

CHAPTER III

THE BASIC OPTION TO ENHANCE THE SECURITY

OF THE VISEGRAD STATES

Because the Congressional debate has centered on expanding the North Atlantic Treaty Organization without including Russia--but with particular emphasis on including the Visegrad states--the Congressional Budget Office confined its options to that scenario.

Under Article V, a commitment by NATO to assist a Visegrad country if attacked could take a variety of forms. CBO has examined five illustrative military options for expansion, each building on the previous one in scope and cost.

What NATO would need to do to provide an adequate defense for the Visegrad nations is difficult to determine. In the current environment, NATO can probably spend as much or as little as it likes on expansion. If the alliance merely admitted new members and made no military preparations to defend them if attacked, the peacetime cost of making such a political commitment would be negligible. If military preparations were made, however, greater costs would be incurred. Moreover, if greater future threats arose, such as an aggressive and militarily potent Russia, the alliance might need to spend even more. The first option that CBO explores--and the least ambitious and costly of the five--might help a Visegrad state to defend itself against a border skirmish or limited attack by a regional power. The option strengthens Visegrad defense forces to be the backbone of the defense plan and provides for NATO reinforcement if needed. It assumes that the Visegrad states will pay most of the costs of those improvements.

CBO's other four options are more ambitious and costly and are directed toward the threat of a resurgent Russia. They represent various methods of providing a defense by increasing the military and political strength of the response with each successive option and a heavier cost burden on existing NATO allies than Option I. A second option moves NATO air power east when a Visegrad nation is under threat from attack. This option reflects the school of thought arguing that air power now dominates the modern battlefield and can be decisive against an attack by enemy ground forces. A third option reflects the more traditional view that substantial friendly ground forces are needed for an adequate defense against their enemy counterparts; it adds NATO ground power to the flow of forces east. A fourth option prepositions military equipment on the territories of the Visegrad states so that troops can be flown to operate it during a crisis. That option allows heavy NATO ground forces to arrive at the front faster during the most dangerous early stages of a crisis when local forces are in the most danger of being overrun. The fifth option, the most

ambitious and costly of the alternatives, permanently stations a limited number of NATO forces (equipment and personnel) in the Visegrad states. Those forces would provide an early defense and also act as an even stronger political symbol of NATO's commitment to defend those states than would prepositioned equipment.

CBO estimates that the range of costs for the five illustrative options over the 15-year period from 1996 to 2010 would be \$61 billion to \$125 billion. Of those total costs, the United States might be expected to pay between \$5 billion and \$19 billion. Such U.S. costs might be manageable but only if--as NATO and CBO assume--the Visegrad nations themselves bear a substantial portion of the costs of expansion. Even under the least ambitious option, if the Visegrad states prove unable or unwilling to increase their defense spending significantly (estimated at about a 60 percent increase), then either the cost to the United States and other NATO members would have to increase substantially or tasks needed for an adequate defense of these nations might be left undone. The defense budgets of the Visegrad nations are small, their economies are in transition from communism to capitalism, and their populations do not support increases in the proportion of government spending devoted to defense. If such basic tasks needed for an adequate defense were left uncompleted, an effective NATO security guarantee might be questionable.

OPTION I: STRENGTHEN VISEGRAD DEFENSE FORCES AND PROVIDE FOR NATO REINFORCEMENT

For this option, CBO assumed that local armed forces would form the backbone of a defense for the Visegrad states. The option focuses on upgrading those forces, making them more compatible with NATO forces, and improving their infrastructure. Those improvements would help the alliance to resupply a Visegrad state (or states) should it come under attack; reinforcements could be moved from Germany if needed to prevent defeat. Higher-cost options in the next chapter would move air and ground forces into a Visegrad state that was under threat of attack.

This option would increase training and exercises with other NATO forces; enhance command, control, communication, and intelligence systems and integrate them with those of NATO; improve air defenses and integrate them with those of NATO; upgrade certain weapons and procure some new ones in key categories (for example, tactical aircraft, antitank weapons, tanks, and precision-guided weapons); and improve the mobility of land forces and the capabilities of naval forces (Poland only). Improvements in infrastructure would include upgrading roads, rails, and ports; building training facilities; standardizing fueling and fuel distribution systems; and building facilities for fuel and ammunition storage.

This option--with an estimated total cost of \$61 billion over 15 years--is the least costly approach to expansion that CBO examined. Nonetheless, it is still expensive and represents about 50 percent of the total cost of CBO's five options. Costs to the United States under this option are estimated at about \$5 billion, the costs to NATO allies at about \$14 billion, and the cost to the new member states at about \$42 billion. Adopting this approach would require that the new allies increase their average yearly collective defense spending during the period by about 60 percent over 1995 levels.

With the armed forces and defense budgets of the Visegrad and almost all existing NATO nations in decline, this approach might be a way to give the Visegrad states some sense of security at a lower cost than more ambitious options (such as those described in the next chapter). Considering the current low levels of threat to the Visegrad region, this lower-cost option may be adequate. As noted before, even with such an approach, at least some of the existing NATO members would probably bear a significant portion of the costs to upgrade Visegrad armed forces and infrastructure.

With an improvement in their forces, the Visegrad states would be better able to defend themselves against a limited war with a lesser regional power or a border incursion. Nevertheless, those nations may need NATO's help. Thus, improvements in military infrastructure are included in case some NATO reinforcement and resupply are needed after the Visegrad nations are attacked. (See Table 2 for a list of improvements to the forces and infrastructure of the Visegrad states included in Option I. The nature and extent of each of the improvements are discussed below.)

Although allowing those nations to become members of NATO might provoke the Russians, improving their forces and infrastructure might do so less than the higher-cost options discussed in the next chapter. The higher-cost options improve the forces of existing NATO members and the infrastructure of Visegrad nations so that NATO can deploy its forces there during a crisis or station small contingents of forces or their equipment there permanently. Such options would ensure a more rapid and effective defense of the Visegrad states but would probably provoke the Russians more.

Most Critical Improvements

Many analysts have identified three improvements to be the most critical in making the forces of Visegrad nations more effective in combat and in giving them a rudimentary ability to operate with NATO forces. Still, by themselves, these three

TABLE 2. SUMMARY OF THE COSTS FOR THE 1996-2010 PERIOD TO CARRY OUT OPTION I: ENHANCE VISEGRAD DEFENSE FORCES AND FACILITATE NATO SUPPLEMENTAL REINFORCEMENT (In billions of 1997 dollars)

Activity	Cost to the United States	Cost to NATO Allies	Cost to Members	Total Cost
Training and Exercises	0.7	1.7	2.2	4.6
Command, Control, Communications, and Intelligence	0.6	1.4	5.2	7.1
Air Defense Improvements	0.6	0.6	8.3	9.5
Upgrading and Buying Weapons for the Visegrad States ^a	0.8	0.1	18.4	19.2
Buying Tankers So That European Air Forces Can Project Power	0	5	0	5
Augmenting Forces to Project Power (Poland Only)	0.7	1.0	4.1	5.8
Naval Improvements (Poland Only)	0.1	0	1.1	1.1
Infrastructure Improvements	0.4	0.6	2.1	3.0
Exercise Facilities	1.0	3.5	0.2	4.7
Stockpile Fuel and Ammunition for Visegrad Armed Forces	0	0	0.6	0.6
Total	4.8	13.8	42.0	60.6

SOURCE: Congressional Budget Office based on numerous sources including the Department of Defense.

a. Table 3 presents more detail on the costs of upgrading existing weapons and buying new ones for the Visegrad states.

improvements would only marginally strengthen the weak forces of the Visegrad nations and would create an effective defense against only the weakest potential threats in the region.

Training and Exercises. The Warsaw Pact alliance, of which all four Visegrad states were members, had a much more centralized command structure than does NATO. For that reason, the commissioned and senior noncommissioned officers of the new member nations would require training in NATO military doctrine and tactical and operational procedures. Training in English is also vital for integration into the alliance. English is the chief day-to-day operating language of the alliance, and many soldiers in the Visegrad militaries need to learn to speak it. In addition, the Visegrad nations might also need help in developing a professional non-commissioned officer corps--regarded as the backbone of Western militaries.

The International Military Education and Training (IMET) program was created to allow foreign military personnel to be exposed to the U.S. military and get a professional military education, as well as gaining technical, nation-building, and English language skills. To increase the number of soldiers receiving such training, CBO assumed that the IMET program would be expanded for each of the four new member countries. The program would train 10 percent of their officers and volunteer enlisted troops during the 15-year period from 1996 to 2010. This cadre of military personnel in each country could then train the rest of that nation's military.

Expanding the IMET program would cost the United States an estimated \$190 million. CBO assumed that Germany would make a comparable investment to train another 10 percent of the Visegrad officers and volunteers. Although NATO has recently begun a limited training program, the alliance has not traditionally emphasized this function. CBO assumed that NATO would not train a significant proportion of the Visegrad armed forces.

Finally, occasional large-scale NATO exercises (once every three years) would be held on the territory of the new member states so that NATO forces could become familiar with the terrain to be defended if reinforcement was needed; Visegrad armed forces would also get much needed practice in operating with NATO troops.

NATO countries are usually individually responsible for financing the cost of fuel and other operations and support to participate in NATO exercises. The Visegrad nations, however, are unlikely to be able to pay the entire cost of sending their forces to such exercises, so CBO assumed that Germany and the United States would each pay 10 percent of their costs. (Under the Partnership for Peace program, the United States subsidizes the expenses of partner countries for military exercises.)

In addition, NATO's military budget usually funds some of the costs of setting up the exercise. CBO assumed that NATO would continue to do so and that those costs would be 10 percent of the total.

According to CBO estimates, NATO exercises in the Visegrad states would cost about \$4.2 billion during the 1996-2010 period. The cost for U.S. forces to participate in such exercises and for the United States to offset 10 percent of Visegrad expenses of doing so is estimated at more than \$500 million.

CBO estimated that the total cost of increasing training and exercises would be \$4.6 billion for the 1996-2010 period. The cost to the United States is estimated at more than \$700 million during that period.

Command, Control, Communication, and Intelligence (C³I). Along with becoming familiar with NATO military doctrine and procedures, adopting communication systems that are compatible with NATO's equipment would be a high priority when Visegrad nations began to integrate their armed forces into NATO. Communication systems used by the Visegrad nations are obsolescent and cannot operate very well with NATO systems. Compatible radios would probably be needed for Visegrad ground forces and aircraft.

In addition, enhancing civilian communications in those new member nations would improve military communications. Military systems could plug into civilian systems. For example, the unified NATO communication system could be connected to each Visegrad state through rented postal circuits and the SATCOM satellite system. As the Visegrad economies expand, upgrading civilian communication--which would require improving telephone, telegraph, and microwave systems--might be done for commercial reasons. Such private investment would reduce the need for financing from the defense budgets of Visegrad nations and existing NATO members.

In the Visegrad region, hardened NATO command centers--including transportable facilities--would need to be created. In addition, centers for analyzing, processing, and disseminating intelligence information would be needed. Equipment for processing command and control and intelligence information is obsolescent in the Visegrad nations and not compatible with NATO systems.

CBO estimates that enhancing C³I systems would cost \$7.1 billion, of which the United States would contribute about \$600 million. In theory, the Visegrad states are responsible for buying NATO-compatible radios for their ground and air forces. CBO assumed, however, that Germany and the United States would help to finance that purchase. Specifically, CBO assumed that Germany and the United States

would each contribute 10 percent of the total cost. CBO made the conservative assumption that upgrades to civilian communication infrastructure would be done for commercial reasons and would not count toward the costs of expansion. Building NATO command centers and intelligence facilities was assumed to be funded by the Security Investment Program. Operating and maintaining those facilities were assumed to be financed by NATO's military budget.

Air Defense. Because Visegrad nations are no longer under the umbrella of the integrated air defense system provided by the Soviet Union, combating threats from the air is a high priority. The Visegrad states have already agreed to cooperate in air defense and exchange data from radar; NATO nations may have to help fund those activities. The Clinton Administration plans to provide a total of \$25 million for a Regional Airspace Initiative to help the four Visegrad nations to improve their air defense systems, including providing new computers for each of the Visegrad national air defense command centers.

Civilian improvements can enhance military capabilities. For commercial reasons, all of the Visegrad states will probably modernize their civilian air traffic control systems. For example, at a cost of \$90 million, the Czech Republic is increasing the number of radar systems and upgrading its air traffic control centers to make them electronically compatible with those of adjacent European nations. As the Czech economy began to expand and tourism grew, the need for more modern air traffic control facilities became more acute. The same will probably happen in the other Visegrad states.

Civilian air traffic control will also have to be better integrated with military air defense systems. During the era of the Warsaw Pact, the Visegrad militaries controlled the air space with little or no coordination with civilian air traffic control centers.

To integrate their military air defense systems with that of the alliance, each new member would have to buy NATO-compatible Identification Friend or Foe (IFF) systems and create a modern air operation center (AOC) and control and reporting centers and elements (CRC/CRE). The AOC is a command center that provides centralized control of air operations, develops the air campaign, and designates aircraft for specific missions with an air tasking order. The CRC and subordinate CRE are mobile units consisting of radar systems and computerized facilities from which military personnel direct air defense, offensive air operations, and airspace control. For the air defense mission, they provide early warning, air battle management, and fighter control. A CRC has twice the equipment (radars, consoles, and radios) and personnel as a CRE and has greater responsibility for coordination with external organizations.

The NATO-compatible IFF system consists of an electronic box on an aircraft or ground radar called an interrogator that queries an unknown aircraft with an electronic beam. If the aircraft is friendly, its activated transponder will send the proper electronic signal back to the interrogating aircraft or ground radar. The Visegrad nations are beginning to purchase NATO-compatible interrogators and transponders. For example, Hungary has spent \$12 million to \$13 million to purchase such devices. In addition to buying electronic identification devices, Visegrad air forces will have to become familiar with NATO air defense doctrine and procedures--for instance, that all aircraft flying outside a certain air corridor might be considered hostile.

In the Visegrad nations, surveillance and command systems for air defense would be connected to NATO's Airborne Warning and Control System aircraft and to Soviet-built low- to medium-altitude surface-to-air missiles (SAMs). CBO assumed, however, that the Visegrad nations would need to buy and integrate new medium- to high-altitude SAMs, such as Patriot missiles.

CBO estimates that the cost of those improvements in air defense would be \$9.5 billion, of which the United States would pay about \$600 million. CBO made the assumption that the cost from defense budgets to upgrade civilian air traffic control systems and integrate them with military systems would be minimal. Such upgrades would probably be done for commercial reasons. CBO assumed that the Security Investment Program would finance all facilities used in air-defense operations. Although the Visegrad states are responsible for buying new IFF systems and new medium- to high-altitude SAMs, it was assumed that Germany and the United States would each provide grants to finance military exports worth 10 percent of the purchase price.

Other Improvements

Although not as critical as the first three, other improvements have been identified to enhance the effectiveness of Visegrad forces and facilitate reinforcement and resupply by NATO if needed.

Upgrading Older Weapons and Buying New Ones. Although most of the military equipment owned by the Visegrad states is obsolescent and requires replacement, those states lack the funds to buy a complete set of new equipment for their forces. Therefore, CBO assumed that they would upgrade or replace systems in only a few high-priority categories.

CBO assumed that the Visegrad states would upgrade some of their Soviet-designed weapons. For example, MiG-21 fighter aircraft would get new Western electronic systems and T-72 tanks would get a Western fire-control system and other new electronics.

Eventually, some weapons (such as other Soviet-designed fighter aircraft and T-55 tanks) would be replaced by Western systems (for instance, Western fighter aircraft) or new locally built hardware (for example, PT-91 Twardy tanks produced by Poland). That replacement, however, may not always be done on a one-for-one basis because the Visegrad nations cannot afford it and their militaries are downsizing. In fact, the defense budgets of the Visegrad nations have declined dramatically, and their militaries now pay market rates for wages, land, fuel, and so forth (thereby increasing the expenses for personnel and operating and maintaining the forces). As a result, the money to develop and procure new weapons has plummeted. Poland, which has by far the largest defense budget of the Visegrad states, reduced the percentage of funds allocated to research, development, and procurement from 32 percent in 1988 to 10 percent in 1994. (The other Visegrad nations currently spend from 6 percent to 15 percent of their military budgets on research, development, and procurement.) In a \$2.4 billion defense budget, Poland's investments amount to only \$240 million per year. When one new F-16 costs at least \$20 million to procure, the problem of limited funds is starkly illustrated.

If the Visegrad countries can sustain substantial economic growth for the rest of the decade, their defense budgets will probably eventually increase. They will be likely to buy technology or weapons from the West in the following areas that they have assigned a high priority: fighter/ground attack aircraft, medium- to high-altitude surface-to-air missiles, weapons to destroy tanks, electronic warfare equipment, and precision-guided munitions.

For fighter/attack aircraft, CBO assumed that only new IFF systems would be required for the MiG-29 aircraft, the only relatively modern fighter in the Visegrad inventories. It was assumed that new electronic systems would be procured for the older MiG-21, including systems that would allow those aircraft to shoot modern air-to-air weapons and precision-guided munitions. CBO also assumed that Western aircraft would eventually replace other obsolescent Soviet-built aircraft. All upgraded Soviet-designed aircraft and new aircraft were assumed to require basic precision-guided missiles or air-to-air missiles or both. All such aircraft were also assumed to require Western electronic warfare equipment for self-defense--a radar warning receiver to detect enemy radar systems and a jamming pod to disrupt them. Most of these Western-built systems are superior to the Soviet-designed systems that the Visegrad states have in their inventories.

If Russia is regarded as the major future threat, the Visegrad nations would need to destroy tanks inexpensively. Russia has heavily armored forces. Tanks themselves are potent tank killers, but they are expensive. Because the Visegrad nations are financially constrained, CBO assumed that they would upgrade their T-72 tanks with Western fire-control and electronic systems and buy antitank missiles that can be fired from vehicles other than tanks. Eventually, the Visegrad countries would replace the older T-55 tank with either a Western or locally produced tank--for example, the Polish PT-91 Twardy tank. (In Table 3, CBO projects the quantities of upgraded and new weapons the Visegrad nations would procure during the 1996-2010 period.)

CBO estimated the total cost of new or upgraded weapons for the Visegrad states at \$19.2 billion. In 1993, the year having the latest complete data available, the United States led the world arms export market with a 47 percent share. CBO assumed that it would garner the same share of arms sales to the Visegrad states. (That assumption may be conservative: the United States may have leverage when attempting to sell to these nations because it is the leader of the alliance in which they seek membership and one of the most ardent advocates of admitting them.) The only cost accruing to the United States from Visegrad nations' upgrading older weapon systems and buying new ones is assumed to be the expense of providing Foreign Military Financing (FMF) grants of about 10 percent of the purchase price. CBO estimates the total cost of U.S. FMF grants to be about \$800 million. CBO also assumed that Germany would provide the same amount of money through grants.

Buying Tankers for European Air Forces to Project Power. One further improvement that might be needed is to increase the range of Western European tactical fighter aircraft so that they could fly from German bases to defend a Visegrad state under attack. Although the United States has 515 tanker aircraft for its Air Force, most of its NATO allies have minimal or no ability to refuel tactical aircraft in the air. France has only 13 tankers available, the United Kingdom only 12, and Germany none. If a Visegrad nation needed to be reinforced by tactical aircraft based in neighboring NATO nations (principally Germany), those aircraft would benefit greatly from having tankers available. For example, flying from bases in western Germany to eastern Poland and back requires most NATO tactical aircraft to fly near or exceed their maximum combat radius. When refueled by tankers, these aircraft can fly to targets at greater ranges or drop heavier loads of weapons. To provide tanker aircraft for Western European air forces would require buying, operating, and supporting 54 tankers costing \$5 billion. None of those costs would accrue to the United States.

Enhancing Local Forces to Project Power (Poland Only). As noted earlier, although a small portion of Polish forces has been moved east from Cold War deployment

positions in the western part of the country, financial constraints have prevented most forces from being relocated eastward. It is very expensive to build new facilities and bases in eastern Poland to station forces there. For example, redeploying six Polish divisions in western Poland to new bases in the eastern part of that country would cost about \$20 billion. Yet most threats to Poland's security would probably come from the east, and the country has a relatively large area and flat terrain. Therefore,

**TABLE 3. UPGRADING OLDER WEAPONS AND BUYING NEW ONES:
PROJECTED NEEDS OF THE VISEGRAD NATIONS**
(In billions of 1997 dollars)

System	Quantity	Total Cost	Cost to the United States
Use New Electronic Systems for MiG-21 Aircraft ^a	400	1.66	0.08
Eventually Replace Other Soviet-Built Aircraft with Western Aircraft	350	8.61	0.36
Buy Western Precision-Guided Munitions for Aircraft	8,900	0.70	0.03
Buy Western Air-to-Air Missiles for Aircraft	10,700	0.66	0.04
Buy Western Electronic Warfare Equipment for Aircraft	400	0.13	0.01
Buy New Electronic Systems for the T-72 Tank	1,400	1.36	0
Buy Western Antitank Weapons	125,100	3.05	0.14
Buy New Locally Produced Tank or Western Tank to Replace the T55 Tank	1,150	3.04	0.12
Total	n.a.	19.21	0.78

SOURCE: Congressional Budget Office.

NOTE: n.a. = not applicable.

a. CBO assumed that a more modern fighter/attack aircraft, the MiG-29, would only need a new Identification Friend or Foe (IFF) system. The costs of providing new IFF systems for this aircraft are covered under the section on air defense improvements.

the Polish government has recognized the need for its forces to project power. To do so, those forces need more combat support, including a reinforcing artillery brigade, more air defense, and additional helicopters for lifting troops. They would also need more support to make them more agile, including combat engineers, military police, communications, medical units (including a combat support hospital), maintenance and mobile repair units, and self-contained logistics (for example, ammunition handling and storage) and transportation (trucks and heavy equipment transporters).

In some nations, during wartime the military contracts with civilian organizations to provide support capabilities--for example, civilian trucks, buses, bulldozers, and excavators. According to a press report, however, the end of the Cold War has made private and state industries less willing to honor the Polish government's mobilization requirements. That development may be an argument for buying capabilities for projecting power that are owned and operated by the military.

Yet such forces are usually more expensive than civilian assets. CBO estimates that it would cost more than \$900 million to outfit each Polish division with capabilities to project power. Therefore, outfitting all six mechanized divisions in western Poland would cost about \$5.8 billion. If Germany, the United States, and the SIP each agreed to help finance 10 percent of such improvements, CBO estimates that the costs to the United States would be about \$700 million. Although NATO nations are usually required to equip and provide infrastructure for their own forces, SIP financing might be possible because of an exception based on Poland's limited ability to pay infrastructure costs.

Making Naval Improvements (Poland Only). Poland is the only Visegrad nation with a sea coast. During an attack on any one of the Visegrad nations, the ports of Gdansk, Gdynia, and Szczecin on Poland's northern coast might be used to bring in NATO supplies and reinforcements and act as a base of operations for NATO and Polish ships guarding the naval lines of communication (supply routes) through the Baltic Sea (see Summary Figure 1). Although not large, Poland's navy might assist NATO navies by clearing mines, hunting for any hostile submarines (antisubmarine warfare), and helping to engage any hostile surface ships.

Poland's navy could be improved by purchasing Western-designed mine-hunting sonars for its 24 mine-clearing ships and antisubmarine sonars for its one destroyer and one frigate. In general, the electronics on all Polish naval vessels would be upgraded: three coastal boats, 22 patrol boats, seven missile craft, four corvettes, and one destroyer and one frigate. In addition, Soviet-era coastal radars, designed to detect such hostile naval and air traffic, would probably have to be replaced with Western radar systems and linked to NATO's maritime headquarters and the NATO air command and control system.

Once again, although Poland will have to pay for such modernization, the state of its economy may require NATO nations to provide FMF grants. CBO estimated that naval improvements would cost \$1.1 billion. As with other imports of weapons by Visegrad states, CBO assumed that the United States would get a 47 percent share of Poland's imports for naval systems (the U.S. share of world arms exports). If Germany and the United States each provided 10 percent of the value of their naval exports to Poland in FMF grants, the cost to the United States would be less than \$100 million.

Improving Infrastructure. If required, improving infrastructure in the Visegrad states would facilitate NATO resupply or reinforcement. To receive NATO supplies and reinforcements, Polish ports would need modest upgrades. In the rare event of a large assault on Poland from an aggressive and militarily potent Russia, however, Polish ports might not be used for such purposes. They might be too close to the front (except the port of Szczecin in western Poland) and require ships to pass through the constricted straits between Denmark and Scandinavia and into the Baltic Sea. Because NATO ships might come under attack from Russian submarines and aircraft, NATO might instead decide to use German or even Belgian and Dutch ports. Supplies, troops, and equipment would then come across Europe by road and rail to Poland.

In most other scenarios, however, Polish ports might be useful for NATO resupply and reinforcement. If any one of the four Visegrad nations was attacked by a country other than Russia, Polish ports and the sea lines of communication to them would probably not be disrupted. NATO supplies and reinforcements could flow into Polish ports and then by road and rail to where they were needed in the Visegrad region.

Although the three Polish ports of Gdynia, Gdansk, and Szczecin have limitations, they would need only modest upgrades to fulfill military requirements. According to the World Bank, Gdansk and Szczecin have limited road access. Moreover, according to the U.S. Transportation Command, the two ports have limited container-handling equipment (cranes). Containers are standard storage compartments that are used in commercial maritime transportation but can also be used to haul nonvehicular military equipment, such as ammunition. As a measure to improve the economy, the Polish government is currently attempting to increase the low volume of containers moving through Polish ports. Also, the World Bank is currently appraising projects to improve road access to Gdansk and Szczecin. Therefore, CBO assumed that these port improvements would be financed for commercial reasons and did not include them in its estimate of the costs for NATO expansion.

Szczecin, because of its location in western Poland--farther away from any potential front in eastern Poland--might be important enough militarily for the government to fund improvements from the defense budget. The port is obsolete, has poor rail access, and has a shortage of facilities for roll-on, roll-off ships (RO/ROs) carrying military vehicles. Like Gdansk and Gdynia, Szczecin might need to be dredged to accommodate fully loaded fast sealift ships. (Szczecin also is not capable of accommodating large NATO warships.) CBO assumed that all of those expenses would be included in the costs of expanding NATO.

Whether supplies and equipment are brought in through Polish ports or come overland through Germany, the Visegrad countries need to upgrade their rail and road network to transport them. The Warsaw Pact invested greatly in road and rail routes that ran east to west, but it used them heavily and did little maintenance. There is a shortage of roads running north to south and roads with four lanes (most have only two lanes). So existing roads would have to be repaired, strengthened, and widened, and north-south roads would have to be built.

The rail systems in the Visegrad nations, according to one analyst, are 20 to 30 years behind those of the West. They have aging rolling stock (engines and train cars), bad rails, bad ballast (rocks between the rails), dilapidated buildings, and poor tunnels and underpasses, all of which slow trains. Each of those items needs to be upgraded. The rail system also needs to be automated to allow the switching of trains by computer.

In anticipation or as a result of economic growth, the governments of the Visegrad nations--with the help of international organizations, such as the European Bank for Reconstruction and Development--may make most of these port, road, and rail improvements for commercial reasons. But if economic growth is slower than expected or the capital for these investments does not become available, military capability could be impaired. In the three categories, CBO assumed that only the expenses of certain port improvements (dredging, improving access for RO/ROs, and enhancing rail connections) and 10 percent of the road and rail improvements would be counted toward the costs of expanding NATO. The 10 percent figure represents the militarily critical improvements to the road and rail systems.

Under NATO's draft guidelines, militarily critical port improvements can be financed through the SIP. CBO estimates that port improvements would cost \$56 million and that the U.S. share of such assistance would be \$12 million. In addition, CBO estimates that militarily critical improvements to the road and rail systems of Visegrad nations would cost about \$3 billion. Although road and rail projects would not normally be funded by the SIP, exceptions can be made for nations that cannot afford such improvements. CBO assumed that Germany, the United States, and the

SIP would each fund 10 percent of those militarily critical items. Therefore, U.S. expenses are estimated to be \$360 million.

Thus, the total expenses for improving infrastructure that were assumed to count toward the costs of expanding NATO were \$3 billion. Of that amount, CBO estimated costs to the United States at about \$370 million.

Exercise Facilities. Option I also assumes that the Visegrad countries would build large-scale exercise facilities for ground and air forces. Those facilities would allow NATO forces to exercise on Visegrad territories. Normally, portions of such NATO facilities "over and above" national needs are eligible for SIP funding. CBO assumed that such large-scale, modern multinational training facilities would not be built in the Visegrad states if they did not join NATO. Furthermore, if multiple users conduct exercises at the facilities, the SIP usually provides funding. Therefore, the SIP was assumed to finance the entire cost of the project. CBO assumed that NATO's military budget would finance the cost of operating and maintaining the facilities. CBO estimates that those facilities would cost \$4.7 billion and that the U.S. share would be \$1 billion.

Visegrad Stocks of Fuel and Ammunition. (Under this option, the Visegrad militaries would purchase fuel and ammunition stocks to last 30 days, construct hardened, environmentally controlled bunkers for storage, and pay to operate and support such facilities. CBO estimated that the total cost for those facilities would be \$600 million. Because the stocks would be used by their own forces, the Visegrad nations would have to pay for those items themselves. As a result, CBO assumed no costs would accrue to NATO or its member nations.

CONCLUSION

The above set of actions constitute improvements designed to begin to integrate the military forces of the Visegrad nations with those of their NATO allies. That package would cost about \$61 billion over a 15-year period. Under CBO's costing assumptions, which were noted earlier, the Visegrad countries would pay \$42 billion, or about 70 percent of those costs, themselves; their NATO allies would contribute the remaining \$19 billion, of which the U.S. share would be about \$5 billion.

If the Visegrad nations paid \$42 billion over the 15-year period from 1996 to 2010, they would need to increase their small investment budgets by almost \$3 billion per year. They currently invest about one-sixth of that sum--about half a billion dollars a year (roughly 10 percent of the \$4.6 billion in combined defense spending). In other words, to execute the program, the Visegrad states would have to increase investment by almost 600 percent. That goal might be possible if

economic growth led to increased defense spending or priorities were substantially rearranged in Visegrad defense budgets so that more could be spent on investment.

Increasing investment spending by that magnitude would cause the average yearly collective defense spending for the four nations to increase by about 60 percent. Based on the sum of those nations' gross domestic products (GDPs) for 1995, combined defense spending would need to rise from 2.2 percent of GDP to about 3.6 percent of GDP to cover those costs.¹ Poland's defense spending would need to increase from 2.4 percent of GDP to 3.8 percent; Hungary's from 1.5 percent to 2.6 percent; the Czech Republic's from 2.5 percent to 3.6 percent; and Slovakia's from 3.1 percent to 4.6 percent.

But such added costs might be difficult for those nations to afford. In addition, according to public opinion polls in all of the Visegrad states, their populations do not support increases in the proportion of government spending devoted to defense.

If the Visegrad nations cannot afford all of the items in Option I (shown in Table 2), they might be able to select a subset of the most critical items (the first three improvements) totaling \$21.2 billion during the 1996-2010 period. The subset would include increasing training and conducting more exercises with NATO forces; improving command, control, communications, and intelligence; and enhancing air defenses and integrating them with NATO. The cost of those items for the Visegrad states would be \$15.6 billion. The remainder of the costs would be picked up by existing NATO allies (\$1.9 billion for the United States and \$3.7 billion for the European allies). Although that subset of items would improve the ability of the Visegrad militaries to operate with NATO forces, it would still only marginally improve those nations' defenses.

The following chapter looks at further actions that the NATO countries might take to enhance the security of their new allies. Because those actions assume more direct involvement of the forces of current NATO members, their costs would be borne more directly by the United States and its current NATO allies.

1. Because the Visegrad states are making the transition from communism to capitalism, it is uncertain whether there will be positive or negative growth in their economies in each year from 1996 through 2010 or exactly what the rate of change will be. Therefore, as a simple indicator of the magnitude of the burden their economies face to finance expansion, figures from 1995 for defense spending and gross domestic product are used.