

Security-Related Assistance for Building Democracy: Aid Programs for the Countries of the Former Soviet Union

Security-related assistance--defined here as funding for activities directly tied to military forces, conflict, or conflict resolution--can take a number of important forms that are potentially beneficial to U.S. security. It can finance efforts by the United Nations to keep in check or end conflicts. Security-related aid can also help countries comply with arms accords and provide an inducement to move beyond conflict into more peaceful and prosperous eras. In these ways, such assistance can serve one of the Administration's chief goals in its proposal for a new foreign aid policy--promoting peace.

In its aid programs to the newly independent states of the former Soviet Union, the United States has determined that the advantages of aid to Russia and other former Soviet republics are worth the money--at least for certain types of programs and in limited amounts. Aid to the former Soviet republics, though currently a contentious issue, may thus be a harbinger of how foreign assistance might be used more ambitiously to further U.S. security goals in the post-Cold War world.

If the average aid level of 1993 and 1994 is sustained--a questionable assumption in light of the Russian government's tepid commitment to economic reform and doubts about the efficacy of the current U.S. aid program--about \$3 billion a year will be sent to Russia and the other former republics. Such amounts may be sufficient for most of the types of programs discussed in this chapter. But added funding may still be needed at this time, particularly if the newly independent states adopt policies that are consistent with the new U.S. preference for "more reform, more therapy." Under such

circumstances, additional funding would be particularly helpful to provide more social services as governments allow inefficient industries to go out of business and restructure the basic workings of their economies. Greater funding may also be useful for demilitarization and arms control if specific programs can be made to work effectively.

However, as attractive as some of this chapter's ideas might be in the abstract, the reader should bear in mind a number of important cautionary notes and serious obstacles to the effective use of more aid. Some of the ideas presented here are relatively new--such as a major effort to augment the salaries of export control officials throughout the former Soviet republics. Others have been discussed in some detail by government officials of the United States and the former Soviet republics, but have not necessarily been translated into long-term plans of action. Without detailed schedules for implementing all the ideas presented here, which is beyond the scope of this study, it is difficult to be sure that all the programs are equally practical. Even more so, it is difficult to know precisely what they would cost. The calculations presented here are intended to lay out rough orders of magnitude.

Nor does this study include a detailed discussion of "conditionality"--that is, linking aid to the adoption of policies that are consistent with economic reform in the former Soviet republics and other U.S. interests. Especially in regard to economic aid, any help provided by individual Western governments and the international financial institutions might be linked to the adoption of policies that emphasize privatization and are consistent with low inflation rates and a convertible currency. (However, some

demilitarization, arms control, and humanitarian activities might be worth pursuing even in the absence of economic reform.)¹ Without such policies, even aid for grass-roots development may bear little fruit--as the Chairman of the House Committee on Foreign Affairs, Lee Hamilton, has argued recently.²

In sum, the same caveats that apply generally in this study apply here. This study's framework assumes that funding for aid initiatives would be derived from further cuts in defense spending. Thus, any new projects or programs for the newly independent states of the former Soviet Union should be considered for additional funding only if they have a higher probability of truly enhancing U.S. security than would the same amount of money spent on U.S. defense forces.

Today's Budget for Security-Related Aid

The 1994 budget of about \$10.9 billion for security-related aid consists primarily of economic support funds, foreign military financing, and aid to the newly independent countries of the former Soviet Union (see Table 3).

Economic support funds, to be succeeded by "peace funds" under the Administration's proposal for revamping foreign aid legislation, flow primarily to Israel and Egypt and total \$2.1 billion in 1994. They are intended to provide general economic assistance to countries friendly to the United States. Foreign military financing, some \$3.1 billion, is focused mostly on the same two recipient countries and generally must be used to purchase arms from the United States. Between them, Egypt and Israel

are receiving about \$5.1 billion of economic support funds and foreign military financing in 1994--almost the entire aggregate amount in these two programs.

New budget authority to the newly independent countries of the former Soviet Union totals about \$3 billion in 1994 (see Table 4). Four hundred million dollars in Nunn-Lugar assistance, named for its Senate cosponsors, is available for demilitarization and arms control activities; the remainder of the funds are intended for humanitarian needs and for economic and political development. (Because the United States contributes capital to multilateral institutions such as the World Bank, it is indirectly providing even more assistance.)

Table 3.
U.S. Funding for Security-Related Assistance,
1994 (In billions of dollars of budget authority)

	Funding
Assistance to Specific States	
Aid to FSU	3.0
SEED funding for Eastern Europe	0.4
Arms aid to major allies (FMF)	3.1
Economic support for major allies (ESF)	2.1
Support for Overseas Broadcasting and Other Political Development Activities of the U.S. Information Agency	0.6
Assistance to the United Nations	
Direct support for United Nations military activities	0.5
Support for other United Nations programs	0.1
DoD role in peacekeeping	1.2
Receipts and Other	<u>0</u>
Total	<u>10.9</u>

SOURCE: Congressional Budget Office.

NOTES: FSU = newly independent states of the former Soviet Union; SEED = Support for East European Democracy Act; FMF = foreign military financing; ESF = economic support funds; DoD = Department of Defense.

1. For a recent endorsement of using the local private sector more in targeting and distributing aid to the newly independent countries, see The Fund for Democracy and Development's Policy Panel, *A New Strategy for United States Assistance to Russia and the Newly Independent States* (Washington, D.C.: The Fund for Democracy and Development, 1994), pp. vi-vii.

2. Thomas L. Friedman, "Russia Policy: A U.S. Riddle," *The New York Times*, January 27, 1994, p. A1.

Table 4.
U.S. Bilateral Assistance and Credits for the States of the Former Soviet Union
(In millions of dollars of budget authority)

	1991	1992	1993	1994	Total
Grant Assistance					
Technical Assistance					
FSU assistance account	0	0	1,078	1,455	2,533
Economic support funds	5	230	0	0	235
Development assistance funds	0	5	5	0	10
P.L. 480, farmer to farmer	0	10	10	10	30
Other assistance	<u>0</u>	<u>32</u>	<u>69</u>	<u>63</u>	<u>164</u>
Subtotal	5	277	1,162	1,528	2,972
Medical Assistance					
Disaster assistance funds	5	12	0	0	17
DoD excess medical donations	<u>0</u>	<u>100</u>	<u>106</u>	<u>0</u>	<u>206</u>
Subtotal	5	112	106	0	223
Food Assistance					
USDA food aid ^a	0	293	903	251	1,447
DoD excess stock donations	<u>0</u>	<u>62</u>	<u>42</u>	<u>0</u>	<u>104</u>
Subtotal	0	355	945	251	1,551
Other DoD Assistance					
Transportation funds	0	100	46	0	146
Disarmament/nonproliferation	<u>0</u>	<u>187</u>	<u>400</u>	<u>400</u>	<u>987</u>
Subtotal	0	287	446	400	1,133
Total Grants	10	1,031	2,659	2,179	5,879
Credit Programs (Subsidy value)					
USDA Export Credit Guarantees ^b	363	488	98	152	1,101
USDA Concessional Food Sales	0	0	0	357	357
Eximbank Guarantees	0	11	37	300	348
OPIC Financing ^c	<u>0</u>	<u>0</u>	<u>2</u>	<u>40</u>	<u>42</u>
Total Credits	363	499	138	849	1,849
Total Assistance and Credits					
Total	373	1,530	2,797	3,028	7,728

SOURCE: Congressional Budget Office based on data from the Department of State, Department of Defense, and Office of Management and Budget.

NOTES: Total does not include U.S. contributions to international financial institutions, including the Currency Stabilization Fund. Department of Defense excess donations are preliminary estimates based on market value.

FSU = newly independent states of the former Soviet Union; P.L. = Public Law; DoD = Department of Defense; USDA = U.S. Department of Agriculture; Eximbank = Export-Import Bank; OPIC = Overseas Private Investment Corporation.

a. As of January 31, 1994.

b. Calculated using an estimated subsidy rate of 19 percent.

c. The Overseas Private Investment Corporation has also provided insurance with a face value of \$126 million in 1992 and \$396 million in 1993. These amounts are not included in the table because subsidy estimates for OPIC insurance are not available.

Table 5.
U.S. Grant Assistance for the States of the Former Soviet Union
 (In millions of dollars of contractual obligations, as of December 1993)

	Humanitarian Aid ^a	Technical Aid	Nunn-Lugar Aid	Total Aid	Aid per Million Citizens
Armenia	305	30	0	335	98
Azerbaijan	34	2	0	36	5
Belarus	140	8	5	153	15
Georgia	268	11	0	279	50
Kazakhstan	55	32	b	87	5
Kyrgyzstan	143	14	0	157	34
Moldova	68	12	0	80	18
Russia	1,564	355	109	2,028	14
Tajikistan	73	4	0	77	14
Turkmenistan	110	3	0	113	29
Ukraine	183	95	b	278	5
Uzbekistan	<u>17</u>	<u>13</u>	<u>0</u>	<u>30</u>	1
Total	2,960	579	114	3,653	13

SOURCE: Congressional Budget Office based on data from the Department of State and the Department of Defense.

NOTE: Contractual obligations to Estonia, Latvia, and Lithuania totaled \$13 million, \$14 million, and \$18 million, respectively, as of December 1993. But these countries are funded by the Support for East European Democracy Act rather than assistance programs focused on the former Soviet Union. Nunn-Lugar aid is as of March 1994.

a. The figures include the value of excess food and medicine from the Department of Defense as well as the transportation costs incurred in their delivery. They also include aid from the Department of Agriculture, the Agency for International Development, and private sources.

b. Less than \$500,000.

About \$500 million in budget authority for 1994 is provided to fund official peacekeeping costs of the United Nations. In addition, a supplemental appropriation of \$1.2 billion provides funds to the Department of Defense for its own activities that support United Nations operations. Some \$600 million funds radio broadcasting and related activities of the U.S. Information Agency that are aimed largely at current or former communist countries where the media and other important elements of successful democracies are still developing. A final \$100 million or so funds other U.N. activities, including the International Atomic Energy Agency.

Future Aid to the Former Soviet Republics

Although recent funding for U.S. and other Western aid to the states of the former Soviet Union has

become substantial, the effectiveness of such aid has been relatively modest.³ For one thing, only fractions of the sums now available to help those countries have actually been provided to date (see Table 5). Further, the practical difficulties of setting up programs must be overcome before money can be usefully spent.

In addition, some forms of U.S. and other Western aid have characteristics that may limit their effectiveness. Credits for agricultural or other imports, for example, can add to the debt burden of the newly independent states. Nunn-Lugar assistance calls for use of U.S. goods and services whenever possible--potentially limiting the funds available to employ scientists of the former Soviet Union in their current homelands. Similar limitations may

3. Kristin Brady and Michelle Maynard, "Assistance to the Newly Independent States: A Status Report," Staff Report to the Senate Committee on Foreign Relations (February 1994).

also apply to other types of aid, much of which often flows to large numbers of short-term U.S. contractors. Moreover, U.S. aid—even when combined with assistance from other countries—may not be of sufficient magnitude to address the acute needs of the former Soviet republics.⁴ Finally, the uncertain path of reforms in those countries has often left the International Monetary Fund and other players wary of providing all the aid that has been authorized.⁵

The types of aid initiatives outlined below cover somewhat different programs than are now in place. Moreover, if fully adopted, they might lead to annual U.S. funding levels of \$6 billion over the 10-year period at issue in this study—in contrast to the current level of about \$3 billion.

The cost estimates in this chapter are made in the following ways. For sensitive security-related programs in the former Soviet republics, the United States might choose to provide all of the needed external financial support and technical guidance. To contribute their fair share, the other major industrial powers might provide all outside assistance related to the safety of civilian nuclear reactors. For economic and political development, by contrast, the United States is assumed to provide one-third of foreign assistance and other Western donors the remaining two-thirds, roughly in proportion to their financial resources and gross domestic product.

Assistance for Demilitarization and Arms Control

Because of the sheer abundance of weaponry in the former Soviet Union, and nuclear weapons in particular, the United States has an acute interest in helping those countries control their military assets and technologies. To preclude rogue regimes from re-

cruting technicians and scientists with knowledge of specific weapons and weapons technologies, the West should also ensure that these scientists find gainful employment and an acceptable standard of living.

President Clinton and the Congress have agreed on the importance of giving such aid to the countries of the former Soviet Union, as recent high levels of funding indicate. Given the uncertainty over macroeconomic policy and a commitment to structural reform in Russia and the other republics, however, donors could choose to focus some aid funds increasingly on those programs and projects least affected by Russian economic policymakers. These programs could include efforts to ensure the safety of nuclear weapons, improve export controls, and destroy chemical weapons.

Assuming that the United States wished to build on two 1993 aid packages to the former Soviet Union (the Vancouver package and the subsequent Tokyo initiative of the G7 group of major Western economic powers), it could design a further aid initiative to focus primarily on mitigating threats related to weapons of mass destruction from the former Soviet Union. Such a package could address the following priorities:

- o Improving the control of exports of militarily sensitive technologies;
- o Decontaminating nuclear waste sites and destroying chemical weapons; and
- o Monitoring nuclear warheads and fissile materials.

In this illustrative aid package, defense conversion would not be treated explicitly. In an economy as militarily oriented as was the Soviet Union's, where military spending may have represented 15 percent of GDP or more, conversion in general is inseparable from the issue of general economic reform and development.⁶ Moreover, the most acute

4. For similar views, see The Fund for Democracy and Development's Policy Panel, *A New Strategy*, p. v.

5. Jeffrey Sachs, "The Reformers' Tragedy," *The New York Times*, January 23, 1994, p. E17.

6. See letters by James E. Steiner and Franklyn D. Holzman, *International Security* (Spring 1990), pp. 185-198.

concern in conversion is to provide alternative employment possibilities for scientists and technicians who otherwise might be inclined to emigrate to countries paying them high salaries to work on nuclear weapons programs. (Several of the programs discussed below directly address this issue; so does an Administration proposal, now pending Congressional support, to "subcontract" roughly \$100 million a year in work on the international space station to Russia.)⁷

Legislation providing Nunn-Lugar funding calls for taking advantage of U.S. goods and skills "to the extent feasible."⁸ However, to produce maximum effectiveness, this stipulation probably should be balanced by efforts to employ former Soviet weapons scientists and technicians in ways that will discourage their emigration.

Export Controls

An effective system for regulating the export of military and dual-purpose technologies is perhaps second only to the security of nuclear warheads and materials in its importance for the United States. Export controls serve as a last check on the security of nuclear weapons and materials. They also represent the principal check on exports of dual-use technologies and weapons components to potentially hostile developing countries.

Sometimes even official agencies of governments of the former Soviet republics decide to sell technologies and arms to clients that the West would prefer they shun. But in many cases Russia and the other former Soviet republics find it difficult to regulate exports as effectively as they would like. The shortcomings in export controls have arisen, moreover, at a time when risks are acute.

As explained last year by an official of the U.S. Defense Intelligence Agency:

Foreign military sales have become a highly sensitive issue for Russian leaders, who are unlikely to curtail conventional arms exports in current economic conditions. Moscow is expected to attempt to restrain trade with international pariah states--most of whom are short of hard currency anyway--while trying to expand sales with countries such as China, Iran, and India. Government regulation of arms sales is hampered, however, by conflicts in the bureaucracy, the emergence of many independent arms export organizations, and by President Yeltsin's grants of special permission for selected plants to enter arms markets directly.

. . . Poor government export controls and the difficult internal situation in the successor states have raised apprehension in the West about the possible proliferation of materials, technologies, or expertise related to weapons of mass destruction. We have no convincing evidence of significant transfers thus far, but remain concerned that the current environment increases their likelihood.

. . . Even with consistent government commitment and western assistance, law enforcement organizations and new export control bureaucracies will need several years to implement effective licensing and enforcement regimes. The concern is that organizations and individuals--facing enormous pressure to survive financially--will try to evade government controls over export activities.⁹

7. James R. Asker, "U.S., Russia Expand Aerospace Plans," *Aviation Week and Space Technology*, January 3, 1994, p. 22.

8. National Defense Authorization Act for Fiscal Year 1993, Section 1412(c), 106 Stat. 2564, 22 U.S.C. 5902.

9. Statement of William Grundmann, Director for Combat Support, Defense Intelligence Agency, before the Joint Economic Commit-

tee of Congress, June 11, 1993, pp. 14-16. See also William C. Potter, "Nuclear Exports from the Former Soviet Union: What's New, What's True," *Arms Control Today* (January/February 1993), pp. 3-10; Statement of R. James Woolsey, Director of Central Intelligence, before the Subcommittee on International Security, International Organizations and Human Rights, House Committee on Foreign Affairs, July 28, 1993, p. 7.

How much might the former Soviet republics lose if they were to put more effective export controls in place? This question is difficult to answer with any precision, but some rough estimates can be hazarded. Take the example of Russia. In 1992, it exported about \$20 billion worth of non-oil merchandise to countries outside the former Soviet Union (and another \$2.5 billion in conventional armaments).¹⁰ In that same year, U.S. exports of non-oil merchandise were about \$400 billion. According to various estimates, they might have been 2 percent to 5 percent larger without any foreign policy and national security restrictions.¹¹

In the case of Russia, with a different set of foreign customers and comparative advantages than the United States, export controls might be responsible for the loss of considerably more exports than 2 percent to 5 percent. Conversely, some of these export controls are already in effect today--albeit perhaps imperfectly. So part of the losses from export controls are already being incurred, reducing the magnitude of additional losses that could result from tightening those controls further.

One estimate put total smuggled goods out of Russia in 1992 at 10 percent of total trade, or about \$4 billion, with much of the smuggling involving oil and metals.¹² This estimate implies that the illicit trade in sensitive nuclear-related technologies might reach the billion-dollar range, though the nature of the trade clearly does not permit any precise estimate. If it is that high, however, the potential for lost revenues could be large enough that

officials in the former Soviet republics might not readily agree to improve export controls without a combination of Western pressure, cajoling, and aid.

If officials in the United States and the former Soviet Union were to mount a new joint effort to improve export controls, how might they go about it, and how much might it cost? Although some efforts to improve controls are already under way, they are limited in scope and financing (see Table 6).¹³ Given the tremendous stakes involved in export controls, and the rather poor state of export controls in these countries at present, it might behoove Western policymakers to do more. This section assumes that the United States might pick up the lion's share of the tab for the salaries of customs officers--an attractive option because the currently low salaries throughout this part of the world make it relatively easy to do so.

What might the cost of such an effort be? In the interest of getting a very rough estimate, one can rely on a U.S. analogy.

In the United States, customs and export administration funds total nearly \$2 billion a year, though much of the customs work has nothing to do with weapons. To get a rough estimate, scale U.S. costs downward by a factor of 10, to account for the differences in pay scales.¹⁴ Then assume that the overall amount of monitoring and inspecting that needs to be done throughout the former Soviet Union is comparable to, but perhaps slightly greater than, that in the United States (less overall trade but many more kilometers of borders). Under these assumptions, it might be possible to subsidize this type of work throughout the former Soviet Union for about

10. Jan Vanous, ed., *PlanEcon Review and Outlook for the Former Soviet Republics* (Washington, D.C.: PlanEcon, Inc., May 1993), p. 53; personal communication to the Congressional Budget Office by staff members of the International Monetary Fund; Thomas W. Lippman, "Ex-Soviet Arms Exports Plunge," *The Washington Post*, June 13, 1993, p. A28; Richard F. Grimmett, *Conventional Arms Transfers to the Third World*, Report 93-656F (Congressional Research Service, 1993), p. 67.

11. J. David Richardson, *Sizing Up U.S. Export Disincentives* (Washington, D.C.: Institute for International Economics, 1993), pp. 72-74, 96, 120-121; National Academy of Sciences, Committee on Science, Engineering, and Public Policy, Panel on the Future Design and Implementation of U.S. National Security Export Controls, *Finding Common Ground* (Washington, D.C.: National Academy Press, 1991), p. 101.

12. Vanous, *PlanEcon Review and Outlook*, p. 33.

13. Statement of Secretary of Defense Les Aspin before the House Committee on Armed Services on the Clinton Administration's defense plan, March 30, 1993, p. 3.

14. The scaling factor recently may have been more like 50:1, but this figure was more a product of the volatility and weakness of the ruble than parity measures of purchasing power. See, for example, Frank von Hippel, "The Laboratories and the Former Soviet Union" (address given at Congressional Research Service seminar, "The Future of the Nuclear Weapons Laboratories," January 12, 1993), p. 2; Celestine Bohlen, "Amid Nuclear Transition, Russia's Scientific Elite Loses Its Security," *The New York Times*, July 11, 1993, p. A12.

\$200 million a year (see Table 7). These funds would be used to hire and train new officers, and to improve the salaries of current officers in the hope that doing so would reduce their vulnerability to bribery.

Funds donated for export controls could, of course, be diverted from their intended purpose. Indeed, such a possibility exists for virtually all of the ideas discussed in this study. But export controls raise a special concern, since money devoted to them would not produce a physically tangible product. The United States and other donors might be able to conduct periodic checks at transshipment points--counting export officers and verifying that they were being appropriately compensated for their efforts--but attempting to do so would clearly be difficult.

Waste from Nuclear and Chemical Weapons

Although perhaps not as pressing from a security viewpoint as export controls or warhead security,

waste disposal issues associated with weapons of mass destruction in the former Soviet Union are important.

Two costly agenda items are site contamination from the production of nuclear materials and the large stocks of chemical weapons now slated for eventual destruction as a result of the international Chemical Weapons Convention. Both primarily concern Russia.

Materials located at the nuclear sites remain potentially dangerous as raw material for nuclear weapons and already pose serious environmental hazards. But Russia might deem them secondary in priority and ignore them without inducements to do otherwise. Moreover, cleaning up nuclear waste could offer employment to nuclear scientists and technicians whom the West would like to keep gainfully employed at home.

Excluded from this section are issues relating to the safety of commercial nuclear reactors. Because of their close proximity, these reactors concern the Central and Western European countries more di-

Table 6.
U.S. Pledges of Assistance for Belarus, Kazakhstan, Russia, and Ukraine Under the Cooperative Threat Reduction Program (In millions of dollars of signed bilateral agreements, as of March 22, 1994)

Country	Export Controls	Defense Conversion	Elimination of Weapons	Nuclear Weapons Security	Other	Total
Belarus	16	20	0	0	34	70
Kazakhstan	2	15	70	0	13	100
Russia	0	40	185	165	59	449
Ukraine	<u>7</u>	<u>40</u>	<u>185</u>	<u>0</u>	<u>45</u>	<u>277</u>
Total	25	115	440	165	151	896

SOURCE: Congressional Budget Office based on data from the Department of Defense.

NOTE: Cooperative Threat Reduction assistance is also known as Nunn-Lugar assistance after the Senate sponsors of the original legislation that made Department of Defense funds available for demilitarization and related activities in the former Soviet Union.

Table 7.
U.S. Costs of Illustrative Aid Initiative
for the States of the Former Soviet Union
(In millions of 1994 dollars)

Category of Aid	Average Annual Increases
Export Controls	200
Nuclear Waste Cleanup	Up to 500
Chemical Weapons and Missile Elimination	Up to 300
Nuclear Warheads and Materials	Up to 600
Privatization and Revamping of Industrial Sectors	Up to 1,000
Social Welfare Net	Up to 1,500
Debt-Service Relief	Up to 2,000
Total, new programs	Up to 6,000
Less current aid level	About 3,000
Net increase	Up to 3,000

SOURCE: Congressional Budget Office.

rectly than they do the United States. In the interest of cooperation and divvying up the aid effort, it is assumed here that Western Europe would fund attempts to address these matters. (The likely bill over a 10-year period would be in the vicinity of \$20 billion. The money would go chiefly to six countries: Russia, Ukraine, Armenia, Lithuania, Bulgaria, and Slovakia.)¹⁵

Cleaning Up Nuclear Waste. Cleaning up nuclear waste involves processing large volumes of soil and water to extract radioactive and other materials. Fissile materials--uranium 235 and plutonium--can then either be transformed into reactor fuel rods and

used commercially or disposed of through processes such as vitrification and burial (see discussion below). Carrying out these efforts at Russian production facilities will probably be just as daunting as in the United States.

For nationwide nuclear-site cleanup, an estimate of the costs to Russia can be obtained by scaling them with costs in the United States, where weapons cleanup budgets are expected to remain at least \$5 billion a year for decades. Many costs, especially those for personnel, would be considerably less in Russia because of the prevailing salary ratio of more than 10:1, so perhaps \$200 million a year might suffice for personnel. Yet certain technologies could be costly wherever they were set up. Take, for example, a glass vitrification facility, which the Department of Energy expects to cost some \$4 billion to build in the United States. Were costs in Russia nearly as great, the average annual cost to vitrify the wastes might be \$200 million to \$300 million over 10 years.¹⁶ Adding personnel and infrastructure costs together, a large-scale U.S. contribution to nuclear cleanup in the former Soviet Union could total as much as \$500 million a year (see Table 7).

Eliminating Chemical Weapons. Just as with nuclear cleanup, eliminating chemical weapons requires advanced and environmentally benign technologies. Fortunately, the scale of the problem, though significant, is much less than for nuclear cleanup. The United States Army has estimated the costs of eliminating its chemical weapons at \$8 billion through 2000.¹⁷ In addition, the urgency of the problem may be considerably less than for nuclear safety issues, suggesting that the United States might choose to assign it lower budgetary priority if funds are tight.

But if the United States did choose to help--as it already has expressed interest in doing--it probably

15. See Marlise Simons, "West is Warned of High Cost to Fix Risky Soviet A-Plants," *The New York Times*, June 22, 1993, p. A1.

16. Frans Berkhout and others, "Disposition of Separated Plutonium," in *Science and Global Security*, vol. 3 (New York: Gordon and Breach Science Publishers, 1992), pp. 22, 29.

17. See, for example, General Accounting Office, *Chemical Weapons Destruction: Issues Affecting Program Cost, Schedule, and Performance* (1993).

could accomplish a good deal for much less than \$8 billion. Research and development would not need to be replicated to help Russia, and personnel costs for Russians assisting with the work would be much less than for U.S. personnel. Designing and constructing facilities, activities in which Western expertise and technology may be most important, may cost a few hundred million to a billion dollars in Russia.¹⁸ Even after adding in some funds for salaries, the average U.S. contribution might be \$100 million to \$200 million a year.

Destroying Excess Missiles. Because Russia's lack of capacity for missile destruction has become a major constraint on its pace for implementing the Strategic Arms Reduction Talks (START) treaties, the Vancouver Summit slated \$130 million for missile destruction. Given previous arms control treaties that required missile destruction, this amount of money is likely to be adequate if sustained at or near that rate over a decade. Precedents for destroying missiles under other arms control accords suggest that these costs are unlikely to total much more than \$1 billion during the lifetime of the treaty--and possibly less.¹⁹

Securing Nuclear Warheads and Materials

Perhaps the most important concern in the former Soviet Union today is whether Russia, and possibly Ukraine and Kazakhstan as well, have adequate means of keeping nuclear warheads and materials secure. In contrast to the above categories, additional U.S. aid money may not be necessary in this

area, but current flows may need to be sustained for a period.

Three specific activities are the most likely candidates for further U.S. assistance: constructing storage and possibly dismantlement facilities for fissile materials, particularly plutonium; establishing monitoring systems at warhead and fissile-material storage facilities; and permanently disposing of plutonium.

In another area, warhead and materials security, aid might usefully rise somewhat. Aid might fund additional armored warhead "blankets" and specialized rail cars to enhance the safety and security of weapons during transport, data processing systems as well as tags to facilitate the tracking of warheads, and so forth. But these activities all tend to cost on the order of tens of millions of dollars, as evidenced by measures now under way. Their average costs over 10 years therefore would be small compared with those discussed above.

Providing for Storage and Dismantlement Facilities. If a new Russian plutonium storage facility was built, it would be likely to cost several hundred million dollars--based on the \$1 billion estimate for similar facilities in the United States that the Department of Energy has made. Labor costs would be considerably less in Russia, but the costs of many materials might not be.²⁰

An additional consideration in this category of costs is Ukraine. Despite possible movement toward denuclearization--as reflected in the January 1994 accord signed by Presidents Kravchuk, Clinton, and Yeltsin--Ukraine still has more than 1,500 warheads. Even if the current accord is not fully implemented, for whatever reason, the United States might still choose to contribute funds for Ukrainian storage and dismantlement facilities. Providing more aid for these purposes may be pref-

18. See "Russia Seeks Western, U.S. Aid to Destroy Chemical Weapons," *Defense News*, November 16-22, 1992, p. 38; "Aspin to Consider Hurrying Efforts to Help Russia Destroy Chemical Arms," *Inside the Pentagon*, January 28, 1993, pp. 15-16; Michael R. Gordon, "Moscow Is Making Little Progress in Disposal of Chemical Weapons," *The New York Times*, December 1, 1993, p. A1.

19. Congressional Budget Office, *U.S. Costs of Verification and Compliance Under Pending Arms Treaties* (September 1990), pp. 28-31.

20. Congressional Budget Office, "Implementing START II," CBO Paper (March 1993), p. 63.

erable to allowing disputes between Ukraine and Russia to derail arms control.²¹

The Department of Energy estimates that the cost of a new U.S. facility for dismantling warheads would be about \$2 billion.²² Adding that to the \$1 billion cost of a plutonium storage facility, but adjusting this figure downward to account for lower labor costs, U.S. costs for construction and operation of the Ukrainian facilities might reach \$200 million to \$300 million a year. All told, the U.S. contribution to facilities in both Russia and Ukraine might total up to \$400 million a year.

Monitoring Storage. Given the volatility of politics in the former Soviet republics, as well as traditional concerns about security and arms control, it might be desirable for outside parties to help monitor the storage of nuclear explosive materials in Russia and possibly in Ukraine as well.

Russia and perhaps Ukraine are unlikely to grant such access unless reciprocating access is allowed on the territories of the United States and other countries. In the past, the United States and the other nuclear powers have not shown a willingness to allow such inspections of their own highly secret nuclear weapons complexes.²³ But if political hurdles were overcome, the costs of monitoring storage would probably be relatively modest. Elaborate technologies would be unnecessary. Portal-perimeter monitoring might suffice: such monitoring is similar to the type conducted by the On-Site Inspection Agency under the Intermediate-Range Nuclear Forces (INF) or the START treaties, in which an area is fenced off and surveyed, and access to the site closely controlled through a single entry. If done at two sites in each country, annual

aid might average several tens of millions of dollars.²⁴

Disposal of Fissile Materials. Since nuclear explosive materials are highly dangerous, it is critical to protect or eliminate any excesses. The process of cleaning up waste sites, discussed above, could also produce materials requiring further attention in order to keep them out of the hands of renegades, terrorists, and other potential aggressors.

The United States is already planning to finance the purchase of some \$12 billion worth of excess highly enriched uranium 235, once diluted to a non-explosive (or less enriched) form. The diluted uranium, to be sold at market rates, would then be used as reactor fuel. The sale provides an incentive for Ukraine, and perhaps also Kazakhstan and Belarus, to reach agreement on denuclearization and on how to share the money. If accord is reached, the sale will occur and proceeds will be divvied up.²⁵ (Were allocation to be proportional to the number of warheads on a country's territory, Ukraine might receive on the order of \$1 billion.)²⁶ Such purchases would not be included under the framework of this study since they would be market transactions rather than aid per se.

Plutonium remains problematic, however. It cannot be diluted to a relatively harmless form in the way that uranium 235 can be. To neutralize it, more extensive measures are required, such as mixing the plutonium with waste, vitrifying it in glass, and then burying it. Russia has a different idea, however; it wishes to use the material as fuel for nuclear reactors.

21. For discussions of Ukraine's security concerns and situation, see Amy F. Woolf, "Nuclear Weapons in the Former Soviet Union: Issues and Prospects," Issue Brief IB91144 (Congressional Research Service, November 6, 1992), pp. 4-6; Strobe Talbott, "Crisis or Kiosks in the Former Soviet Union?" *Arms Control Today* (December 1992), pp. 16-19.

22. Department of Energy, *Nuclear Weapons Complex Reconfiguration Study* (1991), p. 92.

23. Frank von Hippel, "Plutonium Perils," *Technology Review*, vol. 96, no. 6 (August/September 1993), p. 70.

24. Frank von Hippel and Roald Z. Sagdeev, eds., *Reversing the Arms Race: How to Achieve and Verify Deep Reductions in the Nuclear Arsenal* (New York: Gordon and Breach Science Publishers, 1990); Congressional Budget Office, *U.S. Costs of Verification and Compliance*, p. 18.

25. Bruce Blair, "Lighten Up on Ukraine," *The New York Times*, June 1, 1993, p. A17.

26. Robert S. Norris, "The Soviet Nuclear Archipelago," *Arms Control Today* (January/February 1992), p. 25. Of the 12,000 Soviet strategic nuclear weapons in existence at the end of the Soviet era, about 73 percent were in Russia, 15 percent in Ukraine, 12 percent in Kazakhstan, and 1 percent in Belarus.

The cost of discarding plutonium through the vitrification technique might be \$1 billion, according to a recent study by the National Academy of Sciences. The same study found that burning the materials in an existing nuclear reactor might have comparable costs and might be done safely if only a small number of carefully guarded reactors were used in the process.²⁷ But the risks of diversion must be carefully borne in mind as plutonium-fuel options are considered.²⁸

If a U.S. contribution of up to \$100 million a year for disposal of plutonium is added to \$400 million for other nuclear security measures, and an additional allowance is made for arms control monitoring, annual aid for securing nuclear warheads and materials could reach \$600 million.

Economic Assistance

Russia and other former Soviet republics merit particular attention because of the large military forces and nuclear weapons inventories they retain. Those countries also pose a special type of development challenge. They already have heavy industry and extensive infrastructure. Rather than developing "from the ground up," therefore, they are seeking to make their industries and businesses competitive in a global market economy.

What is the proper role of aid in large countries undergoing major economic transformations? Without a massive effort, the outside world cannot finance a rebuilding of their industries. Germany's effort to modernize the former East Germany has cost considerably more than \$100 billion for an economy several times smaller than that of the former

Soviet Union.²⁹ Undertaking a comparable effort in Russia and other former republics could cost hundreds of billions of dollars, much more than is likely to be forthcoming from the United States and other Western donors.³⁰

It might be more practical to focus aid on particular problems and economic sectors of the Eastern Bloc that could catalyze overall revival. In much of Central Europe, the most important role of the West at this stage in history may have much more to do with expanding trade and opening markets than with aid. But in the case of the newly independent states of the former Soviet Union, three good candidates might be programs to expand the availability of food and health services, particularly for the unemployed and for pensioners; targeted help for critical industries like the oil sector and for smaller grass-roots firms and businesses that are in many cases already privatized; and debt rescheduling to improve the prognosis of near-term balance of payments during the most difficult phases of economic transition.³¹

The Clinton Administration is taking a similar tack in its efforts to help Russia reform and grow economically. To date, it has authorized substantial spending on food aid and agricultural credits. In addition to assistance from the G7 countries and the World Bank, the Administration is also setting up more funding for privatization, credits for entrepreneurs, and aid to the oil industry. The question is, to what degree might the programs be expanded usefully?

The Notion of Conditionality

A critical issue, not fully within the scope of this study but central to any practical effort to help the

27. National Academy of Sciences, Committee on International Security and Arms Control, *Management and Disposition of Excess Weapons Plutonium: Executive Summary* (Washington, D.C.: National Academy Press, 1994), pp. 5, 14-15, 22.

28. Thomas B. Cochran, Christopher E. Paine, and James D. Werner, "Chemical Separation Plants in Russia: Why Further Operations Should Be Deferred" (Natural Resources Defense Council, Inc., Washington, D.C., December 1992); Frank von Hippel and others, "Eliminating Nuclear Warheads," *Scientific American* (August 1993), p. 49.

29. Andras Inotai, "Economic Implications of German Unification for Central and Eastern Europe," in Paul B. Stares, ed., *The New Germany and the New Europe* (Washington, D.C.: Brookings Institution, 1992), p. 286.

30. For support for figures of this magnitude, see Henry Bienen and Mansur Sunyaev, "Adjustment and Reform in Russia" (working paper, Center of International Studies, Princeton University, 1992), p. 19.

31. The Fund for Democracy and Development's Policy Panel, *A New Strategy*, p. 7.

newly independent countries of the former Soviet Union, is whether or not Western aid should hinge on further free-market reforms--including providing fewer subsidies to industry and privatizing more, eliminating price controls on commodities such as oil, further reducing inflation, and continuing demilitarization. Perhaps some of the possible increases in aid discussed below should be held in abeyance pending such reforms.³²

Most of these matters are being addressed as Western governments and the International Monetary Fund and World Bank determine how much added support to provide to Russia and the other newly independent states. But three questions within the broad topic of conditionality loom especially large in 1994.

Two of the questions have gained particular importance in light of the strong showing of Russian nationalists and communists in the elections of December 1993 and the correspondingly poor showing of pro-reform politicians. Should the prospect of even more Western aid be used as an inducement to even stronger commitment to reform by the Russian government? And should any such aid focus directly on the basic needs of unemployed and underemployed Russians who are bearing the brunt of reforms? Similar considerations apply to some of the other former republics as well. Aid programs structured along such lines would combine a number of desirable characteristics. They would provide direct help to the poor (and the voter). In addition, they would support the types of economic reforms that are yielding results in several countries of Central Europe and in a number of developing countries that have worked with the World Bank to carry out "structural adjustment" in their economies.

The other question concerns the degree to which Western aid to Ukraine should be predicated on that country's agreement to relinquish all of its nuclear weapons. In the interest of buttressing Ukraine's confidence in its own sovereignty and the West's commitment to it, should larger amounts of aid be

offered to the Kiev government even before that country decides to turn over all of its nuclear weapons to Russia (as it agreed to in a legally binding letter to President Bush following the 1992 Lisbon protocol to the START treaty)? Arguably, a country that has been dominated by a larger neighbor historically and that feels isolated and without allies in the international community is bound to abandon any part of its defenses only grudgingly. Rather than pressure Ukraine to surrender its arms as a precondition for many types of aid, the West may choose to provide more generous economic assistance sooner--provided that Kiev puts in place economic policies that would make it likely for such assistance to be effective.

A number of policymakers and analysts are answering yes to the above questions, suggesting that further increases in certain types of aid to the newly independent states may be appropriate.³³ Others, however--such as the Chairman of the Senate Armed Services Committee, Sam Nunn--remain reluctant to provide more aid to Ukraine and other republics unless they first adopt military policies that are in the interest of the Western world.³⁴ Vigorous debate will undoubtedly continue in the United States and other Western countries about the proper role for Western aid to the newly independent states.

In this section, unlike the preceding one on security assistance, U.S. aid is assumed to represent only one-third of the total donor contribution to the programs at issue. Other wealthy Western countries, which share a special interest in the stability of the newly independent states, are assumed to provide the remaining two-thirds of funds.

32. For an expression of this view by a well-known advocate of large aid packages for the former Soviet states, see Sachs, "The Reformers' Tragedy."

33. Blair, "Lighten Up on Ukraine," p. A17; Brent Scowcroft and Richard Haass, "Foreign Policy Nears a Peril Point," *The New York Times*, January 5, 1994, p. A15; Steven Greenhouse, "I.M.F. May Loosen Conditions for Aid to Russia Economy," *The New York Times*, December 22, 1993, p. A1; The Fund for Democracy and Development's Policy Panel, *A New Strategy*, p. 9.

34. Sam Nunn, "Will Ukraine Save Itself?" *The Washington Post*, January 3, 1994, p. A19.

Specific Types of Economic Assistance

A number of specific programs intended to promote economic reform and development in the former Soviet republics may be worthwhile. Those outlined below focus on encouraging and aiding the private sector, easing the plight of those most afflicted by the process of economic restructuring, or lightening the balance-of-payments burden faced by the governments of those countries.

Key Industries. Economic stability in Russia and other Eastern Bloc countries would surely enhance Western security. That stability is likely to be achieved only when critical industries are revitalized so that they are competitive in world markets.

As argued by a Citibank financier, critical economic sectors in the former Soviet republics might best be helped by giving investment and loan guarantees to U.S. businesses to encourage them to invest in those countries.³⁵ The goal of this approach would be to encourage firms to try certain types of high-risk, but potentially high-payoff, ventures that they otherwise might shun during an uncertain period.

The functioning of some existing industries could also be modernized with several simple steps. For example, by building on the recently devised Environmental Action Program for Central and Eastern Europe but expanding it to all the territory of the former Soviet Union, more funds could be made available to introduce certain simple technological improvements that would reduce air and water pollution. (Significant reductions in pollution can sometimes be achieved rather simply--by passing effluents through better filters or changing fuels.) Technical exchange programs, patterned after parts of the Marshall Plan, could help educate Russian industrialists about modern manufacturing techniques and management practices. Tens of

millions of dollars a year could suffice for both of these purposes.³⁶

Perhaps \$50 million to \$100 million of annual U.S. funding could help support a creative idea of the Foundation for International Cooperation and Development, in which aircraft turbine plants--now largely idle--would be converted to a facility for producing gas turbines usable for creating power.

Providing some additional seed money for entrepreneurs may also be sensible. Indeed, the Russian government has recently requested assistance to do just that. It would build on very positive trends that have been put in motion--albeit primarily in simple enterprises to date--by the loosening of heavy-handed central control in Russia and most other former republics.

Russia's oil production is an important example of a major industry in which foreign capital might help the process of reform. Today, production is down considerably, largely as a result of imprudent exploitation of reserves by the Soviet regime that damaged oil reserves and equipment and made future extraction more difficult. Despite the economic recession and downturn in industrial production, oil consumption in Russia remains at past levels--largely because of huge price subsidies that also have the unfortunate consequence of producing a black market and profiteering in oil.³⁷ In 1992, for example, Russian oil exports were only about one-third of their previous high of 4 million barrels per day, and downturns in overall production were continuing into 1993.³⁸ Restoring oil exports to their previous level, if possible, might generate added revenue of \$20 billion a year at current prices.

35. Steven Halliwell, "Aid to Russia Can Pay for Itself," *The New York Times*, July 3, 1993, p. A19.

36. James M. Silberman and Charles Weiss, Jr., *Restructuring for Productivity: The Technical Assistance Program of the Marshall Plan as a Precedent for the Former Soviet Union* (Washington, D.C.: World Bank, 1992), p. 39.

37. Michael Dobbs, "Siberian Oil: A Dream in Ruins," *The Washington Post*, April 28, 1993, p. A1.

38. Jan Vanous, ed., "PlanEcon Report," no. 44-45 (PlanEcon, Inc., Washington, D.C., December 19, 1993), p. 17; Fred Hiatt, "Historic Chance to Aid Ailing Russia Said to Be Slipping Away," *The Washington Post*, March 1, 1993, p. A1.

Eventually, according to the World Bank, some \$50 billion may be needed to restore Russia's oil production to its past levels.³⁹ Foreign firms may provide much of this money, if and when the regulatory, economic, and tariff thicket in Russia thins out.

In the short term, however, direct foreign aid in the form of loans or grants could help restore some oil production quickly. And it could do so in a manner permitting continued Russian control and ownership of wells, thus reducing the potential for a nationalist backlash that private and foreign-run operations could engender. The World Bank is now pursuing projects in this area, but has more ideas than available dollars.⁴⁰

Aware of resource requirements such as these, President Clinton earlier this year advocated a new multilateral fund to spend up to \$4 billion in the former Soviet republics to promote a viable private industrial sector. One billion dollars would have come from the United States. But other Western donors were unwilling to provide their share of this funding level because of doubts about the feasibility of making productive investments in the current economic environment in those countries. As a result, the package was scaled back sharply. Restoring the fund to the originally intended size--if it is determined that the money could be used effectively--might entail an annual U.S. contribution toward privatization in oil and other sectors of \$1 billion.

Acute Needs: A Social Welfare Net? Russia's economy is progressing in some ways, as privatization continues to take place in small entrepreneurial activities and agriculture. But providing food and medical aid to pensioners, workers left unemployed by reductions in subsidies to state industries, and impoverished youth might greatly help President Yeltsin's efforts to maintain political support during a period of difficult economic transformation.⁴¹ Sim-

ilar conclusions apply to other economies of the former Soviet Union and have been endorsed by a number of influential policymakers.⁴²

How large might aid for such purposes be in the future? Russian Deputy Prime Minister Boris Fyodorov as well as Western investors have backed plans that would provide \$5 billion to \$10 billion in foreign assistance annually. The U.S. contribution, assuming a one-third share, would then be up to \$3 billion a year. If the safety-net approach lasted for half of the 10-year period, the United States might average paying out as much as \$1.5 billion a year.⁴³

Debt-Service Relief. Carefully conditioned debt relief could be used to encourage ongoing political and economic reform in Russia, the likely inheritor of all of the former Soviet Union's external debt.⁴⁴ Similar economic assistance on a smaller scale might be offered to Ukraine and perhaps other former Soviet republics. These types of funds might help reformist governments maintain support while carrying out policies likely to meet serious domestic opposition, and they could be disbursed on an annual basis to provide a constant inducement to desirable economic policies. They might thereby help embed democracy more firmly in the heartland of Eurasia--reducing the chances for a hard-line takeover and a possible return to geopolitical confrontation with the West. Russia, not surprisingly, has asked for such assistance, and a number of economists, including Jeffrey Sachs of Harvard University and Stanley Fischer of the Massachusetts Institute of Technology, have lent their weight to such an idea.

In 1994, the former Soviet Union's foreign debt of \$109 billion requires \$25.5 billion in servicing payments.⁴⁵ The United States might find it sensible to take part in a multilateral effort to help Russia service its debt on a year-by-year basis--

39. Steven Greenhouse, "World Bank to Help Russia Increase Its Oil Output," *The New York Times*, April 24, 1993, p. A4.

40. *Ibid.*

41. General Accounting Office, *Former Soviet Union: Agricultural Reform and Food Situation in Its Successor States* (November 1993), p. 6.

42. The Fund for Democracy and Development's Policy Panel, *A New Strategy*, p. v.

43. Don Oberdorfer, "U.S. Weighs Safety Net for Russia," *The Washington Post*, March 5, 1993, p. A26.

44. World Bank, *World Debt Tables 1992-1993*, vol. 1 (Washington, D.C.: World Bank, 1992), pp. 29-39.

45. International Monetary Fund, *World Economic Outlook* (Washington, D.C.: IMF, October 1993), p. 185.

provided that its policies are sufficiently reformist. But helping Russia service debt owed primarily to other countries and institutions is bound to be a contentious issue in the United States.

If this policy was carried out for perhaps two to four years, Western donors might wind up contributing on the order of \$50 billion, primarily or entirely to Russia. If the U.S. share was 33 percent of total donor funds, the United States might make a total contribution of somewhat more than \$15 billion. If some balance-of-payments assistance was also offered to Ukraine and other former Soviet republics in order to induce their cooperation with arms accords and to help them on the path to reform, the United States might give an additional several billion dollars. In all, U.S. contributions to those countries over several years might approach \$20 billion. Over 10 years, U.S. expenses might approach an average of \$2 billion a year, though they could be larger early in the 10-year period and then diminish.

Any such measures must be carried out very carefully. Donors probably should not provide

funds unless confident that the types of economic reforms being made will lead to real economic improvement and growth within a few years, as recent reforms have in Central Europe. Thus, annual help with existing debts or with needs for revenue--which maintains accountability and real leverage for the West--probably makes more sense than one-time forgiveness of a certain amount of Russia's debt or a one-time lump-sum payment to one of the other republics.

In conclusion, it is difficult to subject the process of giving aid to Russia and other former Soviet republics to long-range planning. Particularly for financial assistance, Western policy is likely to require flexibility and an ability to react to political and economic developments in Moscow and elsewhere. But the above programs and policies give an indication of how much money might, under certain conditions, be a useful investment for U.S. and global security. Were the programs discussed here fully funded, the U.S. bilateral contribution might approach \$6 billion a year--or on the order of \$3 billion more than the current annual level.