

The Costs of the Soviet Empire

Charles Wolf, Jr.

There are several reasons for trying to estimate the economic costs to the Soviet Union of acquiring, maintaining, and seeking to expand its extended empire (1). The first reason is the evident importance of understanding the extent to which resources in the Soviet Union are devoted to purposes related to its international security concerns, broadly con-

hand, Soviet military capabilities clearly contribute to the Soviet imperial enterprise by securing and enhancing Soviet influence and control in Eastern Europe and in other parts of the Soviet empire.

Another reason for estimating CSE relates to understanding the burden or drag on the Soviet economy resulting from CSE and how this burden has

Summary. A comprehensive framework is developed and applied to estimate the economic costs incurred by the Soviet Union in acquiring, maintaining, and expanding its empire. The terms "empire" and "costs" are explicitly defined. Between 1971 and 1980, the average ratio between empire costs and Soviet gross national product was about 3.5 percent; as a ratio to Soviet military spending, empire costs averaged about 28 percent. The burden imposed on Soviet economic growth by empire costs is also considered, as well as rates of change in these costs, and the important political, military, and strategic benefits associated by the Soviet leadership with maintenance and expansion of the empire. Prospective empire costs and changes in Soviet economic constraints resulting from the declining performance of the domestic economy are also considered.

strued. Direct military spending, for which there are detailed, although controversial, estimates is, of course, central to this pattern of resource use. The costs of the Soviet empire (CSE) represent another piece of the mosaic, one that both complements and is complemented by Soviet military capabilities.

With one exception (relating to the incremental cost of Soviet military operations in Afghanistan), the estimates of CSE discussed here are confined to non-military costs, even though it is clear that Soviet military spending and Soviet empire spending are often complementary. For example, Soviet trade subsidies and foreign aid may be part of the price of military bases in Cuba and Vietnam, and these in turn increase the effectiveness of Soviet military capabilities. On the other

changed over time. By comparing the size of CSE with the costs of the military and civil sectors of the Soviet economy, the effect of prospective CSE on the future performance of the Soviet economy can be evaluated.

A third reason for estimating CSE relates to inferences that may be drawn from these costs concerning the importance or value ascribed by the Soviet leadership to the empire and its further expansion. To the extent that the leadership is willing to incur these costs, the empire's value must be at least equivalent to the cost. Finally, attempting to build a comprehensive set of estimates of CSE enables us to identify gaps and inadequacies in data coverage as a guide to improved data collection and analysis in the future.

Terminology

When applied to the Soviet Union, the term "empire" has both generic and particular connotations. Generically, the term implies a special degree of influence, control, or constraint exercised or imposed by the imperial power over the component parts of its empire. That this degree varies widely throughout the different parts of the empire is no more characteristic of the Soviet empire than of the Roman, Ottoman, British, or Japanese empires of the past.

The term empire also has certain distinctive connotations as it applies to the Soviet case. There are, indeed, three different Soviet empires: the empire "at home"—that is, the empire that lies within the geographic boundaries of the Soviet state; the geographically contiguous part of the empire—that is, Eastern Europe, and, more recently Afghanistan; and the empire "abroad." The interest here is on estimating the costs of the latter two components of the Soviet empire: the contiguous empire and the extended empire abroad.

The empire at home has been the subject of a number of studies (2). This use of the term derives from the fact that the Soviet Union is a multinational state consisting of more than 60 separate ethnic groups and 15 distinct national republics, with a dominant position exercised by the largest and strongest of them, the Russian Soviet Federated Socialist Republic. The internal empire is not principally the creation of the communist state itself but rather of the eastward expansion of czarist Russia during the century before the Leninist revolution.

The definition of empire used here excludes the internal empire. Instead, the focus is on the two external parts of the empire. The first part is made up of the contiguous satellite countries of Eastern Europe: Poland, Hungary, Czechoslovakia, East Germany (which is, strictly speaking, contiguous to Poland and Czechoslovakia, rather than to the Soviet Union), Rumania, and Bulgaria [all of which are members of the

The author is dean of the Rand Graduate School, Santa Monica, California 90406, and director of Rand's research in international economic policy.

Council for Mutual Economic Assistance (CMEA) and of the Warsaw Pact], and Afghanistan. The countries of Eastern Europe were traditional areas of Russian influence under the czars but the Soviets have expanded this influence to a point of effective control.

The second external part of the empire lies abroad, outside czarist Russian influence and control. It is composed of such diverse types and degrees of Soviet influence as those exemplified by Cuba, Vietnam, Angola, South Yemen, Ethiopia, Syria, Mozambique, Libya, Nicaragua, and North Korea—some of which are formally recognized as Marxist-Leninist states, and others are simply “progressive” or “revolutionary” states.

The degree of influence and control exercised by the Soviet Union varies widely within these two external parts of the empire. The definition includes countries that are satellites of the Soviet Union, allies, spheres of Soviet influence, or simply more or less friendly and cooperating regimes. This variety is entirely consistent with the characteristics of other empires in the past. Indeed, it calls to mind Hobson’s remark concerning the “quibbles” about the meaning of the term “imperialism,” and the “sliding scale” of political terminology that has often been applied to it (3). Hobson’s point is not less relevant to the current Soviet empire than it was to the 19th-century British empire, which was its original target.

Another distinguishing characteristic of the Soviet empire lies in the fact that the special position and influence of the imperial power is exercised at least as much through the communist party of the Soviet Union, and the associated communist parties of the other parts of the empire, as through formal governmental channels. Specifically, the International Department of the CPSU typically plays an even more active role with respect to the empire than does the foreign ministry of the Soviet government.

In the estimates presented below, the costs of empire are defined to include costs incurred by the Soviet Union to maintain or increase control in countries already under Soviet domination, to acquire influence in countries that are candidates for expanded Soviet control, and to thwart or subvert countries that are opposed to it. Some costs of empire are incurred in activities and in countries that are clearly outside the confines of the Soviet empire as we have defined it. In considering these latter costs, it is helpful to view the imperial Soviet enterprise as analogous to a large business enterprise: some of its costs represent

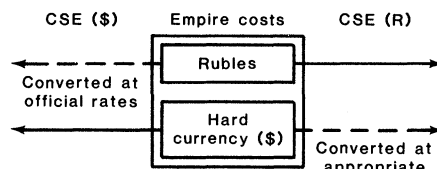


Fig. 1. Soviet empire cost methodology.

“venture capital” or “research and development” efforts that are undertaken in new fields of endeavor. Like R&D in the business context, some of these efforts will be ineffectual and may be terminated or deferred; others may be expanded if the initial results warrant.

The geographic definition of the empire, however loose and flexible it may be, is germane only to the operations and maintenance portion of CSE. Acquisition costs clearly extend beyond the current geography of the empire.

A comprehensive model to estimate empire costs should cover three major elements. First are the total or full costs of activities that relate exclusively to acquisition, maintenance, and operations of the empire. An example is the trade subsidies provided in the 1970’s through Soviet fuel exports to Eastern Europe at prices below those prevailing in world markets, or Soviet imports of Cuban sugar at prices above those prevailing in world markets.

Second are the incremental costs of activities that, although principally connected with the “normal” functioning, protection, and maintenance of the Soviet system at home, incur additional costs due to the empire. Excluded from CSE are all the regular peacetime costs of Soviet military forces, but allowance is made for the incremental costs of Soviet military operations in Afghanistan. The costs of Soviet forces in Afghanistan properly ascribable to CSE are confined to those costs that are above their normal costs if the forces were deployed within the Soviet Union. Incremental costing of such activities should thus treat the costs of maintaining the Soviet system as fixed, in the sense that they are determined independently of the empire, whereas the costs assignable to the empire are variable (4).

Third are some incremental costs that take the form of tangible investment or capital projects, provided these are directly related to the external empire rather than to maintaining the internal system. For example, construction of roads to the Afghan border and improvement of airports and roads within Afghanistan should properly be considered as CSE, even though they consist of durable in-

vestments. Costs that represent investment costs in the standard context of national economic accounting may become variable costs in the CSE context. However, the extra petroleum and other lubricants and ammunition expenditure incurred in Soviet operations in Afghanistan are incremental costs in both contexts.

The estimates of CSE for the period from 1971 to 1980 include the full costs of the following four elements: trade subsidies as noted above; Soviet economic aid and Soviet military aid (estimated at their opportunity cost prices, but net of aid repayments and net of hard currency military sales); and Soviet export credits (balance of payment surpluses). We include, as a fifth cost component, the incremental costs incurred by Soviet military forces in Afghanistan, over and above what these forces would cost if their normal basing and operational modes were maintained.

The sixth component of empire costs consists of a part of total Soviet covert and related activities that, by a series of plausible as well as arguable assumptions, can be assigned to the Soviet imperial enterprise, as distinct from maintenance of the system’s control at home (5).

Except for the incremental costs of Soviet military forces in Afghanistan and the net costs of Soviet military aid, we have excluded the very large direct costs of the Soviet military establishment. As mentioned, the principal purpose of this study was to add to what is known about the general pattern of Soviet resource allocations, and Soviet military spending has already been extensively analyzed, even though it is a controversial subject (6).

There is also a theoretical reason for excluding Soviet military costs that is more complex. On the one hand, it is clear that Soviet military power plays a crucial role in the Soviet empire. For example, Soviet control of the Eastern European part of the empire is critically dependent on the 32 active Soviet divisions maintained there. Furthermore, the enormous expansion of the Soviet navy and other Soviet projection forces during the past two decades certainly has contributed to the maintenance and expansion of the empire.

On the other hand, it is also clear that the empire plays an important role in enhancing Soviet military power. Forward basing of Soviet forces in Eastern Europe provides the Soviets with warning time and improved capabilities for defense of the homeland, as well as a potential advantage in undertaking or

Table 1. Costs of the Soviet empire, 1971-1980 (in billions of current dollars).*

Category	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1 Trade subsidies†	0.44-0.97	(-)0.06-0.66	0.92-1.78	5.69-6.67	5.11-6.23	5.78-6.95	6.31-7.71	6.37-8.39	9.26-13.07	18.47-23.69	
2 Trade credits‡	1.05	-0.30	-0.11	0.88	0.36	1.65	2.78	2.01	4.85	6.09	
3 Economic aid deliveries§	0.69	0.65	0.77	0.82	0.57	0.58	0.63	0.61	0.90	0.85	
4 Military aid deliveries (excluding hard-currency sales)	1.20	2.30	3.70	2.60	2.50	3.45	3.38	3.44	6.65	4.60	2.49
Hard-currency military sales	(0.40)	(0.60)	(1.60)	(1.50)	(1.50)	(1.85)	(3.22)	(3.96)	(3.85)	(4.20)	(4.20)
5 Military operations of Soviet forces (Afghanistan)										0.50-1.20¶	0.60-1.45**
6 Covert operations and related activities††	1.53-3.97	1.61-4.16	1.69-4.37	1.78-4.59	1.87-4.82	1.94-5.06	2.04-5.31	2.14-5.58	2.25-5.86	2.36-6.15	
7 Total CSE (1-6)	4.91-7.88	4.20-7.47	6.97-10.51	11.77-15.56	10.41-14.48	13.40-17.69	15.14-19.81	14.57-20.03	23.91-31.33	32.87-42.58	
8 Total CSE (in billions of constant 1981 dollars)‡‡	13.56-21.77	11.29-20.08	16.02-24.16	21.32-28.19	16.84-23.43	20.94-27.64	22.83-29.88	20.55-28.25	29.63-38.82	35.88-46.48	
9 Index of U.S. export unit value (1981 = 100)	36.2	37.2	43.5	55.2	61.8	64.0	66.3	70.9	80.7	91.6	100

*Unless otherwise indicated. †Trade subsidies estimated by the method and with the data of Marrese and Vanous (11). The Rand estimates make one important change in the Marrese-Vanous estimates; namely, that East European manufactured exports to the Soviet Union would bring 70 percent of the prices actually charged on these exports, if they had been sold on world markets. Marrese and Vanous assumed they would bring only 50 percent of the actual prices paid by the Soviet Union, thereby raising the implicit subsidy. This altered assumption results in trade subsidy estimates at the low end of the range while the upper end of the range is the figure of Marrese and Vanous, see also C. Wolf *et al.* (7), pp. 28-31. ‡Trade credits are estimated as the trade deficits incurred with the Soviet Union by the nine CMEA countries, as well as any developing country that either received more than \$5 million of Soviet economic aid or had a trade deficit with the Soviet Union exceeding \$10 million in any year between 1971 and 1980 (12). §Includes reported economic aid deliveries to Vietnam, North Korea, and Afghanistan, as well as aid deliveries to noncommunist less-developed countries net of repayments by those countries for the period 1974 to 1980. Our economic aid figures are somewhat small because we tried to take separate account of trade credits which others sometimes include within economic aid, and we have also tried to distinguish between gross aid to the Third World and aid net of repayments (13). ||Military aid deliveries have been estimated as the difference between total Soviet arms exports and Soviet hard-currency arms sales to the less-developed countries. Hard-currency arms sales are shown in parentheses below the aid figures (14). ¶Based on a survey of public estimates, including particularly the testimony of the former director of the Defense Intelligence Agency (15) and an unclassified CIA estimate of \$650 million for 1980. **Derived from 1980 costs by assuming operational costs in 1981 were 25 percent higher than in 1980. ††Estimates based on published figures of the approximate numbers of Soviet personnel engaged in various types of covert and destabilization activities in Third-World countries multiplied by average ruble cost factors for these personnel, converted to dollars at varying rates of exchange during the 1971-1980 decade (7, pp. 57-66). ‡‡CSE in current dollars (row 7) are converted to constant 1981 dollars by the unit value index of U.S. exports (row 9) (16). This index was used for the following reasons: (i) the real value of CSE to the Soviet economy depends on Soviet imports forgone as a result of these costs; (ii) Soviet hard-currency imports are heavily weighted by grain and advanced technology products, which are heavily weighted in U.S. exports. An alternative deflator, representing changes in unit values of Soviet exports, might also be used to convert the row 7 CSE into constant 1981 dollars. Use of the unit value of imports index of non-OPEC developing countries for this purpose does not appreciably affect the results.

Table 2. Costs of the Soviet empire, 1971-1980 (in billions of current rubles). CSE in dollars is from Table 1, converted to rubles, using the official ruble-dollar foreign trade exchange rate for the nonhard-currency components of CSE, and using the average ratio between Soviet imports in current domestic ruble prices and Soviet imports in U.S. dollars for each year from 1971-1980 for the hard currency part of CSE (17). The Soviet GNP deflator is derived from CIA figures (18).

Category	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1 Trade subsidies†	0.94-2.06	0.12-1.29	1.66-3.22	9.53-11.17	7.50-9.14	9.21-11.08	10.02-12.24	9.84-12.95	13.20-18.62	24.90-31.93
2 Trade credits	0.94	-0.25	-0.08	0.66	0.26	1.24	2.05	1.37	3.17	3.95
3 Economic aid deliveries	0.62	0.54	0.74	0.62	0.41	0.44	0.46	0.42	0.59	0.55
4 Military aid deliveries	2.55	4.48	6.69	4.35	3.67	5.50	5.37	5.31	9.48	6.20
5 Military operations in Afghanistan										0.32-0.78
6 Covert operations and related activities	1.61	1.69	1.77	1.86	1.95	2.05	2.15	2.26	2.37	2.50
7 Total CSE	6.66-7.78	6.34-7.75	10.78-12.34	17.02-18.66	13.79-15.43	18.44-20.31	20.05-22.27	19.20-22.31	28.81-34.23	38.42-45.91
8 Total CSE in constant 1980 rubles (in billions)	7.93-9.26	7.43-9.08	12.42-14.22	19.30-21.16	15.39-17.23	20.27-22.32	21.53-23.91	20.13-23.39	29.49-35.04	38.42-45.91
9 GNP deflator (1970=100)	101.6	103.2	104.9	106.6	108.3	110.0	112.6	115.3	118.1	120.9

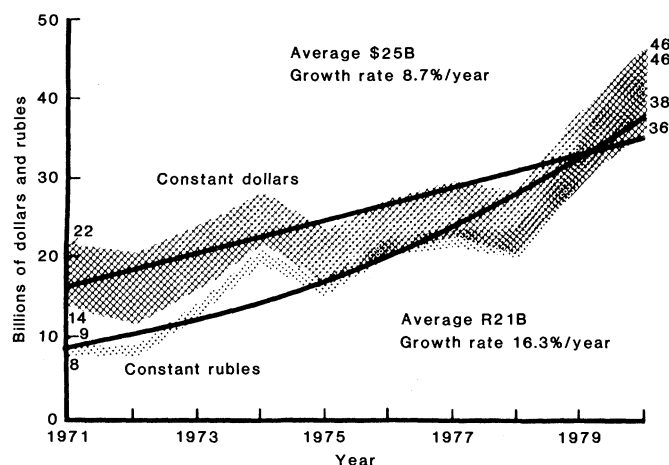


Fig. 2. Costs of the Soviet Empire in constant dollars and rubles, 1971–1980. Cross-hatched and dotted areas represent the ranges of the annual dollar and ruble estimates in Tables 1 and 2, respectively. The solid curves are logarithmic regression of empire costs on time, fitted by ordinary least-squares.

threatening aggressive military ventures against Western Europe. And the effectiveness of Soviet naval and air forces is appreciably increased by their ability to operate and receive support from bases in Cuba, Vietnam, and Afghanistan. This situation raises the familiar and intractable theoretical problem of joint products and joint costs: where two or more products (in this case, military power and maintenance and expansion of the empire) result in whole or in part from the same activity (namely, that of the Soviet military establishment), there is not a nonarbitrary way of precisely dividing the costs of that activity. Some estimates of total Soviet military spending will be provided for comparison with the largely nonmilitary costs of empire. However, no attempt is made to assign any specific portion of the military costs as an addition to empire costs, because to do so would inevitably be arbitrary. Thus, there is an implicit assumption that the size, composition, and equipment of Soviet military forces—and hence their costs—are determined independently of the empire, an assumption justified less by its compelling logic than by the arbitrariness that would be involved in any attempt to impute to the empire a specific part of total Soviet military costs.

Two other limitations should be noted about our costing methodology. First, the incremental costs incurred by the Soviet military establishment arising from the support it provides to Cuban and East German allied or “proxy” forces should have been included. Because the available data do not permit such an attribution, costs of Soviet proxy forces only appear in our CSE estimates to the extent that they are contained in one or another of the six component costs categories.

Second, some allowance should, in principle, be made for economic offsets to these estimates of CSE. The estimates

do this only to a limited extent (for example, by subtracting from the total value of Soviet military aid deliveries the portion that results in hard currency earnings for the Soviet Union). No allowance has been possible for some other offsets—for example, the asset value of debts owed by parts of the empire to the Soviet Union; labor supplied to the Soviets by client states at wages below their marginal products; direct payments to the Soviet Union from parts of the empire for services (military or technical) rendered to them. A still more elusive offset is the use of some parts of the empire, such as East Germany, as channels for acquiring Western technology. Ideally all these elements should be included in a cost model but the estimates presented here are limited by the data available. In any event, it is likely that such offsets would involve only modest adjustments in the estimates. Moreover, any such adjustments would probably be more than compensated for by other elements of empire costs that are not included, such as those relating to the support of Cuban and other proxy forces.

Costs of the Soviet Empire:

Estimates for 1971–1980

Estimates, sources, and estimating methods for each of the six cost components described above are summarized in Tables 1 and 2 by dollar and ruble figures, respectively.

Most of the costs shown in the Tables 1 and 2 were incurred in the CMEA countries (including Cuba and Vietnam) and, to a lesser extent, in Angola, Ethiopia, South Yemen, and Nicaragua, which are within the Soviet orbit, although not members of CMEA.

Table 1 shows that, for the period from 1971 to 1980, total CSE in current dollars

rose from an amount between \$4.9 billion and \$7.9 billion in 1971 to an amount between \$13.4 billion and \$17.7 billion in 1976, and between \$32.9 billion and \$42.9 billion in 1980. In constant 1981 dollars, the increase is substantially less, rising from between \$13.6 billion and \$21.8 billion in 1971 to between \$20.9 billion and \$27.6 billion in 1976, and between \$35.9 billion and \$46.5 billion in 1980 for an average annual growth rate of 8.7 percent.

Before comparing these estimates with Soviet gross national product (GNP) and Soviet military spending, it is appropriate to convert them to rubles. The relative size of CSE changes sharply when the data are expressed in rubles rather than dollars. The reason for this is the persistent and generally increasing overvaluation of the Soviet foreign trade ruble between 1971 and 1980. The conversion method used in the estimates of Table 2 is shown in Fig. 1.

Empire costs have both ruble and hard currency components (Fig. 1). In estimating CSE in dollars, hard currency (dollar) components of total empire costs are added to the ruble components converted into dollars at the official rate of exchange between the foreign trade ruble and the dollar. But in making ruble estimates of empire costs, the ruble components of total empire costs are added to the hard currency components converted into rubles at rates of exchange reflecting the average ratio between the ruble costs and the dollar costs of hard currency imports into the Soviet Union for each year from 1971 to 1980. (7).

The hard currency part of empire costs represents forgone hard currency imports. Hard currency imports are sold to producers and consumers within the Soviet Union at much higher ruble prices than those implied by the official ruble-dollar exchange rate: for example, machinery imported from the West for, say, \$5 million, may appear in Soviet foreign trade statistics as 3.5 million rubles at the prevailing official ruble-dollar exchange rate of 0.7, although it is later sold to state enterprises for perhaps 7.0 million rubles, an implicit exchange rate of 1.4.

Hence, it is appropriate to convert the hard currency part of CSE into rubles at rates reflecting what the imports actually would have yielded if sold in the Soviet Union. This conversion procedure is applied to two hard currency components of the empire costs in Table 1—namely, trade subsidies and net military aid—to arrive at the ruble cost estimates. Thus, the ruble costs of empire [CSE (R) in Fig. 1] turn out to be much larger, relative to Soviet GNP, than the dollar costs

[CSE (\$) in Fig. 1]. Table 2 shows the ruble costs of empire. In constant 1980 rubles, the total ruble cost rose from about 8.6 billion rubles in 1971 to 21.3 billion rubles in 1976, and 42.2 billion rubles in 1980, representing an average annual growth rate of 16.3 percent.

Figure 2 shows the time path of the dollar and ruble estimates of Soviet empire costs, including their logarithmic growth rates and average annual levels for the 1971–1980 period. The ruble estimates are more significant than the dollar estimates for two reasons. First, the method used in converting the hard currency components of empire costs into rubles results in more accurate estimates of the real economic costs of the empire than the estimates obtained by using the official ruble-dollar exchange rate in arriving at the dollar estimates. Second, the Soviet leadership probably thinks in terms of rubles in its decision-making.

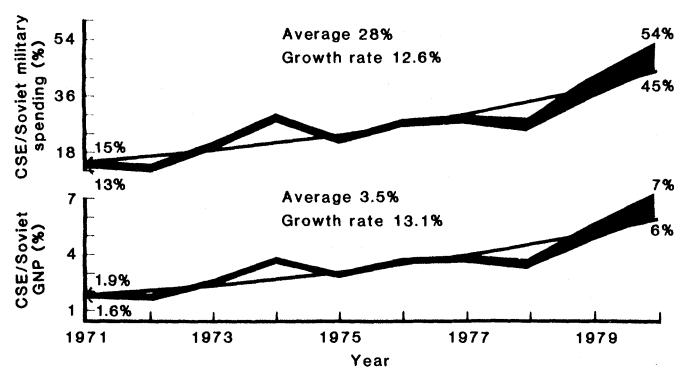
To “size” Soviet empire costs, it is useful to compare them with Soviet GNP and Soviet military spending. Soviet ruble GNP in current prices rose from 405 billion in 1971 to 635 billion in 1980, averaging 519 billion during the decade. Soviet military spending in rubles has been estimated as rising from 52 billion in 1971 to 85 billion in 1980, averaging 66 billion during the decade (8).

Figure 3 shows the ratios between the ruble costs of empire and, respectively, Soviet military spending, and Soviet GNP for each year of the decade, and for the period as a whole. As indicated in Figure 3, the ratio between Soviet empire costs in rubles and Soviet GNP in rubles rose fairly steadily during the decade from a range between 1.6 percent and 1.9 percent in 1971, to a range between 6.1 percent and 7.2 percent in 1980. The average ratio of empire costs in rubles to Soviet GNP over the decade was 3.5 percent, compared with an average of only 1.6 percent when CSE is evaluated in dollar terms (9). Similarly, the average ratio between empire costs in rubles and Soviet military spending for the 1971–1980 period is considerably higher than when the corresponding costs are expressed in dollars: the ratio of empire costs in rubles to Soviet military spending for the decade was nearly 28 percent, compared with only 13 percent when the costs are expressed in dollars.

Issues and Implications

Are CSE relatively large or small? Apart from comparing the size of CSE relative to Soviet GNP and military

Fig. 3. Ruble costs of the Soviet empire compared with GNP and military spending, 1971–1980. The thicker black bands represent the range of the respective ratios in each year of the decade. The thinner curves result from logarithmic regression of these ratios on time, fitted by ordinary least-squares.



spending, four criteria are pertinent for answering this question: (i) time, (ii) currency unit, (iii) economic burden, and (iv) the broad political-military benefits derived from or attributed to the empire.

1) Over time, CSE have increased markedly, growing at a compound annual rate of almost 9 percent over the decade in constant dollars, and 16 percent in constant rubles. At the end of the decade, CSE were thus large relative to what these costs had been at the start of the decade. They also represented a larger ratio to Soviet GNP at the end of the period, because both the ruble and dollar growth rates for CSE were substantially greater than the corresponding growth rates for Soviet GNP.

2) Whether one views the CSE figures as large or small will also be affected by whether one focuses on rubles or dollars as the currency of account: the ruble costs of empire are relatively much larger than the dollar costs, and the ruble estimates are probably of greater significance.

3) To estimate the burden or “drag” imposed by CSE on the Soviet economy, alternative CSE estimates were used in the Rand optimal control model of the Soviet economy (10); these estimates varied from an annual level of 1.6 percent of GNP as the baseline case (representing average CSE in dollar terms over the past decade), to alternatives of 3 percent, 4 percent (the approximate average ratio of the ruble costs of the empire to GNP over the decade), and 7 percent. Starting from the baseline case, and assuming that the alternative higher CSE levels were maintained throughout the 1981 to 1990 period, would have the effect of shrinking the possibilities for Soviet growth in civil consumption and in military production. In general, if aggregate consumption growth were maintained in the range of 2 or 3 percent, each increase of 1 percent in the ratio of CSE to GNP would lower sustainable military production growth by 0.6 to 1 percent per year throughout the 1980’s. Alternatively, if annual growth in military pro-

duction were maintained at 4 or 5 percent, each increase of 1 percent in the ratio of CSE to GNP would lower sustainable growth in annual civil consumption by 0.3 percent.

4) Whether Soviet leaders view CSE as large or small is bound to involve an evaluation of the benefits, especially the political, military, and strategic benefits, believed to be associated with the maintenance and expansion of the empire. These benefits include both tangible elements (such as bases and other facilities in Cuba, Vietnam, and elsewhere that increase the effectiveness of Soviet military forces), as well as intangible and unmeasurable, but probably even more important elements (such as prestige, political prominence, Russian national pride, and justification for the sacrifices imposed on the Soviet populace by the Soviet system). It is a reasonable conjecture that the costs of the Soviet empire, at the levels that they have reached in the past decade, are likely to appear to the Soviet leadership as acceptable compared with the substantial benefits they ascribe to the empire.

Concluding Observations

As already noted, these cost estimates of the Soviet empire cover the 1971–1980 decade. Moreover, the estimates were significantly tilted upward because of the substantial rise in world oil prices that occurred in 1973 and 1974, and again in 1979 and 1980. Because of the method used in estimating trade subsidies in the calculations, these price increases had a substantial effect in raising implicit Soviet trade subsidies to the CMEA countries, and hence in raising empire costs at the end of the decade, and for the decade as a whole.

What is likely to be the magnitude and pattern of the Soviet Union’s empire costs in the current decade? The straightforward answer to this question is that we do not know, but a few preliminary observations can be made.

It seems clear that the portion of empire costs represented by trade subsidies, especially to Eastern Europe, has fallen substantially. Indeed, the oil price subsidy has been virtually eliminated in the official ruble prices charged by the Soviet Union to its Eastern European associates, although Cuba and probably Vietnam continue to benefit from this differential pricing policy. On the other hand, an appreciable volume of trade subsidies remains in the form of premium prices paid by the Soviets for imports of sugar from Cuba and machinery from Eastern Europe. The net effect of these changes will certainly be to lower substantially the economic costs to the Soviet Union represented by its special relations with the CMEA countries in Eastern Europe.

It also seems likely that the incremental costs of Soviet military operations in Afghanistan have risen substantially in the first 4 years of the 1980's. Also, the costs represented by Soviet military exports have probably also risen appreciably because the hard currency earnings resulting from these deliveries have been eroded in the 1980's, compared to what they were in the 1970's. The hard currency earnings realized by the Soviets from military exports in the late 1970's resulted in considerable measure from the enormous dollar earnings of OPEC members, some of which were directly or indirectly used to purchase Soviet arms. These OPEC-financed purchases have diminished considerably because of the softening in the world oil market and the reduced dollar surpluses realized by the oil exporting countries themselves.

It remains to be seen what the bottom line from these differing influences on empire costs will be. However, it is likely that the reductions in implicit trade subsidies will be greater than the increases in the costs of Afghanistan and of Soviet military aid. Consequently, there is likely to have been some reduction in empire costs in recent years, both in absolute ruble amounts and as ratios to Soviet GNP and to Soviet military spending.

Another important factor is likely to contribute to more careful monitoring of the real economic costs of the empire by top Soviet leadership. This factor is the serious economic stringencies that the Soviet economy is experiencing at home. Estimates by the U.S. government forecast Soviet real economic growth for the

rest of the present decade at about 2 percent per year, which is about 40 percent below the Soviet growth rate of the previous decade. Moreover, the growth actually experienced by the Soviets may well be even lower than these estimates suggest. Indeed, it is not entirely implausible that the Soviet economy has already ceased to grow in real terms. Under these circumstances, deliberate allocations for the empire are likely to be more carefully controlled by the Soviet leadership. Nevertheless, the maintenance and continued momentum of the Soviet empire probably registers as one of the highest priority claimants on scarce resources, perhaps only second to the top priority claim represented by the demands of the Soviet military.

Exactly what the effects will be on Soviet international behavior, from tightened economic circumstances at home and the significant empire costs abroad, is as important as it is uncertain. Whether a sick bear will be more accommodating or more aggressive than a healthier one, whether it will pursue its military build-up more vigorously and pursue its imperial activities with even greater determination, or whether it will abate either or both of these and instead shift its attention toward internal problems, is perhaps the cardinal question confronting U.S. policy-makers in the forthcoming years.

References and Notes

1. See also C. Wolf, Jr., K. C. Yeh, E. Brunner, A. Gurwitz, M. Lawrence, *The Costs of the Soviet Empire* R-3073/1-NA (Rand Corporation, Santa Monica, Calif., September 1983).
2. See, for example, H. C. d'Encausse, *Decline of an Empire: The Soviet Socialist Republics in Revolt* (Harper and Row, New York, 1979).
3. J. A. Hobson, *Imperialism* (Golden, New York, 1975), p. 15. Hobson comments that there is "a sliding scale along which no man's land or hinterland passes into some kind of definite protectorate."
4. Where there are joint products and joint costs, it is difficult to draw the line between the costs of empire and the costs of maintaining the Soviet system. Hence, some degree of arbitrariness is inevitably involved. For example, many of the costs of Soviet covert operations and related activities abroad should probably be viewed as primarily concerned with maintenance of the Soviet system, rather than attributed to the empire. Other categories of covert operations, such as those involved in equipping and training terrorists in Turkey to destabilize that North Atlantic Treaty Organization regime, should be considered as elements of CSE, rather than of system maintenance.
5. This component is estimated by attributing all of the estimated costs of Soviet intelligence (including KGB and MVD) personnel abroad, and Soviet civil and military advisers in the Third World countries, to CSE, but none of the costs of MVD and KGB and other backup personnel stationed within the Soviet Union. This is clearly an oversimplification because some of the personnel within the Soviet Union are engaged in activities relating to the empire's maintenance

or expansion, and some Soviet agents abroad are also engaged in counterintelligence activities relating to system maintenance at home (I, pp. 57-66).

6. See, for example, Joint Economic Committee, *Allocation of Resources in the Soviet Union and China* (Washington, D.C., 1983); *Soviet Military Economic Relations* (Washington, D.C., 1983). See also S. Rosefield, *False Science, Underestimating the Soviet Arms Buildup* (Transaction Books, New Brunswick, N.J., 1982); D. F. Burton, "Estimating Soviet defense spending," *Prob. Communism* 32, 85 (March-April 1983).
7. This methodology is drawn directly from V. Trembl and B. Kostinsky, "Domestic value of Soviet foreign trade: Exports and imports in the 1972 input-output table," *Foreign Economic Report* 20 (Bureau of the Census, Washington, D.C., 1982).
8. These estimates are derived from *USSR: Measures of Economic Growth and Development, 1950-80* (Joint Economic Committee, Washington, D.C., 1982); *Soviet GNP in Current Prices* (Central Intelligence Agency, Washington, D.C., 1983). See also C. Wolf, Jr., et al. (I), p. 26. About one quarter of the rise in current ruble GNP is attributed to inflation.
9. It is important to note that, in using Soviet GNP to size both dollar empire costs and ruble empire costs, we referred to the ratio of these costs to Soviet GNP, rather than the share represented by empire costs in Soviet GNP. The reason for this distinction is that part of empire costs represents the opportunity costs of trade subsidies: namely, the implicit costs resulting from the higher prices paid by the Soviets for imports from Cuba and Eastern Europe than those imports would bring on world markets, or the lower prices charged for Soviet oil exports relative to the prices that those exports would command on world markets. These implicit subsidies represent real economic costs, but they are not included within Soviet GNP as it is generally calculated.
10. M. M. Hopkins and M. Kennedy, "The trade-off between consumption and military expenditures for the Soviet Union during the 1980's" (R-2927-NA, Rand Corporation, Santa Monica, Calif., November 1982).
11. M. Marrese and J. Vanous, *Soviet Subsidization of Trade with Eastern Europe* (Institute of International Studies, Berkeley, Calif., 1983).
12. For total Soviet trade and trade with East European countries, see *Handbook of Economic Statistics, 1979* (National Foreign Assessment Center, Washington, D.C., 1979), p. 99; *ibid.* for 1981, p. 83. For totals for individual countries, see Central Intelligence Agency, *Changing Patterns in Soviet-LDC Trade, 1976-77* (National Foreign Assessment Center, Washington, D.C., 1978); *The Cuban Economy: A Statistical Review* (National Foreign Assessment Center, Washington, D.C., 1981); *Vnesnnaia Torgovlia SSSR, 1971-1980*, totals in rubles converted to U.S. dollars at exchange rates given by the International Monetary Fund. See also (I), pp. 31-35).
13. See *Communist Aid Activities in Non-Communist Less Developed Countries, 1979 and 1954-79* (Central Intelligence Agency, Washington, D.C., 1980); J. P. Zoeter, *Soviet Economy in the 1980s: Problems and Prospects* (Joint Economic Committee, Congress of the United States, Washington, D.C., 1982), part 2.
14. For total Soviet arms exports, based on trade figures reported by individual exporting and importing countries, see *World Military Expenditures and Arms Transfers 1971-80* (Arms Control and Disarmament Agency, Washington, D.C., 1983), p. 108; for hard-currency arms sales, see J. P. Zoeter, in (13).
15. E. Tighe, in *Allocation of Resources in the Soviet Union and China-1980* (Joint Economic Committee, Congress of the United States, Washington, D.C., June 1980).
16. International Monetary Fund, *International Financial Statistics* (Washington, D.C., May 1983), p. 430; *International Financial Statistics Yearbook* (Washington, D.C., 1979), p. 429.
17. V. Trembl, "Soviet dependence on foreign trade (NATO-Economics Directorate, Brussels, 1983), p. 6.
18. Central Intelligence Agency, *Soviet GNP in Current Prices 1960-80* (Washington, D.C., 1983).