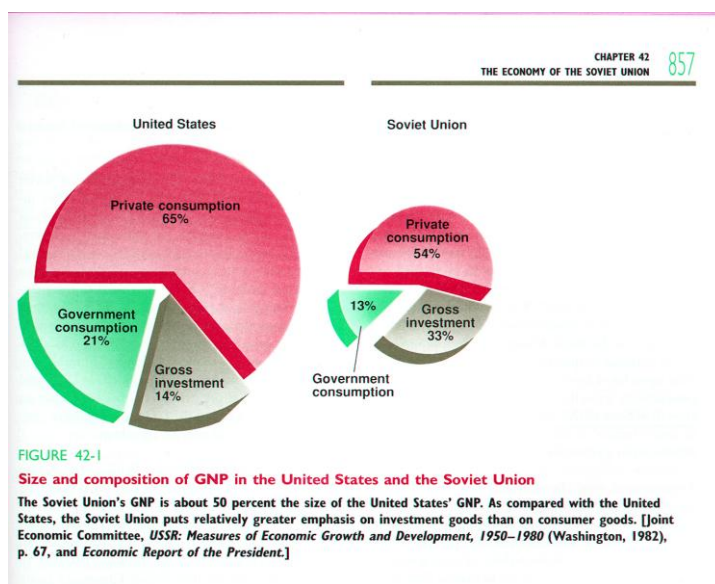
very complex economy” (1960, p. 718), he offered a snapshot view of the US and the Soviet economies. He did so using a pie graph which appeared with only minor variations in McConnell’s chapter on the Soviet economy through the 1990 edition.

McConnell’s second edition (1963), now entitled *Economics: Principles, Problems and Policies*, added a discussion of “the growth record of Soviet Russian controlled economy” (1963, vi). The 50% ratio reappears in McConnell for most of the editions that follow. In the 1990 version McConnell and his co-author presented the same Soviet-US output ratio of 50%. Twenty-seven years have passed in which the

Soviet economy has purportedly been characterized by greater investment, which equates to faster growth, and yet remained at half the size of the US economy (1990, p. 857). The discussion below begins with McConnell’s use of pie charts and then turns to his chapter summary.

The pie chart cross country comparison is a staple of McConnell’s

textbook. It always appears in the last chapter. From 1975 onwards, US investment is said to be about half that of the Soviet Union as a share of GNP and yet the ratio of Soviet to US GNP never changes. The table below presents the contents of the McConnell pie chart over all editions of the textbook.



The US v USSR in McConnell				
Edition	Figure	US Investment (% of GNP)	USSR Investment (% of GNP)	GNP Ratio US to USSR
1960	38.1	19%	27%	5:2
1963	40.1	19%	27%	2:1
1966	42.1	20%	33%	2:1
1969	44.1	19%	31%	2:1
1972	46.1	19%	31%	2:1
1975	45.1	15%	30%	2:1
1978	45.1	15%	30%	2:1
1981	45.1	15%	28%	2:1
1984	46.1	15%	33%	2:1
1987	44.1	14%	33%	5:3
1990	42.1	14%	33%	2:1

In McConnell's pie chart, consumption and investment always sum to 100% of GNP; there is no room for inefficiency.² Consequently, investment in the two countries is equally effective and, without some disturbing cause from outside the economic system, higher investment in one country manifests itself in higher growth. But there is no catching up. That's what the chart seems to be saying.

McConnell's explanations also refer to higher Soviet investment and growth without catching up. In 1963 he writes that "Soviet GNP is roughly one-half that of the United States." (1963, p. 754) and "the rate of economic growth is two or three times as great as that of the United States." In 1975 we read: "Although the Soviet GNP is only one-half as large as that of the United States, the Soviet GNP has grown more rapidly than ours" (1975, p. 905). In 1984, "Although the Soviet GNP is only one-half as large as that of the

²Our reproduction above is from the 1963 edition. McConnell cited the same sources for the pie charts in 1960 and 1963. However the ratio of reported Soviet to US output changed from 40% to 50% in the three year period.

United States, the Soviet GNP has grown more rapidly than ours” (1984, p. 837). In 1987 the text notes that “Although the Soviet GNP is only about 60 percent as large” (1987, p. 911). It comes as a relief of sorts that the sentence is removed from the 1990 edition, leaving only a statement about the “high historical growth rates in the Soviet Union” (1990, p. 865).

McConnell also discusses Soviet and US growth rates separate from the issue of catching up. Starting with 1963, McConnell states that “the annual rate of growth in the Soviet Union is two or three times as great as that now achieved in the United States” (1963, p. 750). In 1966, he writes in italics that “*the Soviet GNP had been expanding at about 6 to 7 per cent per year as compared to 3 to 3½ per cent per year for the United States*” (1966, p. 766). From 1966 until 1990, McConnell cites the lack of cyclical unemployment in the Soviet Union, something which makes the US less efficient, as an additional explanation for the Soviet expansion relative to the US (1966, p. 768, McConnell and Brue 1990, p. 856).

In the 1966 edition McConnell adds a discussion of “Sources of Soviet Growth” (1966, pp. 767-68) in conjunction with “Possible Retarding Factors” (1966, pp.768-70) and “Possible Accelerating Factors” (1966, pp. 770-72). In the “retarding” group he includes the possibility of an increase in consumption (p. 768), the changing nature of investment from the aging of the capital stock, a reduced ability to profit from western technology, labor shortages, a variety of problems in agriculture and planning problems. Each of these is matched by possible accelerating factors, e.g., “Against the tendency of Soviet planning to become less efficient in the face of an increasingly complex economy must be set the likelihood of significant breakthroughs in the techniques and mechanics of central planning” (p. 771). The 1969, 1972 and 1975 editions contain the same discussion of sources of growth and retarding and accelerating factors (1969, pp. 812-17, 1972, pp. 812-17, 1975, pp. 897-902).

The editions of 1978, 1981 and 1984, however, retain the “retarding factors” but omit the “possible accelerating factors” in the growth section (1978, pp. 935-38, 1981, pp. 887-89, 1984, pp. 831-33).

McConnell adds a discussion of the “recent growth slowdown” to the 10th and 11th editions (1987, pp. 905-07, 1990, pp. 857-59).

All editions contain estimates of Soviet and American growth. In 1969, McConnell writes in italics that “*the Soviet GNP had been expanding at about 6 to 7 per cent per year as compared to 3 to 4 per cent per year for the United States.*” (The previous edition, as noted above, had the US growing between 3 and 3.5 per cent.) In 1972 this becomes: “But Soviet growth performance slackened to about 5 percent per year in the 1960s, and projections for the 1970s suggest possible further deterioration to 4 to 4½ percent. The latter figures are quite close to the full-employment growth rates in the United States. In short, the substantial growth rate advantage which the Soviet Union enjoyed in the 1950s and early 1960s has tended to diminish and disappear.” (1972, p. 812). The same passage appears in 1975 (1975, p. 897).

In 1975 McConnell added a discussion of the hypothesis of institutional convergence, something which continues for several editions. In 1978, McConnell finds “evidence of [growth] convergence in recent years”: “Soviet annual growth was 4.9 percent in the 1960 period while the United States enjoyed a 3.8 percent rate. Both economies performed poorly in the first half of the 1970s as reflected in a 3.5 percent annual rate for the Soviet Union and a 2 percent rate here at home” (1978, 933-34). The same passage is found in the 1981 edition (1981, p. 886). In 1984, a new table shows Soviet growth falling to 2.7% in the late 1970s (1984, p. 830) with the text telling us that “Experts also agree that the Soviet growth rate has generally exceeded the United States in the post-World War II period as a whole (1984, p. 830). The table does not offer United States growth for comparison. In 1987, the question of the “recent growth slowdown” is raised with Soviet growth having now fallen to 2.6% per annum for the 1981-83 years (1987, p. 905). Yet none of these variations influences the visual presentations in the pie charts.

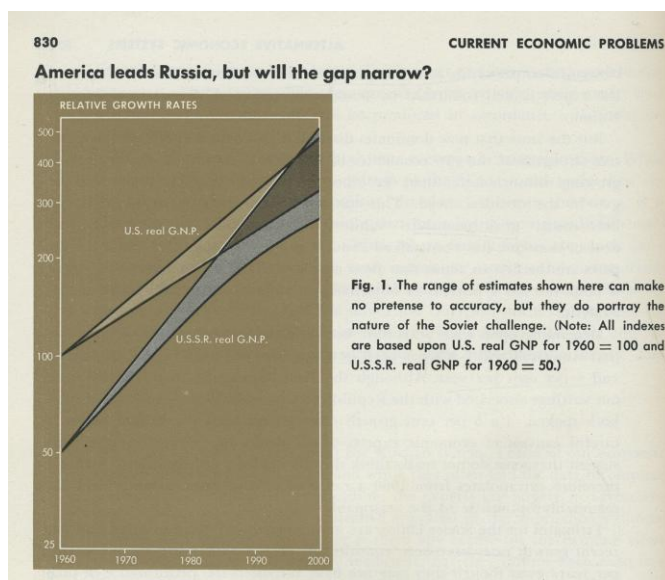
In 1990 McConnell and Brue provide estimates of US to the USSR growth from 1961-1965. Soviet growth of 4.8% now differs only slightly from the US growth of 4.6% (1990, p. 856); the pie chart, however,

remains unchanged. Less dramatically, Soviet growth in the 1990 table has been revised downward from the 1987 table. What had been a 5.0% growth rate from 1971-65 in 1987 is now revised to 4.8%; a 3.7% growth rate from 1971-75 is changed in 1990 to 3.1%; what was 2.7% for 1976-1980 is now revised to 2.1%. The 1990 text reports that from 1983 to 1988 the Soviet growth rate of 2% was overwhelmed by the US growth rate of 4.0%.

Samuelson

In 1961, Samuelson took a step beyond McConnell and devised a graph which provides a rough and ready forecast of Soviet and American growth trajectories. Using different assumptions about Soviet and American growth rates, Samuelson projects when the Soviet economy will overtake the US economy. His first projection (a max-min overtaking point) is based on the maximum respectable Soviet growth assumption and the minimum respectable American growth assumption. The second date, a max-max prediction, is more cautious about when the overtaking will occur: it uses the maximum Soviet growth assumption and the maximum American growth assumption.

In the 1961 graph reproduced below the max-min year seems to be 1984; the max-max year is about 1997. So the optimistic forecast of time before the Soviet overtaking is 23 years; the more pessimistic time to overtaking in the max-max world is 36 years. The non-overtaking trajectory is constructed on the specification that something reduces Soviet growth in out years below what simple extrapolation would have it. Presumably this possibility is an exogenous shock outside the scope the theory.

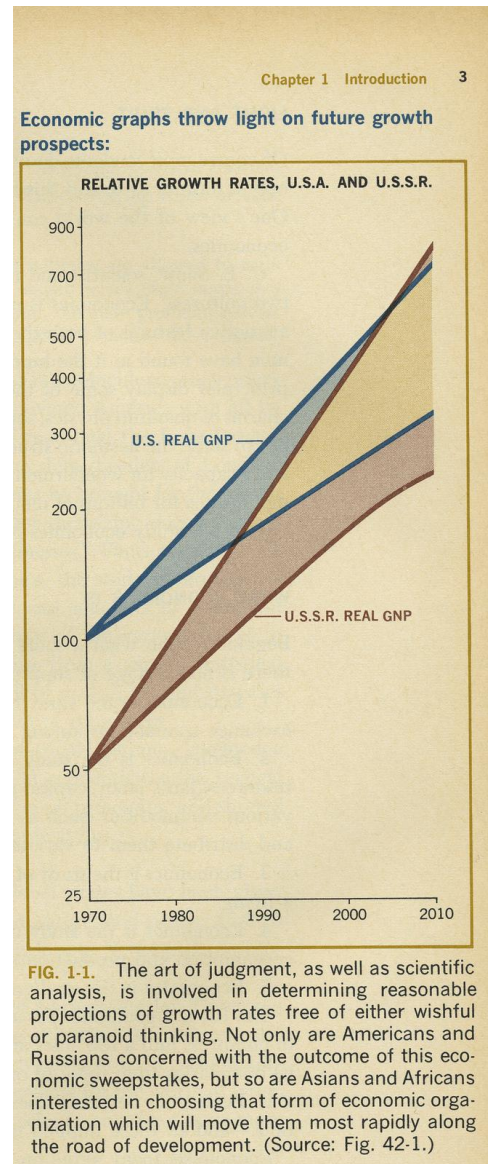


Like McConnell's pie chart, Samuelson's overtaking graph is always the first graph in the last chapter of the book. There are however two editions, the 7th of 1967 and the 8th of 1970 (reproduced here), in which the projection is the first graph students see. Perhaps the projection is offered as a key motivation to study economics.³

The table below presents the year of Samuelson's editions, the placement of the graph, the two forecasts obtained from reading the graphs and the ratio of US to USSR starting points. There are two regimes in the history of the graph. One – which is shaded – preserves the 1960 starting point. The second regime rebases the forecast to the year of the edition.

The table also presents the starting ratio of American and Soviet real outputs used in each graphical representation. From 1961 through the 1973, this is constant at 100/50. Only in the last two graphs does the ratio change. The claim of

considerably faster Soviet growth made *by the graph* is juxtaposed with an unchanging ratio of levels of real output notwithstanding the obvious fact that sustained faster growth would have to imply a change in the ratio.



³From the 6th through the 10th editions Samuelson's inner lining has line graphs comparing many different countries. McConnell has a table of National Income Accounts.

Samuelson Growth Forecast				
Year	Figure	Max-Min Overtaking Time	Max-Max Overtaking Time	Start GNP Ratio: US to USSR
1961	37.1	23	36	100/50
1964	38.1	20	33	100/50
1967	1.1 & 40.1	10	28	100/50
1970	1.1 & 42.1	18	35	100/50
1973	43.1	17	35	100/50
1976	43.1	16	32	100/57
1980	43.1	22	32	100/55

As noted above, the graphs appeared twice in Samuelson's 1967 and 1970 editions. The following information accompanied the second appearance of the graph:

In the decade preceding 1970, the United States grew toward the top of its projected range of growth rates. But the U.S.S.R., because of bad weather and crops and shortening of the workweek, seems to have moved lower down on its projected range of growth rates (1970, p. 831)

Exogenous elements such as bad weather and an unforeseen political decision to increase the consumption of leisure intervened to throw the forecast off.

The numbers in the chart above are derived from the graphics in the textbooks. Samuelson also provides commentary about Soviet productivity and bad weather. In fifth edition (1961) he offers the following discussion:

The decision of how to combine various productive factors – land and labor, degree of mechanization – appears to depend on a mixture of purely technical considerations and adaptations to the scarcity of various economic resources. A continual process of trial and error goes on. The observer finds operations curiously uneven: on the one hand, he may see a military ballistic plant which has achieved a precision of ball bearings and gyroscopes rivaling the best in the world; on the other hand, he may find things being done an almost unbelievably primitive way, with the quality of output practically worthless. (Example: A Soviet farmwoman may be assigned one cow to take care

of; on a Wisconsin dairy farm, a man and wife may take care of 30 cows, in addition to performing countless other daily chores. (1961, p. 826)

The same paragraph with 30 cows appears in sixth edition (1964, p. 803). The graph in the 1964 edition is accompanied by this additional information

From 1960 to 1964 it would appear that the United States has moved at the very top of its projected range. But the U.S.S.R., because of bad weather and crops and shortening of the work week, may have moved at the bottom of her projected range. (1964, p. 807)

The productivity paragraph appears in the seventh edition (1967, p. 786). In 1967 as well Figure 40-I, but not I-I, appears with the ending date above changed from 1964 to 1967.

Samuelson rewrote the productivity paragraph in the 8th edition, updating the example from 30 to 50 cows and bringing mechanization to Wisconsin:

(Example: A Soviet farmwoman may be assigned one cow to take care of; on a mechanized Wisconsin dairy farm, a man and wife may take care of 50 cows, in addition to performing countless other daily chores. (1970, p. 827)

He accompanied the graphical information in 42.I, but not in I.I, with this information:

In the decade preceding 1970, the United States grew toward the top of its projected range of growth rates. But the U.S.S.R., because of bad weather and crops and shortening of the workweek, seems to have moved lower down on its projected range of growth rates (1970, p. 831)

In the 9th edition the productivity paragraph is unchanged with 50 cows (1973, p. 879). The graph (1973, p. 883) is not qualified by bad weather although a footnote on the page before remarks "In the last dozen years both growth records were comparable." (1973, p. 882).

In the 10th edition, the ratio of US to USSR output changed to 100:57 (1973, p. 883). The productivity paragraph contained a new piece of information:

Private allotments of land on the collective farm often have much higher, not lower productivity than the collectivized sectors. (1976, p. 879).

The text mentions bad weather in a footnote and predicts that

Despite unfavorable weather, much-improved efficiency would seem technically feasible in the future. (1976, p. 881).

In the 11th edition, the productivity paragraph italicizes “higher” (1980, p. 822); the ratio of US to USSR output now falls to 100:55. (1980, p. 825). The edition drops the “bad weather” explanation and now simply refers to the “unfavorable past”:

Despite this unfavorable past, much-improved efficiency would be technically feasible in the future (1980, p. 824).

Bach

Not all the textbooks in the period assumed efficiency in the same manner that Samuelson and McConnell did. We consider next two additional texts from the same era. The first is George L. Bach’s *Economics: An Introduction to Analysis and Policy*. Although this textbook was first published in 1954, it descended from the 1940s text written jointly with Mary Jean Bowman. Instead of opening his discussion of Soviet-American growth with a production possibility frontier, Bach discussed the details of the American economy.

In the first edition, he paid tribute to Soviet growth.

No other nation in history has industrialized at anything like the rate of the Soviet economy since the early 1920’s. From a backward, rural economy, in less than three decades Russia has become the world’s second greatest industrial power. Her current military force may be the world’s greatest (1954, p. 698).

The ranking continued through the 10th edition (1980, p. 674). In the third edition Soviet aggregate growth was said to be “something like double the American rate in the aggregate” (1960, p. 826).

Yet in contrast with McConnell and Samuelson, Bach mentioned (1960, p. 841) dissenting voices in the profession, noting that the NBER studies by Nutter and Gregory Grossman “suggest that the spread between Soviet and American growth rates may not be as wide as has been commonly supposed.” In the sixth edition, Bach reported that Soviet growth had in the last decade “just about equaled that of the U.S.A.” (1968, p. 572). He noted: “Comparing U.S. and U.S.S.R. growth rates is one of the favorite statistical games of the generation” (1968, p. 573). Per capita gross national product, however, solidly indicated a

discrepancy:

Our \$3,900 per capita g.n.p. in 1967 compared with only about \$1,700 for the U.S.S.R. Russian per capita output is about two-thirds that in the major West European nations, and during the 1960s she has gained on them and us little if at all. (1968, p. 573)

As a partial explanation, Bach pointed to unemployment caused by a failure of planning in the Soviet Union:

The Soviet central planners do not program men or machines into unemployment. If there is unemployment, it is because planning has gone awry or because someone is not behaving according to plan. But there is still the problem of keeping total spending power roughly equal to goods available for purchase. (1968, p. 571)

In 1968 Bach adds a new table of hypothetical growth rates (1968, p. 574), beginning with a base of 100 for the US and 50 for the Soviet Union. Over the period of 1965-1995, the US growth numbers are allowed to be 2, 3 and 4%. The Soviet numbers are allowed to be 4, 5, 6, 7%. Bach sees little need for alarm:

Unless we fall short of our historical 3 to 4 per cent growth rate, the Russians can't catch us before the 1990's unless they grow at 6 per cent or better, a very high rate. (1968, p. 574).

The hypothetical table was removed from the 7th edition (1971) and replaced by a table showing Japan growing over 10%, Soviet growth at 4.1% and US at 3.1% (1971, p. 691).

In the ninth edition Soviet growth is said to have slowed even more (1977, p. 650) and black markets have arisen:

The Russians are human beings too, and when there isn't enough to go around, they apparently tend to plan a little more resources for all the demands than there are to parcel out. The result is a demand pressure that tends to bid up prices all along the line as shortages occur; black markets spring up everywhere. (1977, p. 651)

Per capita incomes (\$7,000 v \$2,700) were offered as evidence of a worsening of relative US / Soviet well-being – 2.3 in 1968 to 2.9 in 1977. Bach again noted differences of opinion on this matter: “Some observers put Russian per capita incomes as high as half ours, but not more.” (1977, p. 651). The hypothetical growth table stays missing.

Comparisons of American-Soviet per capita income become more complicated by 1980: “\$9,600 in the United States, \$3,500-\$4,500 in the USSR.” (1980, p. 675). In this edition, a new piece of information

is added, a Soviet cartoon showing a planning confusion and an anecdote – “a standard Russian joke” – about incentives:⁴

The accompanying cartoon shows the Russian wryly observing the problem. In a market system, the profit incentive continually pushes managers to avoid such inefficiencies. Under quotas and physical planning, the manager’s goal is to meet the quotas, not to question why. A standard Russian joke has a factory turning out one huge one-ton nail as the cheapest way to meet its quota of one ton of steel nails. (1980, p. 676).

In the new appendix the unemployment which was recognized in 1968 has a name: “disguised unemployment.”

The Soviet central planners do not program men or machines into unemployment. If there is unemployment, it is because planning has gone awry or because someone is not behaving according to plan. And there has been very little official unemployment in the USSR. But there is much evidence of disguised unemployment in the form of excess labor allocated to some industries. (1980, p. 690).

The textbook no longer predicted the Soviet Union overtaking the US and the fixed ratio of Soviet/US output disappeared. The table which showed Soviet growth exceeding US growth appeared in only one edition. Bach provided no explanation to accompany the specification; this would have required a PPF, which his textbook does not have.

Tarshis

Tarshis began his 1947 *Elements of Economics* with a clear statement that an unguided economy will be inefficient:

It is, of course, not surprising that our economy sometimes fails to operate at peak efficiency. Most of the economic institutions we have inherited were not designed by economists; certainly the basic ones were not. In fact, they were not designed at all. Students of economic history can trace their gradual evolution under the pull and tug of various interest groups: of the landlord and the businessman, the merchant and the Church, the wage earner, the investor, and the bureaucrat. Anyone who has studied the development of these institutions will not be surprised to find that they do not always perform efficiently. After all, it is rarely enough that what we plan turns out as we planned it; it would be remarkable indeed if something which grew without planning should perform in just the way we want it to. If doctors had designed the human body, there would probably be no diseases. Likewise, if economists had designed the economy, the chances are that there would be no economic

⁴Peart and Levy 2005 discuss the anecdotal evidence aggregated in proverbial wisdom. “Standard Soviet jokes” are studied in Levy and Peart (2006).

problems to worry about. As it is, the economist believes his job is to understand the existing economy in order that he can properly guide efforts to make it work efficiently. (1947, pp. 4-5).

This provoked some controversy. Rose Wilder Lane correctly read the book as advocating political solutions in lieu of voluntary solutions (1947). Yet Tarshis' reformist point of view may have immunized his analysis from an assumption of economic efficiency.⁵ Indeed, the Soviet section in his much ignored *Modern Economics* of 1967 contained no such assumption. Tarshis' brief discussion there addressed the implicit assumptions behind the "perennial issue" of the relative growth rates of the US and the Soviet Union (1967, p. 663). He began by asking what index we ought to use. Output per capita was problematical because it assumed a roughly constant and equal labor input across countries (1967, p. 661).

Tarshis' table (1967, p. 663), reproduced below, illustrates the problem with all US and Soviet comparisons. A simple switch of weights from US to USSR prices cuts the relative size of the Soviet economy in half.⁶

TABLE VI · 1-1 *Relative Size and Growth Rates*

	U.S.S.R. GNP as Per Cent of U.S. GNP (1958)	Growth Rates (1950-1958)	
		U.S.	U.S.S.R.
Weights correspond to U.S. prices	65	2.9	6.0
Weights correspond to U.S.S.R. prices	33	2.9	7.5

Source: M. Bornstein, "A Comparison of Soviet and United States National Product" in Bornstein and Fusfield, *The Soviet Economy: A Book of Readings*, 1962.

⁵ Harcourt (1995) emphasizes the importance of Tarshis' assumption of imperfect competition. Tarshis employs the kinked demand model to argue for price rigidity in oligopoly (1947, pp. 182-4). Samuelson's chapter on the firm treats perfect and imperfect competition together (1948, p. 491-17) and does not consider the possibility of oligopoly-induced price rigidity.

⁶ This consideration is noted in Samuelson as "a technical index number problem involved that need only be indicated" which gets solved by simply splitting the difference in all the editions; (1961, p. 828); (1964, p. 806); (1967, p. 790); (1970, p. 830); (1973, p. 881); (1976, p. 882); (1980; p. 824).

Tarshis then considered how to select time periods for the purposes of comparison, pointing out that a short period analysis makes the choice of end points critical (1967, p. 661-62). Relying on Simon Kuznets' work, he compared growth rates of 19 countries. Since the time period spanned both Russian and Soviet history (1870 – 1954), he chose to treat them as one country (1967, p. 666), a convention Nutter had also followed that was widely and strenuously criticized (Brady 2008). Tarshis' conclusion would not surprise a reader of the 1st edition who remembered his emphasis on the economist's role as reformer:

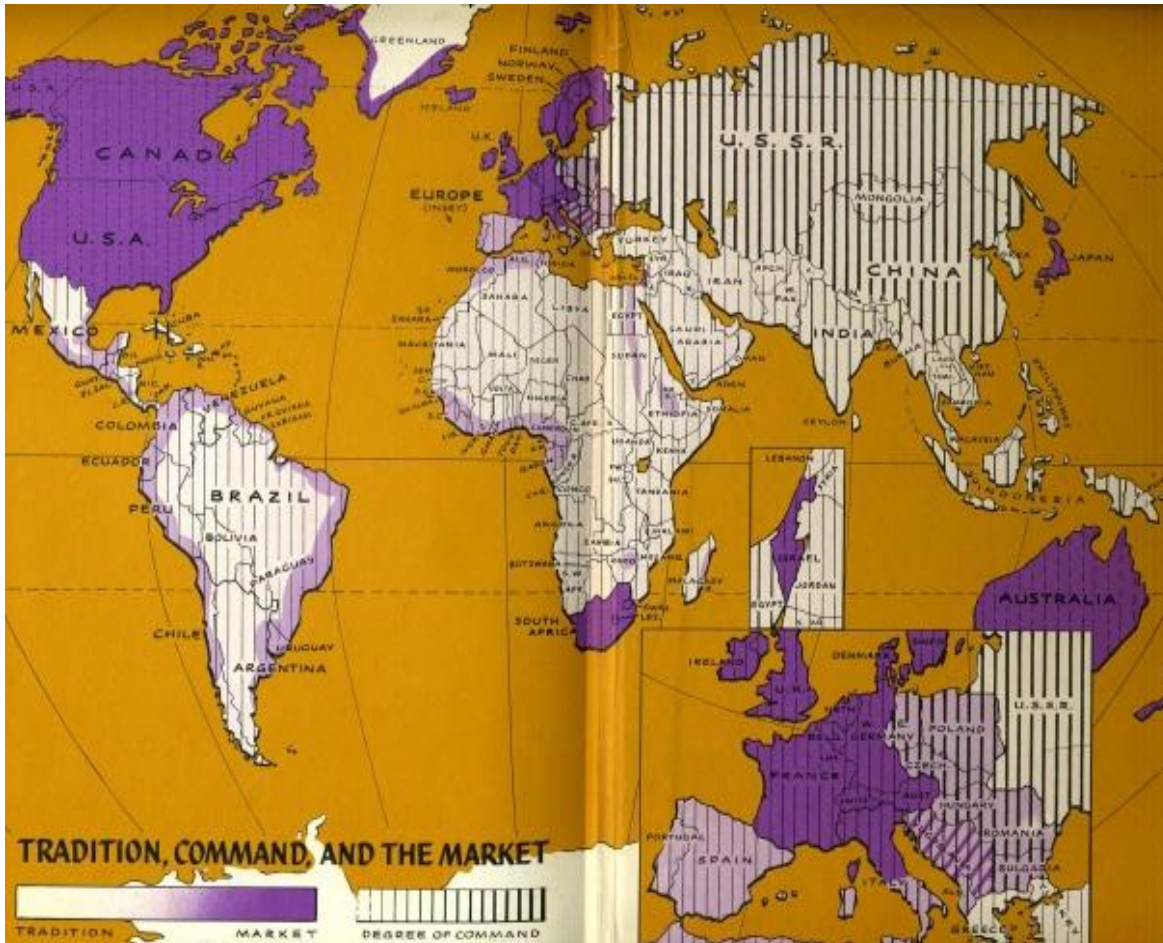
It is noticeable that most of these countries showed a decline in growth rate, comparing the two periods. The exceptions were Italy and the Soviet Union, to which industrialization came late; Sweden which succeeded in maintaining a high rate throughout ... an economist cannot refrain from pointing out that Sweden; more than any other country in the group studied, has followed the advice of its economists – who incidentally have been exceptionally able. (1967, pp. 666-67)

This textbook, one notes with some regret, disappeared without a trace soon after it appeared.

The treatment of Soviet-American growth in Tarshis' 1967 textbook suggests that the comparisons depend very much on one's point of view. Tarshis makes no appeal to cross societal efficiency. He offers no guidance for the future of US-Soviet competition.

Heilbroner

Robert Heilbroner's 1968 textbook positions itself farther than any other from Samuelson's "neoclassical synthesis". Heilbroner presupposed that market economies require a culture of self reliance free of direction either by tradition or command. He divided the world into regions of command, markets and tradition in a map shown here from the first edition inner liner (Heilbroner 1968). For Heilbroner the Soviet Union must be viewed in terms of economic development in which its institutions evolve (1968, pp. 599). He questioned both the assumption of constant growth and that of fixed institutions, remarking that growth was decelerating (1968, p. 628) and the Soviet Union was moving toward markets (1968, pp. 599). Heilbroner predicted "a convergence of systems" (pp. 629-30) as institutions developed toward some "advanced" form.



Samuelson captured the key features of economies using tradeoffs of guns and butter. By contrast, Heilbroner discussed tradition, markets and command before he turned to guns and butter. For him, it was no easy matter to compare economic activity in America with economic activity in the Soviet Union since one model failed to encompass both economies.

Heilbroner occupies a distinct ideological position among textbook writers.⁷ Interestingly, Arnen Alchian and William Allen shared Heilbroner's reluctance to present an encompassing model for all economies. Their *University Economics* comprised the Chicago-school alternative to Samuelson at this time. Alchian and Allen explain why their book does not analyze any form of socialist economy: neoclassical theory

⁷ Heilbroner (1968, p. 3): "no other branch of study holds such possibilities for the improvement of the human condition in a world that is, in the main, still brutally poor. I do not mean that the rescuers of mankind must be economists, although I myself believe that the appeal of economics is greatest to those who feel affronted at the miseries and inequities of the human spectacle." Without minimizing "Stalinist" horrors he asks the student to reflect on the brutalities of capitalistic development (1968, p. 595).

failed to characterize the Soviet economic system.⁸

Efficiency and Ideology in the Textbooks

Three major hostile reviews of the new generation of textbooks shaped the textbook landscape of the 1960s. Rose Wilder Lane reviewed Tarshis (Lane 1947), Orville Watts focused on a cluster of “new economics” including Samuelson (Watts 1950), and William Buckley surveyed the textbooks used at Yale, including those by Tarshis and Samuelson (Buckley 1951). Buckley’s attack echoed those by Lane and Watts but, as Elzinga (1992, p. 864) has noted, Buckley also asked why the positions of non-Keynesians were excluded from the textbooks (Buckley 1951, p. 81).

Tarshis advocated reform within a particular economic framework. Samuelson, by contrast, took a view that abstracted from any particular economy and so gave up the economist’s claim to the particulars that might guide reform. Nor did Samuelson suggest that an economy cannot be efficient without direction by the economists. Perhaps this is why the attacks on Tarshis ensured that the textbook would not survive into immediately subsequent editions while the Samuelson textbook easily withstood the early criticism.

Between 1960 and 1980 it was widely believed that disinterested experts in the Soviet Union could create a system of institutions such that the efficiency of market capitalism would be combined with the ethical claims of socialism, the once-celebrated model of market socialism. The analysis assumed that those directing the system were trustworthy so it was apparently plausible to write about the efficiency of non-capitalist economies (Levy and Peart 2008). All of this implies that the economy which consumes least will grow faster than the one which saves less.

Previous accounts of this period’s textbooks have emphasized an ideologically-inspired romanticization of planned economies (Skousen 1997). Our account, however, suggests that the treatment

⁸“The portion of economics comprising the theory of exchange is applicable to a wider class of problems in a capitalistic private-property economy than it is in a socialist society. This does not mean there is no exchange in the latter; there is, of course, a great deal of it. ... In a socialist system ... political power and exchange of *non* private-property rights are used much more widely to solve the economic questions. If were to devote primary attention to the socialist system, we would investigate much more fully the processes of political exchange and political decision making.” Alchian and Allen (1964, p. 6).

was not driven by ideology alone. Tarshis' ideology was similar to that in Samuelson. Yet his very non-romantic view of the Soviet economy in 1967 was doomed to oblivion by the earlier assessment of the libertarian reviewers. Ideological explanations also neglect how some researchers such as Warren Nutter and W.W. Rostow, united across ideological differences to oppose the CIA's use of the Soviet-US growth estimates (Nutter 1958, pp. 231-32, Nutter 1964, Lipsey 2008). In his letter to Nutter, reproduced above, Rostow referred the "intellectual establishment" against which they were united (Rostow to Nutter 22 October 1963).

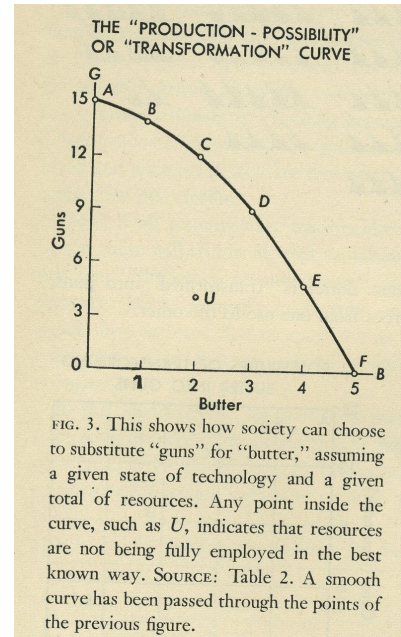


FIG. 3. This shows how society can choose to substitute "guns" for "butter," assuming a given state of technology and a given total of resources. Any point inside the curve, such as U, indicates that resources are not being fully employed in the best known way. SOURCE: Table 2. A smooth curve has been passed through the points of the previous figure.

Samuelson pioneered the use of the production possibility frontier, reproduced here from his first edition, to conceptualize production in different societies. Frank Knight asked "What, how and for whom" and Samuelson, his student, combined Keynes and Knight in a simple snapshot that addressed Knight's first question, the fundamental problem facing *any* economy, what shall be produced.⁹ In Samuelson's formulation, abstracting from the possibility of involuntary unemployment (Keynes' concern), all economies are efficient. Thus Samuelson wrote about the Soviet economy in terms of the production possibility frontier in his first edition:

The Russians, having no unemployment before the war, were already on their Production-possibility curve. They had no choice but to substitute war goods for civilian production—with consequent privation. Samuelson (1948, p. 20)

Tarshis and Samuelson believed in activist government policy to counteract what they saw as the inherent instability and inefficiency in democratic capitalism; as a result, their books were attacked for being

⁹ *What, How, and For Whom.* Samuelson (1951, p. 14): "These three questions are fundamental and common to all economies" The footnote credits the formulation of this approach to Frank Knight's *Social Economic Organization*. The Knightian foundation to Samuelson's text is discussed in Emmett (2008).

liberal and anti- market. They differed, however, on whether the economy might be represented by a PPF a “thin” model or a “thick” description.

The following matrix captures the differences in textbooks:

Soviet Growth Overstatement: Ideology or Model Fragility?		
	Liberal	Neutral
Thin model	Samuelson	McConnell
Thick model	Tarshis, Heilbroner	Bach

If the overstatement of Soviet growth was *mainly* driven by ideology we would expect Samuelson, Tarshis and Heilbroner to overstate Soviet growth more dramatically than McConnell and Bach. They did not. If the problem arose primarily because of the use of thin models, Samuelson and McConnell would overstate Soviet growth more dramatically than the other texts. This is what we have observed above.

We noted above that Bach drew this students’ attention to the Nutter-Grossman research. Their approach (Nutter 1957, 1962 and Rostow 1960), measured the years by which Soviet industry lagged American industry. This required a belief that when Russia became the Soviet Union, its fundamental institutions did not change. Tarshis’ skepticism about Soviet growth followed from a similar belief that, institutionally, the Soviet Union remained similar to Russia.

The PPF

What drove the widespread adoption of the PPF by textbooks at this time? One explanation is that, without the PPF, one cannot really model the Soviet economy at the level of a principles textbook. In particular, the author cannot simply appeal to the historical record to illustrate the Soviet case because there were two competing ways to read the historical record. The PPF allowed the author to accept one empirical approach as opposed to the other. The implication of our account is that when the demand for Soviet analysis in principles textbooks increased after Sputnik, textbooks came increasingly to rely on the PPF. An indication

of this transition are Rendig Fels' 1961 purely empirical textbook, which contained no PPF, and Royall Brandeis' theoretical treatment, which relied heavily on the PPF.

The Challenge to the American Economy, whose very title refers to Khrushchev's boast that the Soviet Union will bury American economically, dismissed Nutter and those who relied on Nutter's research. After quoting Khrushchev and presenting standard growth comparisons, Fels turned to Henry Hazlitt's use of Nutter's data:

The table appears to justify amply Hazlitt's conclusion that "the evidence has been unmistakable that, far from there being any 'miracle' of Communist production, the lands behind the Iron Curtain are going through an economic crisis." These results are in striking contradiction to the figures cited in the previous section. There it was proved that Communist output grows twice as fast as American. Here it is proved that under Communism output lags farther behind. Plainly it cannot do both at once. (Fels 1961, p. 11)

Fels (1961, pp. 11-12) criticized Nutter for using figures based in 1913 and Hazlitt for his blind faith in the goodness of capitalism, a belief that reportedly biased his analysis:

Popular writing on economics is strewn with errors. Although it is perhaps unfair to expose Hazlitt in one, since he generally maintains a high standard, nevertheless for educational purposes it is valuable to do so. The fact that one of the best has fallen into a trap is a warning to read everything – including his book – with a healthy degree of skepticism. The probable cause for his going astray is likely to infect anyone. Hazlitt is a stronger believer in capitalism and a vigorous critic of any other economic system (Fels 1961, p. 12)

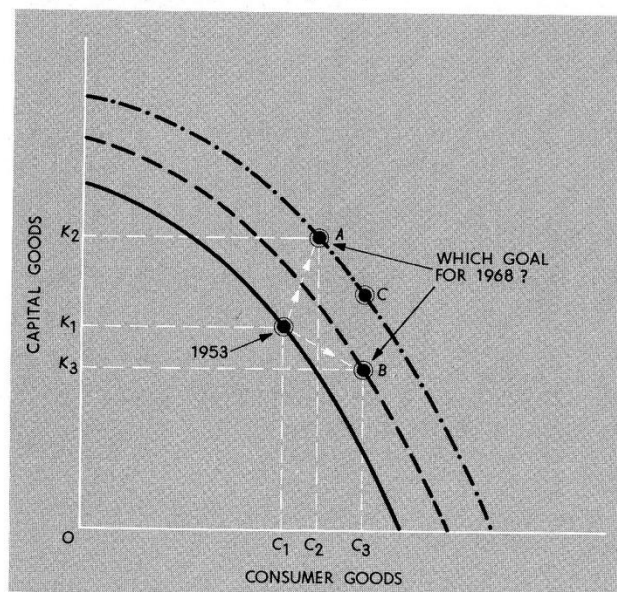
Nutter's data disappear from the second edition (Fels 1966).

Fels' textbook was in some respect thick; it contained no PPF and in other ways it was less abstract than Samuelson's textbook. But as a thick textbook, it contained no abstract model with which to coherently predict continued rapid Soviet growth. He chose not to believe Nutter's approach but that choice was apparently theoretically unmotivated.

To illustrate why the PPF was so attractive at this time to textbook writers, consider how Royall Brandis adopted the PPF midway through his textbook run as a way to model the Soviet economy. His was perhaps the most elegant use of the PPF in the period. In the "note to the instructor" Brandis explained the

addition: “the production- possibility curve technique is developed and then used to explore briefly a number of economic problems generally familiar to the student. These questions are not only important in their own right but serve to fix the analytical tool in the student’s mind ...” (1968, p. vii). Brandis’ analysis is remarkable for making explicit the supposition that investment goods will shift the production possibility frontier

FIGURE 2-7
Production-Possibility Curve for the Soviet Union
(Capital goods and consumer goods)



for the future more than consumer goods. Thus, higher investment brings about faster growth (Brandis 1968, p. 34). The assumption of efficiency is critical here and is often viewed as the default assumption in the absence of “involuntary unemployment.”

Conclusion

Thin models yield crisp implications. Models that supposed cross societal efficiency implied that the Soviet Union must overtake the US economy because Soviet consumption was lower than US consumption. Faster growth over time yields overtaking. Bad weather or some such secondary explanation then freed the model from falsification. Nutter’s joke about the endogenous past captures the difficulty.

Yet one reason for the simplicity of thin models, of course, is that complicating dimensions are missing. Those textbooks which did not assume efficiency avoided the problems associated with assuming away complications. In 1980, Bach reported a “standard” Soviet joke about the quota-making nail. The same joke appeared a decade earlier in the 1970 edition of Heilbroner’s book. A cartoon in the Russian satirical magazine *Krokodil* depicts a nail factory proudly displaying its record output: one gigantic nail suspended

from an immense gantry crane (1970, p. 627).

That books with different ideological viewpoints could come to the same conclusion about the Soviet economy suggests that more than ideology was required to get the story right. Instead, the application of thin models with no account of institutional details led researchers into what we now know was an overly optimistic account of Soviet growth. The moral we draw from the treatment of Soviet growth in American textbooks is that multiple points of view are potentially useful when we study non-transparent institutions. When the voices of fine scholars such as Lorie Tarshis and Warren Nutter were disregarded because of their dissenting points of view, the profession became less able to penetrate Soviet non-transparency than it might otherwise have been. We are all constrained by means of models: we gain insight in one dimension by blinding ourselves to events in other dimensions. Competition among models may be necessary to insure that the benefits of the models exceeds their cost.

Bibliography

- Alchian, Armen A. and William R. Allen. 1964 *University Economics*. Belmont: Wadsworth Publishing.
- Bach, George Leland. 1954-1980. *Economics: An Introduction to Analysis and Policy*. Englewood Cliffs: Prentice-Hall.
- Bowman, Mary Jean and George Leland Bach. 1943-1949. *Economic Analysis and Public Policy*. New York: Prentice Hall.
- Brandis, Royall. 1968. *The Principles of Economics*. Homewood, IL: Irwin.
- Brady, Gordon. 2008. "The NBER Soviet Study." Summer Institute for the History of Economics. George Mason University.
- Buckley, William F., Jr. 1951. *God and Man at Yale*. Chicago: Regnery.
- Colander, David C. and Harry Landreth. 1995. Editors. *The Coming of Keynesianism to America: Conversations with the Founders of Keynesian Economics*. Cheltenham, UK: Edward Elgar.
- Colander, David C. and Harry Landreth. 1998. "God, Man, and Lorie Tarshis at Yale" In Omar Hamuda. Editor. *Keynesianism and the Keynesian Revolution in America*. Cheltenham, UK: Edward Elgar.
- Elzinga, Kenneth G. 1992. "The Eleven Principles of Economics." *Southern Economic Journal* 58:4 (April): 861-79.
- Emmett, Ross. 2008. "Frank Knight and The Economic Organization." In Robert Leeson. *The Anti-Keynesian Tradition: Archival Insights into the Evolution of Economics*. New York: Palgrave.
- Fels, Rendig. 1961-1966. *The Challenge to the American Economy: An Introduction to Economics*. Boston: Allyn and Bacon.
- Gerschenkron, Alexander. 1978. "Samuelson in Soviet Russia: A Report." *Journal of Economic Literature* 16:2 (June): 560-73.
- Harcourt, G. C. 1995. "Lorie Tarshis, 1911-1993: In Appreciation." *Economic Journal* 105: 1244-1255.
- Heilbroner, Robert L. 1968-1970. *The Economic Problem*. Englewood Cliffs: Prentice Hall.
- Lane, Rose Wilder. 1946. Review of Ludwig von Mises, *Omnipotent Government*. *Economic Council Review of Books* 3 (August)
- Lane, Rose Wilder. 1947. Review of Lorie Tarshis. *Elements of Economics*. *Economic Council Review of*

Books 4 (August)

- Levine, Isaac Don. 1932. *Red Smoke*. New York. Robert M. McBride & Company.
- Levy, David M. and Sandra J. Peart. 2006. "The Fragility of a Discipline When A Model Has Monopoly Power." *Review of Austrian Economics* 19: 125-36.
- Levy, David M. and Sandra J. Peart. 2008. "Socialist Calculation Debate." *The New Palgrave's Dictionary of Economics*. Edited by Lawrence Blume and Steven Durlauf. Second edition. New York: Palgrave.
- Lipsey, Richard. 2008. "Assessments of the Soviet Union: Who Got It Right and Who Got it Wrong." Presented at the Summer Institute for the History of Economics.
http://www.gmu.edu/centers/publicchoice/SummerInstitute/si_schedule08.htm
- McConnell, Campbell R. 1960-1990. *Economics: Principles, Problems, and Policies*. New York: McGraw-Hill.
- Nutter, G. Warren. [1958] 1983. "Economic Warfare." In G. Warren Nutter. *Political Economy and Freedom: A Collection of Essays*. Edited by Jane Couch Nutter, pp. 222-36. Indianapolis: Liberty Fund.
- Nutter, G. Warren. 1962. *The Growth of Industrial Production in the Soviet Union*. Princeton: National Bureau of Economic Research.
- Nutter, G. Warren. [1964] 1983. "The Soviet Stir: Economic Crisis and Response." In G. Warren Nutter, *Political Economy and Freedom* (ed). Jane Couch Nutter, pp. 181-88. Indianapolis: Liberty Press.
- Nutter, G. Warren. 1969. *The Strange World of Ivan Ivanov*. New York and Cleveland: World Publishing.
- Peart, Sandra J. and David M. Levy 2005. *The "Vanity of the Philosopher": From Equality to Hierarchy in Post-Classical Economics*. Ann Arbor: University of Michigan Press.
- Rostow, W. W. 1960. *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge: Cambridge University Press.
- Rostow, W. W. 22 October 1963. Letter to G. Warren Nutter. In the possession of Richard Ware.
- Samuelson, Paul A. 1948-1980. *Economics: An Introductory Analysis*. New York. McGraw-Hill.
- Samuelson, Paul A. 1997. "Credo of a Lucky Textbook Author." *Journal of Economic Perspectives* II (Spring): 153-69.
- Skousen, Mark. 1997. "The Perseverance of Paul Samuelson's Economics." *Journal of Economic Perspectives* II (Spring): 137-152.
- Tarshis, Lorie. 1947. *The Elements of Economics: An Introduction to the Theory of Price and Employment*.

Boston: Houghton Mifflin.

Tarshis, Lorie. 1967. *Modern Economics*. Boston: Houghton Mifflin.

Watts, V. Orval. 1950. Review of "New Economics Texts." *Economic Council Review of Books* 7 (August & September).