NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

COCOM AND THE FUTURE OF CONVENTIONAL ARMS EXPORTS IN THE FORMER COMMUNIST BLOC

by

Richard Andrew Hove
and
Eric John von Tersch

December, 1993

Thesis Advisor: Mikhail Tsypkin

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Unclassified
Security Classification of this page

REPORT DOCUMENTATION PAGE

1a Report Security Classification: Unclassified			1b Restrictive Markings Unclassified
2a Security Classification Authority			3 Distribution/Availability of Report: Approved for public release; distribution is unlimited.
2b Declassification/Downgrading Schedule			
4 Performing Organization Report Number(s)			5 Monitoring Organization Report Number(s)
6a Name of Performing Organization: Naval Postgraduate School	6b Office Symbol (*if applicable*): 38		7a Name of Monitoring Organization: Naval Postgraduate School
6c Address (*city, state, and ZIP code*): Monterey CA 93943-5000			7b Address (*city, state, and ZIP code*): Monterey CA 93943-5000
8a Name of Funding/Sponsoring Organization	6b Office Symbol (*if applicable*)		9 Procurement Instrument Identification Number
Address (*city, state, and ZIP code*)			10 Source of Funding Numbers
		Program Element No	Project No / Task No / Work Unit Accession No

11 Title (*include security classification*): CoCom and the Future of Conventional Arms Exports in the Former Communist Bloc

12 Personal Author(s): Hove, Richard A.; von Tersch, Eric J

13a Type of Report	13b Time Covered	14 Date of Report (*year, month, day*)	15 Page Count
Master's Thesis	From To	1993, December, 16	283

16 Supplementary Notation: The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

17 Cosati Codes			18 Subject Terms (*continue on reverse if necessary and identify by block number*)
Field	Group	Subgroup	CoCom, Arms Exports, Conditionality, Arms Sales, Export Controls

19 Abstract (*continue on reverse if necessary and identify by block number*)

This thesis describes the realities of the military industry in the key countries of the former Communist Bloc (FCB) and their perspective on the role that military exports plays in their political and economic structures. Furthermore, the thesis asserts that, because future arms transfers will be of increasing technological sophistication the United States' ability to exercise political and military options in international affairs may be limited.

Finally, the thesis proposes a solution to the problem noted above by arguing for a series of changes to the CoCom structure that will combine the particular demands of the evolving FCB states with the dynamics of the world arms market. In doing this, the thesis proposes a new conceptual framework for CoCom as well as specific actions to reduce the deleterious effects of arms sales from the FCB.

20 Distribution/Availability of Abstract	21 Abstract Security Classification	
__ unclassified/unlimited __ same as report __ DTIC users	Unclassified	
22a Name of Responsible Individual: Mikhail Tsypkin	22b Telephone (*include Area Code*): (408)-656-2228	22c Office Symbol: NS/TK

DD FORM 1473, 84 Mar 83 APR edition may be used until exhausted
All other editions are obsolete

Classification of this page
Unclassified

Approved for public release; Distribution is unlimited

CoCom and the Future of Conventional Arms Exports in the Former Communist Bloc

by

Richard Andrew Hove
Captain, United States Army
B.A., Nebraska Wesleyan University, 1984

and

Eric John von Tersch
Captain, United States Army
B.S., United States Military Academy, 1983

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF ARTS IN NATIONAL SECURITY AFFAIRS

from the

NAVAL POSTGRADUATE SCHOOL
December 1993

Authors: _____
Richard Andrew Hove

_____
Eric John von Tersch

Approved By: _____
Mikhail Tsypkin, Thesis Advisor

_____
Edward Laurence, Second Reader

_____
Thomas C. Bruneau, Chairman,
Department of National Security Affairs

ABSTRACT

This thesis describes the realities of the military industry in the key countries of the former Communist Bloc (FCB) and their perspective on the role that military exports plays in their political and economic structures. Furthermore, the thesis asserts that, because future arms transfers will be of increasing technological sophistication the United States' ability to exercise political and military options in international affairs may be limited.

Finally, the thesis proposes a solution to the problem noted above by arguing for a series of changes to the CoCom structure that will combine the particular demands of the evolving FCB states with the dynamics of the world arms market. In doing this, the thesis proposes a new conceptual framework for CoCom as well as specific actions to reduce the deleterious effects of arms sales from the FCB.

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EXECUTIVE SUMMARY

On May 4, 1990, CoCom announced that when Poland, Czechoslovakia, and Hungary established the export control systems they had promised, CoCom would lift its trade sanctions. The same arrangements were extended to Russia and Ukraine in November, 1992. Not only were the sanctions to be lifted, but these five countries were also offered "more favorable treatment" if they complied with CoCom guidelines.

CoCom required that these countries establish a system to control exports on certain commodities and technologies. The system was based on its own Western framework where each country was required to control a number of sensitive technologies and commodities on CoCom's three lists: the Industrial Core List, the International Atomic Energy List, and the International Munitions List.

To date only Hungary has responded favorably to the offer and was removed from the CoCom proscribed list on February 10, 1992. The central question is then: why, if the same offer has been made to these different countries, has only Hungary established a system that complies with the CoCom principles?

If the external pressure on each of the other countries has been the same, and yet they have acted differently, then

perhaps there are internal factors in each country that carry more weight. These endogenous factors would be more resilient to change than exogenous factors that can be influenced through a sanctions policy. An examination of these different internal factors will explain what has prevented each of the remaining five countries from following CoCom's preferred course. The central question is answered by examining internal factors relating to social, political, and economic issues that may have played a greater role in the adoption of the export control measures in Hungary than external factors that were responsive to policies of conditionality.

The method of examination used in the study is Alexander George's focused comparison method. The results of the research are depicted in the table below. (Comparative Matrix) These results outline the internal factors, which are far beyond the scope of a policy of conditionality, that have been the determining factors in shaping export control measures.

In light of these findings, this study recommends two mechanisms to limit the impact of conventional arms proliferation from the Former Communist Bloc (FCB). First the U.S. should pursue a policy of coopting the arms industries in these countries. The U.S. could then develop a positive relationship with the arms producing countries of the FCB and gain the ability influence the arms export policies through a

cooperation rather than direction. This approach is potentially as effective and does not have the cost associated with perceived hypocrisy or confrontation. Cooptation recognizes the domestic considerations inherent in arms export measures and the differing stages of development in the FCB. In is particularly effective with countries who are determined to maintain a defense industry for national security needs.

The second method is an approach that shifts from controlling arms exports to expanded monitoring of arms exports. The national security challenge associated with controlling arms transfers is that it has the effect of driving these transfers underground. If the emphasis is shifted away from the controlling arms transfers to monitoring them it gives the U.S. the opportunity to respond to a dynamic security environment.

Comparative Matrix

Questions	Hungary	Czech Rep	Slovakia	Poland	Russia	Ukraine
[Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?	yes	no	no	no	no	no
[Question S-2] Was the demand for a strong social safety net relatively high?	no	no	yes	yes	yes	yes
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes	yes	no	no	no	no
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no	yes	yes	yes	yes	yes
[Question P-2] Were political interest groups, for example defense industry workers, relatively influential in the debate over these questions?	no	no	yes	yes	yes	yes
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no	no	no	yes	yes	yes
[Question E-1] Were the prospects for converting the defense industry relatively high?	yes	yes	no	no	no	no
[Question E-2] Was export specialization in military hardware relatively high?	no	no	yes	yes	yes	yes
[[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no	yes	no	yes	yes	no
[Question E-4] Was the outlook on exports in 1989 relatively good?	no	yes	no	yes	yes	yes

I. INTRODUCTION

A. THE PUZZLE

1. The Issue Examined

As the Soviet Union emerged as a threat to Western interests at the beginning of the Cold War CoCom (the Coordinating Committee on Export Controls) was established with the principal purpose of denying access to western technology and thereby slowing weapons development in the Soviet bloc.[1] Throughout the Cold War many policies in the West made the linkage between responsible actions on the part of the Soviet bloc into either the carrot of favorable treatment or the stick of sanctions. The general goal of these policies was to bring the former communist bloc into the mainstream of the world community; the actual collapse of Communism was normally outside of their context. In 1989 Communism collapsed in East/Central Europe and the countries there not only promised to be responsible actors in the world but also sought a larger framework for inclusion in the West. As the world changed in 1989, CoCom made the transformation from a simple denial regime to one that would offer access to technologies and commodities as long as certain requirements were met.

On May 4, 1990, CoCom announced that when Poland, Czechoslovakia, and Hungary established the export control systems they had promised, CoCom would lift its trade sanctions. Not only were the sanctions to be lifted, but these three countries were also offered "more favorable treatment" if they complied with CoCom guidelines.[2]

CoCom required that these countries establish a system to control exports on certain commodities and technologies.[3] The system was based on its own Western framework where each country was required to control a number of sensitive technologies and commodities on CoCom's three lists: the Industrial Core List, the International Atomic Energy List, and the International Munitions List. The management of the system had to have a process of registering (licensing) firms engaged in foreign trade, and finally an export permit (license) review process for each transaction.[4] The system had two further principles: 1) a legal basis for its implementation, and 2) an administrative structure in the government to manage the system.

Access to the items on the Industrial Core List and the International Atomic Energy List were critical to the economic growth of all three of these countries. In 1989 these countries were not as concerned with acquiring items on the International Munitions List but they all had industries capable of building and exporting these items. Therefore,

CoCom required not only the control of both the reexport and use of items they wished to acquire but also the control of items for which they had the potential to export like complete weapons systems.

In November, 1992 much the same offer was made by CoCom to Russia and Ukraine.[5] To date only Hungary has responded favorably to the offer and was removed from the CoCom proscribed list on February 10, 1992.[6] The central question is then; why, if the same offer has been made to these different countries has only Hungary been able to establish a system that complies with the CoCom principles.

2. The Theory of Conditionality

The "carrot" and "stick" approach has been applied to all five (six, now that Czechoslovakia has split into the Czech Republic and Slovakia) countries on a fairly equal basis.[7] One may argue that Russia and Ukraine have had relatively little time to respond to the offer, but what has prevented Poland, the Czech Republic and Slovakia from following through with their earlier plans? All six have been brought into the CoCom Cooperation Forum on Export Controls and numerous efforts have been taken to instruct them on exactly what the requirements are for an export control system and removal from the proscribed list.

Some have concluded that the conditional sanctions were effective in the case of Hungary and that the proper

course of action is to leave them in place against Poland, Russia, Ukraine and now the Czech Republic and Slovakia. Following the theory that conditionality is effective; these five remaining countries should eventually establisn the desired export control systems. This paper intends to show, however, that in fact the Hungarian case is quite unique, indicating that a thorough understanding of social, political, and economic conditions which shape export controls may well point out that there are problems with the theory of conditionality.

3. Hypothesis

The thesis will argue that internal factors relating to social, political, and economic issues played a greater role in the adoption of the export control measures in Hungary than external factors that were responsive to policies of conditionality. If the external pressure on each of the countries has been the same, and they have acted differently, then perhaps there are internal factors that carry more weight. These endogenous factors would then be more resilient to change than exogenous factors that can be influenced through a sanctions policy. An examination of these different internal factors will explain what has prevented each of the remaining five countries from following CoCom's preferred course.

This is not to say that the events outside of Hungary did not play a significant role; the events of 1989 had as large an impact there as anywhere. It is rather an examination of why Hungary was different prior to 1989, how the changes of that year uniquely affected Hungary, and how all this led to Hungary erecting an arms control system that was able to fit into the COCOM guidelines.

B. THE METHODOLOGY

1. The Method Used

The general methodology used in the study is the Focused Comparison method.[8] Using Hungary as a hypothesis generating case, four other countries are compared to Hungary; two that are most similar and two least similar. The two cases most similar to Hungary are Poland and Czechoslovakia and the two least similar cases are Ukraine and Russia.[9]

a. Hungary as the Hypothesis Generating Case

On February 10, 1992 CoCom removed Hungary from the proscribed list.[10] This is the critical factor that sets Hungary apart from the other countries in the study. All have indicated a willingness to adopt the kind of system that CoCom requires, and yet in every case except Hungary they have been unable to do so. Therefore the first step in developing a comparative study is to lay out the base case against which all the other studies will be focused, and from which the

hypothesis can be generated. The country that displays the most similar pattern to Hungary will likely be the country that is closest to adopting the same kind of measures.

b. Rationale for the Most Similar Cases

(1) The Three Darlings of the West. For some people there is the sense that the border of western civilization has extended no further east than the eastern edge of the Carolingian Empire of the early ninth century. The line takes a few turns east then west on its way down to the Julian and Karavenke Alps, but those living east of that line are considered by many to still be outside the community of Europe. The Polish author, Czeslaw Milosz, describes this feeling that Eastern Europe in general has been, and continues to be, kept out of the western club. "Undoubtedly I would call Europe my home, but it was a home that refused to acknowledge itself as a whole; instead, as if on the strength of some self-imposed taboo, it classified its population into two categories: members of the family (quarrelsome but respectable) and poor relations."[11]

During the communist period there was a convenient wall and the West Europeans did not have to think much about their "poor relations." Now that the wall has collapsed there are more subtle means employed to keep Europe separated. For example, the European Bank for Reconstruction and Development, an institution established to aid Eastern

Europe, has spent twice as much on itself than it has disbursed in loans to the struggling countries in East Europe.[12]

In this regard the countries of Central Europe are different than the rest of Eastern Europe, to include Russia and Ukraine. It was not by accident that the initial offer by CoCom was made first to Poland, Hungary and Czechoslovakia. These three countries of Central Europe have been treated differently than the rest of the Soviet Bloc throughout the cold war. Hungary, Poland and Czechoslovakia were the darlings of the West and efforts to separate them from the Soviet Bloc were the most forceful and concentrated. It was only natural that the expectation in each of these countries for inclusion in the West was very high in late 1989.

(2) Shared Experiences during the Communist Period. The cases defined as most similar have the shared experience of the Soviet period. Each was subjected to the process of Satellization and Sovietization, each was affected by the changes associated with *perestroika* and each escaped the Soviet bloc at about the same time in late 1989 and early 1990. The revolutions that swept Central Europe in 1989 had many common roots and since they had all been held in the Soviet camp by force, once the threat of force was removed they all broke away at the same time.[13] More specific to the

arms industry there was a two phase process that radically changed the dynamics of military production and arms exports in these countries. The first phase (1986-1989) was linked to the general policies of *perestroika* that radically altered the internal and external relations of the Soviet Union, the eastern bloc and the rest of the world. The second phase (1990-1991) is connected with the collapse of the socialist system throughout Central and Eastern Europe and the substantive change that occurred in the political, military and economic ties between these countries.[14]

(3) Direction of the Defense Industry by the CMEA. The final thread that ties the similar cases together is the overt direction of the defense industries in these countries by the Soviet Union through the mechanism of the CMEA. Two key factors combined between 1947 and 1950 to shape the future of the defense industries in Central Europe. First was the process of Sovietization in Central Europe which began in earnest in 1947. It was at this point that all of these countries were forced to subordinate their military-industrial programs to the Soviet program.[15] The armaments industries in these countries developed over the course of next forty years under the supervision of the Military-Industrial Commission of the Council for Mutual Economic Assistance where the Soviet Union directed a division of labor between these states that would shape the industries in these countries up to the

present day.[16] The second factor that has shaped the structure of the armaments-industry in Central Europe was the outbreak of the Korean war in 1950. Prior to this the only industry to speak of that had survived World War II was located on the Czech lands of Czechoslovakia; after 1950 the intense armaments building efforts began in southern Poland and throughout the Váh River valley in Slovakia. The armaments industry which the Soviets seized control of in 1947 grew at an intense rate between 1950 and 1956, thus setting the foundation for the structure of the industry that exists today.

c. Rationale for the Least Similar Cases

(1) The view of the Soviet Union as a monolith was the driving factor in placing Ukraine and Russia in a category separate from the other countries in the study. The history of strong state control of daily life, the obsession with secrecy, the cultural norm of believing that one person's gain can only be realized at the expense of someone else all have subtle but important influences on the adoption of arms control legislation. These aspects of the patchwork of the cultural and political blanket of Soviet and Russian life were absent in the Central European states.

(2) A second defining difference between the Central European states and Russia/Ukraine was the internal direction of the defense industry. The degree of

interdependence between Russian and Ukrainian arms production firms far exceeded the level of influence that Military-Industrial Commission of the Council for Mutual Economic Assistance had on the arms industries of Central Europe. The difference in this relationship has resulted in the Central European arms producers having a better appreciation of their ability to compete in the international arms market. On the other hand, the scale and diversity of arms production in Russia and Ukraine has lead to a misunderstanding (even utopian view) of the ability to sell arms.

2. The Questions Applied

The following is a listing of the questions that were asked of each of the cases in order to establish a controlled comparison.

a. Pertaining to Social Factors

What are the internal social factors that are correlated with the implementation of an export control system? In order to determine this three specific questions were asked of each country.

(1) [Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?

(2) [Question S-2] Was the demand for a strong social safety net relatively high?

(3) [Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?

b. Pertaining to Political Factors

What are the political factors that have contributed to the adoption of export control measures? Three questions are asked of each country in order to operationalize these factors.

(1) [Question P-1] Were the structural impediments to the legislative process, in the transition period, relatively high?

(2) [Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?

(3) [Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?

c. Pertaining to Economic Factors

The most complex, and perhaps the most telling, set of factors are the economic antecedents that correlate with the size and structure of the domestic defense industry. To make a comparative assessment, four basic questions, with some specific variations, were posed for each case. For example, due to the influence of the Soviet Union, military as well as civilian production went on in the same factory so that production could be easily expanded in time of war.[17] (This is why there are such odd names as the Weapons and Gas Appliance factory in Hungary.) However, the balance between military production and civilian plants varied between each country in general and among different plants in each country. Even in the best of circumstances the chances of successfully

converting a defense plant are daunting. As one conversion expert put it "You can build tractors on a tank production line, and it will look like a tractor, but it will cost as much as a tank." Therefore, the relative ease in converting each industry varied from case to case. The economic questions to be asked in each case are:

(1) [Question E-1] Were the prospects for converting the defense industry relatively high?

(a) [Question E-1.a] Were defense industry firms already in the process of production conversion in 1989?

(b) [Question E-1.b] Did the production possibilities for individual firms allow for the shifting of resources?

(2) [Question E-2] Was export specialization in military hardware relatively high?

(3) [Question E-3] Was there a relatively high degree of autonomy in the defense industry?

(a) [Question E-3.a] Was domestic research prior to 1989 relatively high?

(b) [Question E-3.b] Were there a relatively large number of defense products of original design?

(c) [Question E-3.c] Is there a relatively strong move toward cooperation with Western firms?

(4) [Question E-4] Was the outlook on exports in 1989 relatively good?

(a) [Question E-4.a] Did they have export potential in expanding markets as early as 1990 i.e. the Far East of Middle East?

(b) [Question E-4.b] Did the prospects for exports rise over time?

3. The Anticipated Model

Table I-1 is a graphic depiction of the anticipated model for a country that is able to quickly respond to CoCom's offer and establish the requisite export control measures.

Table I-1

The Anticipated Model

Question	Value
[Question S-1] Did the social legacy of the communists period allow for a relatively smooth transition period?	yes
[Question S-2] Was the demand for a strong social safety net relatively high?	no
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no
[Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?	no
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no
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[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no
[Question E-4] Was the outlook on exports in 1989 relatively good?	no

1. For a recent discussion of CoCom see, Ian Anthony, 1991, "The Co-ordinating Committee on Multilateral Export Controls", in Arms Export Regulations, edited by Ian Anthony, (New York: Oxford University Press)

2. Financial Times, 4 May 1990, p.6.

3. For an understanding of the kind of system COCOM is proposing see: U. S. Department of Commerce, A Guide for National Export Control Programs, (Washington, Bureau of Export Administration, 1992).

4. Unfortunately the term "license" is used in the literature referring both to the process of registering and approving firms to conduct foreign trade and to the process by which the government grants permission for each transaction.

5. "Topical Developments", Programme for Promoting Nuclear Non-Proliferation, No. 20, Winter 1992, p. 2.

6. "COCOM Restriction On Hungary Lifted", RFE/RL Research Report, Vol. 1, No. 8, February 21, 1992. p. 67.

7. The Industrial Core List was reduced from 116 categories in 1990 to just ten as of May 1991. One could make the argument that since the items on the CoCom list have been significantly reduced during this period that the external situation has in fact been altered. However, the reduction of items on the list would only make compiling with the CoCom requirements that much easier.

8. The Focused Comparison method was developed by Alexander L. George and Richard Smoke in, Deterrence in American Foreign Policy: Theory and Practice, (New York, Columbia University Press, 1974). The methodology for comparing countries comes from Mattei Dogan in How to Compare Nations: Strategies in Comparative Politics, (Chatham, Chatham House Publishers, 1984).

9. Czechoslovakia is used rather than the Czech and Slovak Republics because the time period that this case study focuses on is primarily before the break-up of Czechoslovakia.

10. "COCOM Restriction On Hungary Lifted", RFE/RL Research Report, Vol. 1, No. 8, February 21, 1992. p. 67.

11. Czeslaw Milosz, Native Realm: A Search for Self Definition, (Berkeley: University of California Press, 1981).

12. Roger Cohen, "Literary Piracy Is Charged in France", New York Times, Wednesday, May 19, 1993, p. A3.

13. For a comparative study of the communist period in East/Central Europe see: Charles Gati, The Bloc That Failed, (Bloomington: Indiana University Press, 1990).

14. Maciej Perczynski and Pawel Wieczorek, "Poland: Declining Industry in a Period of Difficult Economic Transformation," in Arms Industry Limited, edited by Herbert Wulf, (New York: Oxford University Press, 1993), p. 223.

15. Michael Chechinski, A Comparison of the Polish and Soviet Armaments Decisionmaking System, (Santa Monica: Rand, 1981) p. 11.

16. For a full discussion of the Military-Industrial Commission see: Michael Chechinski, A Comparison of the Polish and Soviet Armaments Decisionmaking System, pp. 11-17. See also Michael Chechinski, "Warsaw Pact/CEMA Military Economic Trends," Problems of Communism, Vol. 36, March-April 1987, pp. 15-28.

17. See Milton Leitenberg, "Testimony of Milton Leitenberg, Senior MacArthur Scholar, Center for International Security Studies, University of Maryland," to the U.S. Permanent Subcommittee on Investigations, Committee on Governmental Affairs: The International Arms Bazaar, (Washington D.C.: USGPO, 1991)

II. PROLOGUE: DYNAMICS OF THE INTERNATIONAL ARMS MARKET

A. NOT THE END OF HISTORY FOR THE ARMS MARKET

It is not the end of history for the arms market. The transfer of arms between countries will continue because of the legitimate role they play in national security and because of the dynamics of technological innovation. Others have put it more plainly that,

> despite all the western public anger and outcry concerning the perceived destabilising effects of the modern global arms market in the light of Iraq's invasion of Kuwait, and for all the political initiatives and government activity which followed it, we are not going to see any fundamental increase on the restrictions placed upon the 'core' of the arms trade ... from the developed to the less developed world.[1]

Weapons are a legitimate tool used by the state to provide for its own security. Many argue that the transfer of arms must stop because they lead to regional instabilities and promote regional arms races. While neither of these are desirable phenomena the arguments do not address the fundamental question of how a country that has a legitimate need for arms, acquires arms if it does not produce them.

Regional instabilities and arms races aside, the state must also respond to the dynamics brought about simply by technological change. Desert Storm was the watershed event

for the world's recognition of the impact of sophisticated conventional arms. What Desert Storm showed the rest of the world was that quality, in terms of the technical sophistication, of conventional arms could greatly make up for shortfalls in quantity. Desert Storm created a resurgent demand for, among other things, night vision technology, battlefield information systems, countermeasures against advanced guided precision munitions, and advanced surface-to-air missiles

Though global demand for military hardware has clearly been on a downward course since 1985, and more dramatically since 1989, the market has become even increasingly dynamic since during the same period.[2] The steep decline in total world arms transfers is almost matched by the reduced sales for the two major arms suppliers, the United States and the former Soviet Union alone. (See Appendix B)

The story of declining arms sales is different, however, for the Tier II suppliers; of the ten leading arms suppliers after the U.S. and U.S.S.R, sales actually increased from 1985 to 1989 for four countries. (See Appendix B) In an annual report prepared by the congressional research service a number of regions were projected as growing markets for arms, including the middle east and south-east Asia.[3]

At the same time that demand has dropped, the supply side of the market has also become increasingly globalized and

those customers that remain active in the market are, more often than not, required to pay cash for their military hardware. Because the industries in the former communist bloc do have comparative advantage in certain areas they have an opportunity to compete with inexpensive and reliable equipment.

B. THE CHALLENGE OF "COUNTRY X"

This changing nature of the international arms market presents an interesting problem for western, and specifically U.S., security planners. The current administration is basing military force structure on being able to fight and win two "nearly simultaneous" major regional conflicts. The Bottom Up Review included "Country X" as a planning scenario to represent the unforeseen and unplanned conflict that is almost certain to pose a security threat in the future. The ability to deal with "Country X" will be largely dependent on defeating the military hardware that it will be able to procure from abroad. The question is, where does "Country X" buy its arms and how sophisticated are they likely to be?

C. A BETTER DIFFERENT KIND OF WEAPON

One of the greatest sources of military hardware in the world today is the defense industrial base of the Former Communist Bloc (FCB). For almost forty years these countries invested considerable intellectual capital into the specific

problems of combatting "western" military technology. Many of the weapons were produced with a completely different design philosophy than the hardware developed in the West. Innovations like reactive armor were designed to neutralize the western advantages like their predominance in precision guided munitions. Their success was effectively limited by restricting open access to "western" technological innovations; in this role CoCom was quite successful.

Since the end of the bi-polar world the restrictions on technology transfer have been severely weakened. Weapons systems, developed in the FCB, that combine the philosophy of countering western advantages combined with greater access to technology could present a serious problem five to ten years into the future. This problem is more acute if the international community is forced to deal with these weapons while attempting to intervene in a future regional conflict.

Imagine the problems for military planners facing a hostile country equipped with the Polish PT-91, the Russian KH-31 and the Czech Tamara. The Polish tank is being produced not only for the Polish army but also for export, as is the KH-31. The PT-91 is a modernized version of the Russian T-72 built in Poland through Russian license. There are a number of domestic improvements like reactive armor and a laser detection array that can warn the crew if it is being targeted by a laser rangefinder or designator. These improvements make

the tank more capable in countering precision guided munitions.[4]

The Russian KH-31 air-to-air missile or "AWACS Killer" is specifically designed to track and destroy airborne command and control platforms.[5] Though the Czech Republic has no intention to buy them, the Czech designed and produced TAMARA radar system, which is reportedly capable of defeating stealth technology, has also been offered for export.[6]

The West has two options in dealing with this problem. First, it can continue with a policy of attempting to control arms transfers even though, as this thesis attempts to show, this policy may be ineffective as well as costly. The second approach, discussed in the conclusion, is a policy of coopting the defense industries in the FCB and broadening arms transfer transparency.

1. Mark Harvey, "Arms Export Control: An Analysis of Developments Since the Gulf War," The RUSI Journal, February 1992, p. 35.

2. For a discussion of the international arms market between 1985 and 1992 see Edward J. Laurance, The International Arms Trade, (New York: Lexington Books, 1992), pp. 124-169.

3. Richard F. Grimmett, "Conventional Arms Transfers to the Third World, 1984 - 1991" (Report No. 92-577 F), (Washington D.C.: Congressional Research Service, The Library of Congress, 1992).

4. For more on the PT-91 see "Armour Advance on Polish MBT," Janes's Defense Weekly, June 23, 1993, p. 18.

5. Craig Covault, "Europe Challenges U.S. Missile Industry," Aviation Week & Space Technology, June, 28 1993, PP. 52-53. For more on high tech military hardware offered by Russia see "Defence Products From Russia" Special Advertising Section in Military Technology, February 1993, pp. 37-47.

6. Brendon McNally, "Czechs Ponder 'Stealth Tracker' Sale to Iran," Defense News, July 12-18, 1993, p. 1.

III. THE HYPOTHESIS GENERATING CASE STUDY

A. HUNGARY

Hungary first erected an export control system in early 1990 in an atmosphere of radical change and hope for the future. The revolutions of 1989 had finally given them the opportunity to become a fully integrated member of the European community. The separation between East and West, brought on by Soviet domination of the eastern block, had come to an end and now was the chance to become united with the rest of Europe. Full integration meant that Hungary could solve one of its most pressing and longstanding problems; that of ethnic Hungarians outside the borders. For if all of Europe was united, as in the West, then borders would begin to melt away and the Hungarian people would no longer be separated as in the Europe of Trianon. This is the context of Hungary's decision to erect this system, a reasonable choice to show that Hungary could establish the same legal framework as the community to which it aspired.

The complete integration of Europe would prove difficult to achieve, and Hungary's irredentist problem would not simply melt away. Instead of becoming a member of a larger and

richer community Hungary would soon have the sense of being alone and isolated. Had this been the context in which the export control system been examined it is questionable as to whether the timing of the decision, or even the decision itself, would have been the same.

1. Export Control Measures in Hungary

CoCom removed Hungary from the proscribed list on the 10th of February 1992. The principal reason was that Hungary had erected an arms transfer control system that, in the view of COCOM, was sufficiently stringent. What was behind Hungary's actions? What has set her apart from her immediate neighbors Poland, the Czech Republic and Slovakia, countries who received the offer form CoCom at the same time and are similar to Hungary in many respects, but who have yet to erect such a system? The decision to erect this system, and the process of arriving at this decision must be viewed in a social, political and economic framework that is specific to Hungary. Before those aspects can be examined, however, it is necessary to understand the specific structure of Hungary's export control system, the chronological sequence of its development, and the immediate background of the decision process behind it in Hungary.

a. Review of Control Measures

The current "Hungarian Export Control Regime" covers all items on COCOM's three lists as well as material,

equipment and technology controlled by the Australia Group (a list of dual use chemical and biological precursor materials, equipment and technology), the MTCR (Missile Technology Control Regime) and the NSG (Nuclear Suppliers Group).[1]

There are four tenants of the Hungarian export control regime, which has as a western model as its base. These four tenants are a legal basis for the system itself, an administrative structure in the government to manage the system, a process of registering (licensing) firms engaged in foreign trade, and finally an export permit (license) review process for each transaction.

The principle document governing the system is Government Decree No. 61/1990.(X.1.) which has its legal basis in sections 16 and 18 of the Customs Act and section 29 of the Foreign Trade Act. The measure was adopted in October of 1990 and in its original form it included only the CoCom Industrial Core List. Most of the measure passed since that time have been amendments to 61/1990 in which they adding the various lists of other export control regimes, like the International Atomic Energy List.[2]

The second principle of the export control regime, the government administrative structure, has two parts. The first part is the Export Control Office which manages the day to day affairs and is subordinated to the Minister of Foreign Economic Relations. The provisions for

this office are outlined in 61/1990. The second part is the Interministerial Committee which has final approval for both registering firms and granting export permits. The committee structure was established by Government Decree No. 48/1991.(III.27.); in its original form committee included the Minister of the Interior, the Minister of National Defense, the Minister of Foreign Affairs, the Minister of International Economic Relations, and the Minister Without Portfolio Responsible for National Security (who is in practice the chief of all the intelligence services).[3] The original structure of the committee was amended later to include the Minister of Industry and Trade.[4]

The third tenant requires that all export firms, whether brokerage firms or actual production enterprises, register with the Office of Export Control. Their "license" to conduct trade activities is subject to the approval of the interministerial committee. Finally a review process is conducted for each transaction which takes two forms. The first form is somewhat automatic, general export permits may be obtained for the purpose of exhibiting items, or returning them for repair. These general permits may also be issued for specific items traded regularly in specific quantities. All other transactions must be submitted to the Office of Export Control which follows the general guidelines of the interministerial committee, or in the absence of clear

guidelines submits requests for export permit to the committee for approval.

The legal provisions of the system also provide for police enforcement of the regulations and punishment for its violations. Table 1.1 outlines the most significant measures taken by the government in chronological sequence.

Table 1-1

Chronology of Hungarian Export Control Measures

March 1966	Customs Act	The enforcement provisions of Govt. Decree No. 61/1990. (X.1.) is based on sections 16 and 18 of this act.
June 1974	Foreign Trade Act	The legal basis for Govt. Decree No. 61/1990. (X.1.) is based on section 29 of this act.
January 1986	Govt. Decree No. 2/1986. (I.19.)	Establishes licensing of nuclear export and import.
February 1990	Grosz Government announces export controls for military items.	This announcement was made after the first round of elections had been held but before the first elected government had taken control.
May 1990	Current Government assumes power.	
May 1990	CoCom offers to take Hungary off the proscribed list.	

October 1990	Govt. Decree No. 61/1990. (X.1.)	Establishes the legal basis for export controls. In its original form it included only the CoCom Industrial Core List.
February 1991	Govt. Decree No. 48/1991. (III.27.)	Establishes the inter-ministerial committee that will oversee export controls.
May 1991	Govt. Decree No. 66/1991. V.21.)	Amends 48/1991: adds the Minister of Industry and Trade to the Committee of experts.
November 1991	Govt. Decree No. 143/1991. (XI.8)	Amends 61/1990: revises CoCom core list and adds CBW (Chemical and Biological Weapons) precursors.
December 1991	Govt. Decree 152/1991. (XII.6.)	Amends 61/1990: updates the International Atomic Energy List in 2/1986.
February 1992	CoCom removes Hungary from the proscribed list.	
April 1992	Govt. Decree No. 62/1992. (IV.4.)	Amends 61/1990: adds CoCom International Atomic Energy List.
April 1992	Govt. Decree No. 66/1992. (IV.10.)	Amends 61/1990: adds CoCom International Munitions List.
December 1992	Govt. Decree No. 166/1992. (XII.81.)	Amends 61/1990: adds the MTCR List.
April 1993	Govt. Decree No. 54/1993. (IV.7.)	Amends 61/1990: NSG Nuclear Related Dual Use Items.

b. Background

The context in which the decision to establish export controls was made is reflected in the attitudes of the time, attitudes about both what the future would hold and the

tangible realities of the present. The most interesting aspect of the decision process, however, is the head start that the last communist government gave the first elected government on laying the groundwork for this issue.

On 15 September, 1988 CoCom removed a number of telecommunications items from its list of controlled technologies. This had an immediate impact on Hungary which was now able to implement the long-planned purchase of a digital telephone exchange. The advantages associated with greater access to Western technology were outlined in an editorial that appeared in the *Magyar Hirlap* that very day.[5] Almost exactly one year later, with the communist government still in power, Hungary raised the issue of easing CoCom restrictions to a U.S. trade delegation visiting in Hungary. It was clear to the Hungarians, even then, that though very few items heading to Hungary were on the restricted list, companies often did not even fill out an application if there was the chance of being turned down.[6]

There is further evidence that this government was making headway in its negotiations with CoCom. In November 1989 a government representative announced that Hungary could safeguard the re-export of Cocom listed items.[7] Later that month the Foreign Minister, Imre Pozsgay, announced that progress was being made in nogatiations with CoCom. Plans were being made for CoCom itself to establish an export

control office in Budapest that would track the transfer of CoCom listed items.[8] The initial decree restricting arms transfers, and establishing an interministerial committee was in fact announce by this government in February of 1990.[9]

The attitude of the expendability of the arms industry, based on the world situation, was clear in announcement of the initial decree. Here the government stated that "1989 saw a considerable drop in military production, with a 30 per cent fall in orders, the trend is likely to continue this year, thus rendering the new restrictions largely irrelevant."[10] Hungary calculated very little, if any cost, to her domestic industry from the establishment of an export control regime. In 1989 the market appeared to be on a never ending course downward, and Hungary's view of her own domestic industry was that it was too small and too easily convertible to make these new restrictions anything but "irrelevant." In addition Hungary was not anticipating windfall profits from the sale of excess military hardware, for while the residual stocks of the other countries in this study were marketable abroad for their military value, the sales of residual Hungarian equipment in 1989 went largely to museums for their historical value.[11]

As the elections in Hungary approached, and the likelihood of the communists being returned to power faded, the headway Hungary had been making with CoCom stalled.[12]

While the West took a "wait and see" position until the election, it is clear that the groundwork accomplished by the last communist government in Hungary, under the leadership of Karoly Grosz, would prove beneficial to the first elected government. There is apparent continuity between the objectives of the two governments on this issue with the first export control decree being signed only a month before the very first round of free general elections.[13] This is a clear expression of how willing the Hungarian communist party was to move further and faster than any of its neighbors.

After the election, the new government continued to work with the U.S. as its sponsor for removal form the CoCom proscribed list. The offer by CoCom to the three central European countries was made in May 1990, the same month that the newly elected government came into power. Considering the normal difficulties with the transition of any government, much less the transition from a communist to a democratic government, it would have been understandable for the new government to take some time and review the proposal before any serious negotiations. What happened, however, is that they immediately began to work out this issue with the U.S. In early June there were talks conducted in Washington between the U.S. and Hungary specifically on this issue. In the latter half of that month U.S. representatives traveled to Budapest and concentrated on how Hungary could guarantee the

legal and technical conditions for a nationwide export control system. While the meeting was in progress a Hungarian official announced that the system could be in place within six months.[14]

Twenty months after the CoCom offer, CoCom removed Hungary from the proscribed destinations list. Twenty months is an unusually short amount of time in international and governmental affairs for a proposition to be made by an international organization to an independent government, have that government comply with the provision of the proposition and then have an international organization follow through with its promise. Clearly Hungary understood that a quick response was crucial. None of the measures that shape the current export control system are legislated measures, though there is a basis for them in the law. This was a deliberate course of action selected by the government because it was clear that the sooner these measures were established the better.

2. Social Aspects in Hungary

Hungary was the first country to move toward total reform in 1989.[15] It would be difficult to attribute this solely to their Magyar heritage, but clearly there are aspects of the social fiber very different from its neighbors. This difference is expressed, among other things, in how Hungary emerged from the communist period, its view of the market and

social welfare, and its outlook toward future integration with the West.

a. [Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?

The Communists seized power in Hungary in 1949 with the help of the Soviet Union. Hungary then experienced its own Stalinist period and the "years between 1949 and 1956 were the worst Hungary ever faced."[16] Under the favorable climate of Khrushchev's rise to power, as well as the apparent acquiescence to Polish reform proposals, Imre Nagy proposed that Hungary leave the Warsaw Pact. On November 4, 1956 Soviet troops moved to topple the government in Budapest, where the fighting lasted for three days, and by the end of December all combatant remnants of the revolution were quelled. Janos Kadar was placed in power by the Soviets that very same evening.

One of Hungary's great compromisers Kadar pursued a policy of accommodation toward the Soviet Union.[17] Internally Kadar pursued a policy of privatization and enough terror to make Hungary "the happiest barracks in the concentration camp."[18] The Hungarian communist party appeared to be on the cutting edge of reform until Mikhail Gorbachev rose to power in the Soviet Union. On the 20th of May 1988, reformers within the communist party removed Kadar from the Politburo at a special party conference; exceeding even their

most optimistic expectations. Prime Minister Karoly Grosz then replaced Kadar as General Secretary.

A little less than a year after the ouster of Kadar, Hungary announced that it would dismantle its border alarm system. The result was a flood of East Germans fleeing into Hungary on their way to Austria. This action would play a pivotal role in the collapse of the communist system throughout Eastern Europe. In Hungary, the Communist party (HSWP) renamed itself the Hungarian Socialist Party on September 7, 1989 and on the 18th of that month constitutional amendments were adopted ending one party rule in Hungary. On the 23rd of September Hungary officially renamed itself a republic and dropped the name "socialist".

The 1989 revolution in Hungary was not the tumultuous affair that some would have expected. Described as a "Grey Revolution," the process of change in Hungary was said to be "a rather grey, unflashy compromise - biased, boring, and perhaps, even 'un-Hungarian affair."[19] This was due in large part to the Communist party in Hungary itself. For reasons that are described below the party was led by reform communists who actually pulled Hungary down this path. Finally, on November 11 a referendum was held on the Presidency and direct elections for the President won by a narrow margin. This would seal the fate of the communists,

having opened the door to change "they failed to realize that History never stops on the way out to tip the doorman."[20]

As was noted before Hungary had the "best barracks in the concentration camp." Better than that Hungary had a communist party that could participate in change rather than be a impediment to change. It had a communist party that could implement the kind of policies that would show Hungary was in line with the West. "By 1988, Mikhail Gorbachev's policies were beginning to make Hungary's once daring economic reforms look almost orthodox, but the debate in Hungary had already moved on to the more explosive issue of whether economic reforms could succeed without a more basic reform of society."[21] In short it had a communist party that could dismantle the border surveillance system and make early inroads with CoCom to gain greater access to western technology and trade. Unlike Poland and Czechoslovakia, Hungary by 1989 had not suffered a crippling loss of talent in the Communist Party itself. There were people in the Party bureaucracy, government and industry who were able to envision broader reforms.[22] Mark Franklin writes,

> the success of Kadarism had been never to push such men and women so hard that they were radicalized and took up dissident activities. Instead of becoming members of an alternate society, as some of their Polish counterparts had done, they waited in the wings, potential leaders of what they believed was the still suppressed real nation.[23]

Kadarism as a social aspect meant that Hungary could get a head start on solving some of the problems that seemed to have been frozen in time by communism. The Hungarian transition from east bloc arms exporter to a responsible actor on the world scene has been accomplished because Hungarian leadership, both communist and democratic, have been able to shape the issue in terms of the benefits of free trade.

b. [Question S-2] Was the demand for a strong social safety net relatively high?

The demands on the state to ensure employment for every single person varied from country to country within the bloc. Hungary has shown the greatest willingness to move away from a strictly planned economy. They are less intent on preserving jobs for their own sake than any of the other countries in the study. In 1968 the New Economic Mechanism (NEM) introduced aspects of the market into the Hungarian economy. The so-called "goulash communism" allowed for the development in agriculture and small-scale industry so they have been living with aspects of a market economy for a longer period of time.

A May 1992 survey concluded that a significant majority of the Hungarian population continues to be disenchanted with the country's political and economic situation.[24] The only party that showed any improvement in popularity since 1990 was the Federation of Young Democrats

(FIDESZ), which received a huge jump in the May 1992 survey.[25] Not only was there a jump in popularity, the survey showed that FIDESZ would have received the majority of votes if the elections had been held at that time.

What separates FIDESZ from the other Hungarian parties is its outward approach and strong support of the free market. They also promote an integration into a modern Europe, champion a break with the past, are Thatcherite on economics, but retain liberal views on some social issues.[26] FIDESZ promotes greater reliance on free market mechanisms and less of a reliance on the state to provide all the necessities of life to the Hungarian population. Their popularity is an indication that this is a widely held view.

If actions speak louder than words the Hungary has said its peace on retaining arms industry jobs for the sake of preserving a social safety net. The defense industry work force, that once stood at 30,000, had decreased by 60% in 1990 and today stands at only 900 active workers.[27]

c. [Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?

Hungary's hopes for full integration with Western Europe were not only high but were perhaps the driving element in its foreign policy since around 1988. Not only did their perception of the world in 1989 show a declining demand for arms but it also offered real hope for the complete

integration of Europe. Erecting an export control system must have seemed a perfect way to announce that Hungary was playing by the same rules as the West. (Especially if it could be done at little cost) Hungarian officials declared that 1988 had been a "year of approach between the EEC (European Economic Community) and Hungary."[28] Additionally, in September 1989 Anders Bjork, president of the EC parliamentary general assembly, stated that Hungary could become the first former communist bloc country to receive full EC membership.[29] Hungarians wanted a Europe that was fully integrated and they could envision that soon their borders would be as open as the border between Austria and West Germany. A fully integrated Europe was the best solution to Hungary's most pressing problem of ethnic Hungarians outside her borders. Even the communist party in Hungary could envision sweeping change and take action to bring it about.

Inclusion in a united Europe is especially important to the Hungarians, for if the feeling of being left out and excluded that is described in the introduction prevails in Eastern Europe in general, then Hungary and the Hungarians display a natural sense of being even further outside. There has been an "unstable balance between vulnerability and ambition that marked the Hungarians and their history, for their small size and linguistic isolation were compounded by the landlocked plain that Arpad, leader of

the seven migrating tribes, chose to settle on at the end of the ninth century."[30] Hungarians have described their homeland as "a little island with an exotic language."[31] This is the barrier that Hungary felt it would soon overcome in 1989.

In 1989 Hungary not only expected to become a full member of the EC but they also had hopes for being included in NATO. As was pointed out above, the process of inclusion in the EC began in June 1988 with diplomatic and economic agreements taking effect in December of that year. After free elections in 1990, hopes of full integration in the EC were bolstered by the West German Chancellor, Helmut Kohl, in May of that year.[32]

The idea of joining NATO also has its roots with the last communist government in Hungary, well before the dismantling of the Warsaw Pact. In February 1990, again just before the elections and the same time that the initial export controls were established, the Foreign Minister, Gyula Horn, declared that the principles laid forth in Helsinki meant the idea of Hungary joining NATO could not be excluded. He added that "the gap between East-Central Europe should no longer widen, and Europe should become united and democratic."[33] The hopes of entering NATO grew as the Rome Summit approached in November of 1991 and the subject of admitting East European countries was on the agenda.

The early hopes of 1989/90 became severely tempered if not abandoned by 1991. In that year, responding to criticism that Hungary was holding up the signing of the EC associate membership agreement with tough negotiating, Geza Jeszenszky, the new Foreign Minister, showed his frustration with the EC when he said, "we do not need to prove our commitment to western values, and do not need to be good boys and more cooperative than necessary."[34]

Even more crushing than the problems with the EC, NATO's decision to deny Hungary membership led to the realization that they were on their own in a hostile world. In November 1991 NATO convened a summit in Rome to decide, among other things, whether to include the counties of East Europe. They decided against inclusion and the following describes the impression the decision made on many in the region

> The leaders of NATO signalled clearly that Eastern Europe was not thought to be ready to be judged worthy of entrance into the defense and economic community of the developed states of the West... Belonging to the Council of Europe was one thing, but belonging to a 'real' military or a 'real' economic institution was quite another.[35]

Hungary's hope of getting over the age old problem of being excluded from Europe, if not vanished, had taken a beating. Furthermore the national security problem of defending Hungarians outside the borders would not be solved,

in the near future, through real collective security arrangements. Hungary was left to seek separate bilateral agreements with Romania, Croatia, Slovenia, Ukraine and Slovakia and the sense of security from these agreements waned quickly as the problems continued in Yugoslavia.

3. Political Aspects in Hungary

There has been a dramatic divergence between the underlying political expectations and realities of 1989 and those of early 1993. In late 1989 the Communist Party in Hungary (HSWP) considered that they had a chance for survival. The party had reformed itself and was leading other reforms in Eastern Europe. For any number of reasons the party did not endure and they were replaced in 1990 by a coalition government of parties lead by Hungarian dissidents.

a. [Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?

The two main parties that formed the coalition government, the Hungarian Democratic Forum (MDF) and the Alliance of Free Democrats (SZDSZ), are mainly led by former dissidents. The MDF has an inward orientation and promotes the new Hungarian middle class. They speak of "real Hungarians and purer past times" and can be considered a conservative nationalist party. Like the MDF the SZDSZ also has an inward orientation but has a stronger stand on human

rights issues; led by urban intellectuals SZDSZ is more liberal than MDF.

Even though many of the leaders were dissidents, they were dissidents who learned to live with the old system and were coopted by communism. Just as Kadarism produced a different kind of party member it also produced a different kind of dissident that was destined to gain power in the immediate post-communist period. They had not been isolated and disengaged from the political process as in other countries. They had a sense of what was politically and economically feasible.

Not only were the vast majority of the people brought into the new Hungarian government people who had remained engaged in the political process, but these same people have largely remained in place since 1990. The Ministers who sit on the inter-ministerial committee responsible for export licensing are all the same with the exception of the Minister of Industry and Trade.[36] So the government has been very stable in terms of the same people working on the same issues.

b. [Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?

Interest groups who become involved in this issue generally fall into two categories; those without vested interests but display a concern over the issues, and those

with vested interests, who will be directly affected by the decisions. These are groups, either in the government or outside the government, that become organized and vocal on these issues of national security, industry conversion and arms exports.

In the first category there are those who will not be directly affected by decisions concerning the future of the arms industry, but are concerned often for ideological reasons. Most frequently they take the form of political activists who feel that arms production, in general, and arms exports, specifically, are immoral. Opposing them generally are the groups that will be directly affected. In this case there are usually three groups that work in concert; these being the arms export brokerage agencies, the defense industry management and the defense industry labor force. Hungary is best characterized by the absence of any real organization by any of these groups and very limited interplay between the ones that are and the government.

In the case of political activists morally opposed to arms production and exports 1989 was already a good year, export controls had been announced and the defense industry had practically been declared dead.[37] However, prior to the breakup of the former Yugoslavia the Hungarian government and military did sanction the transfer of small arms and ammunition to the Croatian republic. The uncovering

of the "Kalashnikov Affair" caused Hungary a great deal of embarrassment in the world community, and the government began to respond to pressure about the it in February 1991.[38] New export control measures were announced, existing measures were strengthened and a firm promise was given to adhere to the new arms embargo in the former Yugoslavia. Though there was public outcry in response to the "Kalashnikov Affair" the whole episode was over before it really got started or before it resulted in organized opposition to the government's policies.

The three groups that had an interest in expanding arms exports also never became well organized or active. In the first group, the export brokers, there were two firms that were representative; Technika Export-Import Company and Industrialexport. Technika managed 98% of the arms export deals and therefor had an effective monopoly. Technika was under strict control of the state and the general manager was nominated by the Ministry of Foreign Relations and exchange. Until the 1980's the main mission of the Technika Company was to barter for arms within the socialist community to meet the needs of the Army and other armed organizations.[39] Only in the last decade did their role as a hard currency trader really emerge. Still there is no indication that in ever became active in securing its own position much less promoting arms exports. By 1992 as many as 30 other companies

had become licensed to conduct arms trade and Technika Company's monopoly position had ended.

Even though there had been a number of attempts made to organize the firms under a single representative organization the managers were never receptive to this idea. They certainly has cause to protect their interests since the defense sector normally received 10% higher profits that civilian producers. Perhaps this is due to the low numbers involved and the difference in the structure of the industry that is explained below.

Though never formally organized there is evidence that they were able to successfully lobby the government for action. In late 1991 the representatives of the defense industry argued that the government should guarantee 30% of Hungarian armed forces procurement needs to the domestic industry, write off their bad debts and that the government should choose 8-10 firms to be protected and liberalize trade among the others.

The story of how the composition of the committee responsible for export licensing has changed over time may be an indication of the kind of influence the managers had with the government. In February 1991 the government issued Government Decree No. 48/1991./III.27./ Korm. stipulating that the committee would "include as members the Minister of the Interior, the Minister of National

Defense, the Minister of Foreign Affairs, the Minister of International Economic Relations, and the Minister Without Portfolio Responsible for National Security, or persons designated by them."[40] On May 21, 1991, only three months later, this decree on export controls was amended to change one sentence of one paragraph in Article 2. In effect the amendment only changed the composition of this interministerial committee by adding the Minister of Industry and Trade, thus finally providing representation on the committee for the defense industry.

There are three more convincing indications that the government responded to lobbying pressure on the part of industry managers. First, On January 1, 1992 the government established a Military Industrial Office, under the provisions of Government Decree No. 85/1992, that had the purpose of coordinating and promoting military production and related activities in Hungary. Second, on March 26, 1991, Karoly Janza, a department head in the Ministry of Defense, outlined a plan to increase the purchase of domestic military products from twenty per cent to thirty per cent.[41] The third indication is Government Decree 126/1992. (VIII.28.), in which the government determined which defense enterprises would be retained by the government and which would be released. In the end only seven defense industries were retained by the government in 1992.[42]

The effects of this lobbying effort, however, appear to have been temporary. In May 1993 the Military Industrial Office was closed down as an independent state organization and its responsibilities transferred to the Ministry of Industry and Trade.[43] Many of the other concessions on the part of the government to aid the defense industry, like 30% procurement from domestic sources, have not survived the budget process.

Finally, the defense industry labor force in 1989 had good potential and reason to become organized and effective in lobbying the government. However, in the end it did not. In 1988 there were 30,000 people employed in the defense sector, or about 2% of the working population. As was the case in most of the Soviet Bloc the defense industry workers received around a 10% wage supplement as well as other privileges and subsidies normally provided by the factory. On the down side defense workers had restricted mobility, both in the labor market as well as traveling abroad. It is unclear why they never became organized, perhaps for them the down side of continued labor in the defense sector outweighed the benefits.

c. [Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?

Hungarians in neighboring countries are the largest single minority in Europe, aside from Russians in the

former Soviet Republics.[44] Irredentism is not unique to Hungary but there is an aspect of the problem that is quite unique. Most of the ethnic Hungarians that live outside the borders of Hungary live directly on the border; being right next door means the problem is very tangible and very visible. In December of last year Prime Minister Jozsef Antall stated that "In general, we only have problems where Hungarian minorities are living and where their rights are not insured," adding that there are good relations with Slovenia and Croatia, tensions with Serbia, Romania, and to a certain extent Ukraine.[45] This problem of ethnic Hungarians outside the borders has been a central factor in the discussions of a future national security doctrine. A key goal of this doctrine was to become involved in collective economic and security organizations, therefor self-sufficiency would naturally not be a key aspect of the national security policy.

Self-sufficiency in armaments production was never a real option for Hungary anyway. Hungary traditionally purchased only twenty percent of military hardware from domestic sources relying on imports to make up the difference. In May 1990 Lajos Fur, Minister of Defense, indicated that Hungary did not need an independent defense industry and that her needs could be satisfied with imports.[46] However, in a June 1990 press conference he also indicated that the domestic defense industry would be involved in transforming the

technology of the Hungarian Army, but when questioned on the specifics it was clear that this really applied only to the telecommunications sector.[47] It will become clear in the discussion of the economic factors below that Hungary will be locked into a position of needing to import arms and the portion of the industry that can be saved through domestic production is very limited.

The best expression of the government's concern that the defense industry is critical to national security are the measures taken to protect it, and in this sense the industry has not been protected. By the middle of 1991 a government evaluation of the industry concluded that for most firms they "either face or are undergoing bankruptcy, and only the lucky few are offered financial rehabilitation, or are able to survive on their own."[48]

4. Economic Aspects in Hungary

In addition to social and political aspects that shaped the framework in which the decision to control arms exports was made there was also an important economic aspect to that framework. The economic aspects can be viewed both in terms of policy makers perceptions about what the market and the industry was in 1989 and what they would be like the future. This would mean that the decision arrived at in 1990 was shaped by the structure of the industry and the forecast of demand for arms in the world market.

Two key assumptions were made at the time, first, that the industry was easily convertible and second, that demand for military hardware would continue to decline. The process of conversion has proven to be more difficult than anticipated and Hungary has had to reconsider its role as an exporter of arms and the role its domestic industry plays in national security.

While the development of the arms industry in Hungary has many common threads with the two most similar cases there are some particular aspects of its historical growth that must be pointed out. Prior to World War I the majority of armaments production in the Austro-Hungarian Empire was located in the three provinces of the Czech Lands. As a result of the Treaty of Trianon Hungary gained independence but lost much of its land and Hungarian population.

In 1938 the "Program of Gyor" Hungary initiated the first independent armaments program.[49] After the Second World War much of the Hungarian industry that had not been destroyed was removed by the Soviets. As in Poland and Czechoslovakia the first large-scale postwar reconstruction took place between 1950 and 1954.

After the 1956 uprising the defense industry was reorganized and Hungary lost its separate Ministry of Industrial Production and all the major decisions for Hungary,

concerning this sector, were made in Moscow. All producers of military equipment were subordinated to the Ministry of Industry, with the exception of the Godollo Machine Factory which fell directly under the Minister of Defense, and the managers for the most important factories were directly appointed by the Minister of Industry. However, following the market-oriented reforms in 1968 the micro-electronics and precision-mechanics sectors were able to extract themselves from the tight control of the Warsaw Pact system.

There were around a total of seventy seven enterprises involved in the manufacture of military products in Hungary as of May 1989.[50] The majority of these firms manufactured various products for both civil and military use with the majority of production devoted to civilian products. In rarer cases the majority of a firms production was for military consumption. Most of the military hardware was produced through license agreement with the Soviet Union.

a. [Question E-1] Were the prospects for converting the defense industry relatively high?

Recall that the initial decree limiting arms exports was signed in February of 1990, and at the time this action was considered to be "irrelevant" because of the decline in demand, and one must conclude, because their outlook on conversion must have been quite hopeful. Though Hungary has a long tradition in the production of arms (the

Arms and Gas Appliance Factory marked its centenary in February 1991) its historic role has never matched that of either Poland or Czechoslovakia.[51] As one Hungarian official described the situation in Hungary, "we do not even have yesterday's technology but rather the day before yesterday's technology."

There are a number of reasons for the cheerful outlook on conversion in 1990 other than the general worldwide consensus that this could be achieved. First the government and many of the arms industry firms were working toward conversion even before 1989. Second the structure of the arms industry was such that conversion would have looked like a relatively simple process since very few firms were involved in the production of what was described as "warm weapons" or firearms.

(1) [Question E-1.a] Were defense industry firms already in the process of production conversion in 1989? The impact of the 1968 economic reforms, as noted above, allowed the micro-electronics and precision-mechanics sectors to extract themselves from the overt control of the Warsaw Pact. Most of the production, in these sectors and others, was already concentrated in dual use items by 1989.

Though there was no formally announced measures to convert the industry, many conversion efforts had already been taken. Production of military vehicles at the

former FUG factory located in Győr ended in 1982.[52] Gun barrel production at Gvozdika facility in Diosgyőr, including 57mm AA guns and 122mm artillery barrels, ended in 1989 and mine production at the MM Mechanical Works ended in 1989.[53]

There are a number of examples of early conversion efforts by the government and individual firms as early as 1988 other than the examples given above of production shut downs rather than conversion. Notably, in December of 1988 the Godollo Machine Factory announced that it was working on new production and marketing strategies. Part of its long term strategy was to convert to the manufacture of car components and excavators; there were even talks underway with several South Korean firms at the time which never lead to a concrete deal.[54]

In 1989 Lieutenant-General Dr. Gyorgy Doro, vice president of the National Planning Office, announced that in some cases of financial hardship companies could apply for government assistance in funding conversion to civilian production.[55] It would become clear later that there were no funds available from the government for this process and that the defense firms were on their own. The inclination, however, was to develop a conversion program and this move began quite early.

(2) [Question E-1.b] Did the production possibilities for individual firms allow for the shifting of

resources? This is the brighter side of the conversion equation; most of the defense firms in Hungary were in a relatively good position to shift resources between civilian and military production possibilities. In May of 1989 figures released by the Ministry of Industry showed that 57 firms had less than 10 % of their total production devoted to military products. There were only 20 firms in which military production exceeded 10% and in only two of these did military production exceed 80%.[56] In only one case, the Godollo Machine Factory (*Godolloi Gepgyar*) was the entire production devoted to military items.[57] Moreover, in most factories, machinery and other equipment used for military production was normally located in a separate department from the general-purpose machinery and equipment that could be used in both civilian and military production.

In fact the majority of the firms producing military hardware produced far more products for civilian consumption than for the military market. For the industry as a whole military products accounted for only twenty two per cent of total net turn over for firms producing military hardware in 1987.[58] Therefore, in terms of production possibilities for individual firms, it would be relatively simple for firms to shift resources away from military production. Easier anyway than if the firms majority of production went to military use.

The best way to illustrate the impact of this is to describe the structure two firms than serve to mark the opposite ends of the arms production spectrum in Hungary. The Godollo Machine Factory and the Mechanikai Laboratorium are two firms that were entrenched in the arms industry during the 1980's but there are large differences in the structure and background of each of these firms.

The first example is the Godollo Machine Factory which was primarily involved in repair and renovation of tanks and the manufacture of tank components; to include components for Hungary's 90 T-34 tanks.[59] As was indicated above 100% of its production was in military items. In 1989 70% of its total production was exported, most likely because it was the only factory in the world producing parts for T-34 tanks.[60] This factory was in a unique situation in Hungary because it was owned by the Ministry of Defense and run by soldiers.[61] The director of the Godollo Machine Factory, Arpad Adorjan, had no delusions of the factory's future competitiveness in the arms market. He explained in 1989 that "the Godollo factory's stocks are obsolete ... stocks are so specialized that they cannot be sold, and this is where the enterprize's money lies."[62]

Contrast this to the Mechanikai Laboratorium, a firm primarily involved in the production of defense-electronics.[63] In 1991 the firms director was

interviewed and noted his hopeful outlook on the future because, unlike other defense industry firms that manufacture products on the basis of Soviet license, the products of Mechanikia Labratorium were "modern and solely self-developed."[64] In fact in an interview with Major General Damo, he praised the effectiveness of the Hungarian direction-finding equipment during the Romanian revolution. Praising Hungarian COMINT (Communications Intelligence) in general, he added that this type of equipment was sold to Iraq, India and Kuwait.[65] Though MG Damo does not mention Mechanikai Labratorium by name, this is the only Hungarian firm listed as a manufacturer of Electronic Warfare equipment in Jane's 1992 edition.[66]

b. [Question E-2] Was export specialization in military hardware relatively high?

The second economic factor that would determine their view of the importance of arms exports to the total economy is the degree of specialization in arms exports.

Figure 1

$$\frac{C^{EM}}{C^{ET}} \Big/ \frac{W^{EM}}{W^{EM}} = \frac{C^{EM}}{W^{EM}} \Big/ \frac{C^{ET}}{W^{ET}}$$

The equation in Figure 1 calculates the relative export specialization in military related items for a given country.

In the equation C represents the individual country, W is the world, EM is arms exports and ET is total exports.[67]

Appendix C shows Hungary's relative export specialization as compared to the top ten arms exporters for the for the period 1985 to 1989. At .45 Hungary was much less specialized in its arms exports than either Poland or Czechoslovakia, 2.22 and 1.95 respectively. Though the data required to calculate this equation are not available for the Russian and Ukrainian SSRs separately, it is clear that the export specialization in arms for the former Soviet Union far outstripped any other country in the world, almost three times more specialized than the second most specialized country Israel.

Table 1-2

Relative Export Specialization in Hungary from 1985-1989

Year	Arms Exports	Total Exports	AE/TE %	Relative Export Specialization
1985	220	13440	1.6	.64
1986	160	16180	1.0	.41
1987	240	18050	1.3	.56
1988	160	19050	.8	.42
1989	50	20210	.2	.13

Source U.S. Arms Control and Disarmament Agency (1991), Table II

The year to year examination of export specialization between 1985 and 1989 show that the export of arms became less important to the Hungarian economy over time. Table 3-2 shows that Hungary's export specialization fell dramatically from .64 in 1985 to just .13 in 1989.

d. [Question E-3] ***Was there a relatively high degree of autonomy in the defense industry?***

By their own assessment Hungary's plant and equipment is not even based on yesterday's technology but rather the day before yesterday's. This does not mean the Hungarians are not innovative; it simply means that much more of their talents in this regard have been directed away from the military sector.

(1) [Question E-3.a] Was domestic research prior to 1989 relatively high? Research and development expenditures were lower in Hungary than in any of the similar cases. For the ten years between 1974 and 1984 these expenditures averaged only one percent of the reported military budget. (See Appendix D) Bear in mind that this was one percent of one of the smallest budgets in the region.

Domestic research and development expenditures is a contentious issue in Hungary. Some sources have denied any independent research at all, while others will confirm only local technological developments on equipment mass-produced under license. There were provisions made for

enterprises engaged in military production that allowed them to receive loans with a very low interest rate, or in some cases interest free.[68] However, in comparison to with the other cases it is clear that Hungary devoted the least amount to military research and development.

(2) [Question E-3.b] Were there a relatively large number of defense products of original design? There are very few example of the fruits of the Hungarian research and development effort. Many of them like the FUG, which was an armored reconnaissance vehicle, ended in failure.[69] There are very few firms in Hungary that can claim to produce equipment that is "modern and solely self-developed."

(3) [Question E-3.c] Is there a relatively strong move toward cooperation with Western firms? There has been the least amount of cooperation between Western arms firms and the arms producers in Hungary. While the government would like to expand the role of western firms in their domestic arms industry the small size will make it difficult to attract this type of involvement. There is perhaps a chance for firm like Mechanical Laboratories who are already somewhat sophisticated technologically.

c. [Question E-4] Was the outlook on continued exports in 1989 relatively high?

Though the contribution to the world market was small it was not insignificant and by the end of the 1980's

Hungary achieved an export ranking that would solidly place it in the upper half of the Tier III exporting countries.[70] Appendix B shows Hungary in comparison to the top 12 exporters from the period 1985 to 1989. The two Tier I countries are the United States and the Soviet Union. Between the two of them they accounted for over 60 per cent of all arms exported between 1985 and 1989. The dollar amount of the sales for each of these countries more than doubled the sales of the next top ten exporters combined. Following the Tier I countries are the Tier II exporters, or as roughly shown here the next top ten exporters who make up roughly 25 percent of the market combined. Sharing the remaining 15 percent of the arms export market are the Tier III countries, where Hungary would rank somewhere in the upper half depending on the year.

In terms of exports, communications equipment and instruments account for 75 percent of Hungary's military production, while artillery and infantry firearms and ammunition make up 12 percent, vehicle and aircraft maintenance contracts eight percent, and chemicals and light industrial products for military use five percent.[71] In a 1991 interview Major General Laszlo Damo characterized Hungary's military exports,

> Hungary basically does not export warm weapons - firearms - but rather guidance technology [iranyitastechnikai] and radio equipment, radio transmitters. Regarding firearms, we have delivered most to Iraq, AK-74-type assault rifles.

> In addition, we have delivered ammunition, various mines, pistols, and other small arms.[72]

While eighty percent of military output was exported, the exports went mainly to other socialist countries in arrangements that called for payment in kind rather than payment in hard currency.[73] The Hungarian leadership clearly reached the conclusion that the future arms market was a place where they would largely be excluded. Because they planned for reductions in the domestic market and eighty percent of military hardware produced in Hungary was exported in 1987 it was clear that major changes were in store for the domestic arms industry. Here it is worthwhile to recall the statement that accompanied the announcement of new export restrictions for arms when the government declared that "1989 saw a considerable drop in military production, with a 30 per cent fall in orders, and the trend is likely to continue this year, thus rendering the new restrictions largely irrelevant."[74]

(1) [Question E-4.a] Did they have export potential in expanding markets as early as 1990? (i.e. the Far East of Middle East) Hungary did not have well developed markets by 1990. The only real exception to this rule appear to be Iran and Iraq up to through and after the Iran-Iraq war. As noted earlier Hungary's experience with the Romanian revolution showed that their radio intercept equipment was relatively good and they pushed this equipment for export.[75]

(2) [Question E-3.b] Did the prospects for exports rise over time? The dim prospects for Hungary's involvement in the future arms market have not gotten better with time. Hungary's market is limited to specialized finished products like their EW systems, and some consumable items like spare parts which their plants are already tooled for.

Where the Godollo factory has very little hope of even remaining open, let alone remaining competitive in the arms market, the Mechanikai Labratorium appears to have a future in the market. The problem Hungary faces is that the general character of the Hungarian arms industry would be more like the Godollo factory, although as a percentage of production, many other firms were not as dependent on military production. The fundamental similarity with the Godollo factory and the majority of the remaining industry is the production of outdated equipment through Soviet license.

5. Conclusions Relative to Hungary

Table 1-3 outlines the answers to each of the questions and compares it to the anticipated model shown in the introduction. All of the answers to the questions match, indicating that this is the pattern of social, political and economic that a country who has accepted the CoCom offer of who is close to accepting the offer should display a very similar pattern.

Table 1-3

Conclusions for Hungary vs. the Anticipated Model

Questions	Model	Hungary
[Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?	yes	yes
[Question S-2] Was the demand for a strong social safety net relatively high?	no	no
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes	yes
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no	no
[Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?	no	no
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no	no
[Question E-1] Were the prospects for converting the defense industry relatively high?	yes	yes
[Question E-2] Was export specialization in military hardware relatively high?	no	no
[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no	no
[Question E-4] Was the outlook on exports in 1989 relatively good?	no	no

CoCom made its offer to the Central European countries in 1990, Hungary had been working to get off the proscribed list since 1988, this meant that Hungary had a two year head start on working out the problems associated with establishing an export control system that fit the CoCom model. The decision to erect some kind of export control system was actually made in advance of the conditional offer extended by COCOM.

The last communist government in Hungary adopted the decree establishing an export control system because of the social, political and economic climate that was specific to Hungary. Moreover it was adopted at a time when the conditions appeared to show that this decision was in Hungary's best interest. The structure of the export control regime was then carried over by the first freely elected government with a few modifications.

There are two reasons why this issue was so important to Hungary and why there was such continuity between the last communist and first democratic governments. First, the most pressing national security issue in early 1990 was the plight of ethnic Hungarians outside the borders. (This was even before the outbreak of violence in the former Yugoslavia) The way for them to tackle this problem was to pursue a unified Europe initiative. In this context the export control measures are a gesture to show that they can live by the same rules as the West.

Second, Hungary defined this issue, much earlier than anyone else, in terms of the benefits of free and open trade. They had a fundamental understanding of the market economy and this created a condition where the open access to western technology became a policy directive that overrode any other political consideration. It is unclear whether Hungary has really benefitted from its new participation in the world

economy. Certainly there is growth and investment, but there is also a lingering sense that they are being blocked out of many markets, particularly the common European market.

1. **The 'Hungarian Export Control Regime' is Hungary's own translation as annotated in *Export Control in Hungary*, provided during an interview with representatives of the Export Control Office in October 1993.**

2. Each of these decrees takes effect on the day it is published in the *Magyar Közlöny* which is very similar in function to the Federal Register.

3. The Government of Hungary, "Government Decree on the export, import and re-export of military equipment and services," No. 48/1991./III.27./Korm, Budapest, 1991, p.2 Article 2.

4. Government of Hungary, "Government Decree on the Export, Import and Re-export of Military Equipment and Services," No. 66/1991./V.27./Korm the amendment of No.48/1991./III.27./Korm., Budapest, 1991.

5. Karcagi Katalin, "Crumbling CoCom Walls," *Magyar Hirlap* [Budapest] September 15, 1988, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-88-183), September 21, 1988, p. 23.

6. "Cocom Concessions to be Sought From U.S.," *MTI* [Budapest] September 8, 1989, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-176), September 13, 1989, p. 24.

7. "Kovacs Offers Guarantee on Cocom Listed Items," Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-191), November 8, 1989, p. 46.

8. "Pozsgay on CoCom, Need for Supervision," *Budapest Domestic Service* [Budapest] November 14, 1989, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-221), November 17, 1989, p. 59.

9. "Government Decree Restricts Arms Sales," *MTI -ECONEWS*, [Budapest], February 7, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-027), February 7, 1990, p. 43.

10. *Ibid.*, p. 43.

11. "Army Selling Military Equipment to West," *MTI*, [Budapest], June 20, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-120), June 21, 1990, p. 35.

12. "Trade Ministry Welcomes CoCom Decision," *MTI* [Budapest] February 19, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-029), February 20, 1990, p. 43.

13. The first round of free elections were held in Hungary on March 25, 1990 and the second round on April 8, 1990.

14. "CoCom-U.S. Talks Proceed in Budapest," *MTI* [Budapest] June 26, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-124), June 27, 1990, p. 42.

15. For a discussion of how Hungary lead the way toward total reform see, Mark Frankland, The Patriots Revolution, (Chicago, Westview Press, 1982) p. 113.

16. Ivan Volgyes, Hungary: a Nation of Contradictions, (Boulder, Westview Press, 1982) p. 16.

17. *Ibid.*, p.29. Volgyes labels Kadar as Hungary's great compromiser of the Twentieth Century.

18. Ivan Volgyes, "'Never Again '56!': Cooptation, Privatization and Terror in Hungarian Society since the Revolution," in War and Society in East Central Europe Vol.XI, The First War Between Socialist States: The Hungarian Revolution of 1956 and its Impact, edited by Bela K., Barbara Lotze, and Nandor F. Dreisziger, (New York: Columbia University Press, 1984), p. 519.

19. For a full description of the revolution in Hungary see, Ivan Volgyes and Zoltan Barany, 1991, "Hungarian Defenders of the Homeland" in European Security Policy After The Revolutions of 1989 edited by Jeffery Simon, (Washington, D.C.: The National Defense University Press) p. 362.

20. *Ibid.*, p. 362.

21. Gregory R. Copley, Defense and Foreign Affairs Handbook, 1990-1991, (Alexandria: International Media Corporation,1990) p. 442.

22. *Ibid.*, p. 113.

23. *Ibid.*, p. 123.

24. This poll reflected that FIDESZ would receive the largest percentage of votes (38%) and some polls have shown up to 50%. Judith Pataki, "Hungarians Dissatisfied with Political Changes," RFE/RL Research Report, Vol. 1, No. 44, 6 November 1992, p. 70. FIDESZ received only 5% of the vote in 1990.

25. For a detailed examination of the emerging role of the FIDESZ party see, Tina Rosenberg, "From Dissidents to MTV Democrats. In Hungary, the Revolution Turns Generational," Harper's Magazine, September, 1992.

26. *Ibid.*, p. 51.

27. *Defense and/or Economy*, (Budapest: Center for Security and Defense Study, 1993) p. 3. The figure of 900 workers was given during an interview with representatives of the center in October 1993.

28. The EEC and the CMEA had formally established relations on June 25. The agreement between Hungary and the EEC was initiated on June 30 and signed on September 26, and diplomatic relations were established on August 10. "EEC-Hungarian Agreement Takes Effect 1 Dec.," *MTI*, [Budapest], December 1, 1988, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-88-232), December 2, 1988, p. 26.

29. "EC Official Comments on Possible Membership," *MTI*, [Budapest], September 24, 1989, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-185), September 26, 1989, p. 33.

30. Frankland, Mark, p. 114.

31. *Ibid.*, p. 113.

32. "EEC Membership Seen by Decades End," *Budapest Domestic Service*, [Budapest], May 27, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-106), June 1, 1990, p. 35.

33. "Horn on Possibility of Joining NATO," *MTI*, [Budapest], February 20, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-036), February 22, 1990, p. 48.

34. "Jeszenszky Views Relations With SFRY, CSFR," *Magyar Hirlap*, [Budapest], November 18, 1991, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-91-224), November 20, 1991, p. 11.

35. Ivan Volgyes, "Military Security in the Post-Communist Age: Reflections on Myths and Realities," Studies in Comparative Communism, Vol. XXV, No. 1, March 1992, p. 93.

36. Péter Ákod Bod was later replaced by János Miklós Latorcaí.

37. "Hungarian Defense Industry In Crisis," Jane's Defence Weekly, October 28, 1989, p. 941.

38. "Prime Minister on Arms Trade, USSR Troop Withdrawal", *Budapest Domestic Service* [Budapest] February 4, 1991, Foreign Broadcast Information Service, Daily Report: East Europe, (JPRS-EER-91-004), February 12, 1991, p. 12.

39. Yudit Kiss, *Military Production and Arms Trade in Hungary*, Unpublished paper: UN/World Institute for Development Economic Research, Geneva, Switzerland, p. 12.

40. The Government of Hungary, "Government Decree on the export, import and re-export of military equipment and services," No. 48/1991./III.27./Korm, Budapest, 1991, Article 2. p. 2.

41. "Review of Nation's Changing Defense Industry," *Budapest Domestic Service* [Budapest], March 26, 1991, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-91-059) March 27, 1991, p. 22.

42. Mihály Szabó, *Situation in Hungary in 1993*, Unpublished paper, 1993, p. 5.

43. Theresa Hitchens, "Hungarian Parliament Rebuffs Military Funding Request," Defense News, Vol. 8 No. 27, July 12-18, 1993, p. 20.

44. Hungarians outside the borders of Hungary: in Romania: 2.2 million, in Slovakia: 600,000, in Serbia 385,000. "Now Hungary Adds Its Voice to the Ethnic Tumult," New York Times, January 1993, p. 4.

45. "Antall Views Problems With Slovakia, Serbia," *Frankfurter Allgemeine*, [Frankfurt/Main], December 10, 1992, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-92-239), December 11, 1992, p. 17.

46. Yudit Kiss, p. 11.

47. "Lajos Fur Interviewed on Military Economy," *Budapest Domestic Service* [Budapest] June 20, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-121), June 22, 1990, pp. 37-38.

48. *Ibid.*, p. 21.

49. Yudit Kiss, p. 1.

50. "HGV Reveals Defense Industry Enterprises," *HETI VILAGGAZDASAG* [Budapest] April 1, 1989, Foreign Broadcast Information Service, (JPRS-EER-89-058), May 17, 1989, p. 13.

51. "Review of Nation's Changing Defense Industry," *Budapest Domestic Service*, [Budapest], March 26, 1991, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-91-059), March 2, 1991, pp. 21-23.

52. Brigette Sauerwien, "Hungary's National Defense the Taste of Freedom," International Defense Review, Vol. 23, No. 11, 1990, p. 1223.

53. *Ibid.*, p. 1223.

54. "Factory Reacts to Defense Budget Cuts," *MTI*, [Budapest], December 30, 1988, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-003), January 5, 1988, p 19.

55. "1989 Military Production To Fall 31 Percent," *MTI* [Budapest] January 18, 1989, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-012), January 19, 1989, p. 38.

56. "HGV Reveals Defense Industry Enterprises," (JPRS-EER-89-058), p. 13.

57. "1989 Military Production To Fall 31 Percent," (FBIS-EEU-89-012), p. 37.

58. "Government Decree Restricts Arms Sales," (FBIS-EEU-90-027), p 43.

59. The T34 production run ended in 1962, in the 1980's the tanks were used in reserves units or for training of tank drivers. "Review of the Nations Changing Defense Industry," (FBIS-EEU-91-059), 21-22. It is interesting to note that the T-34s were not listed in the Hungarian inventory by IISS until the 1991 edition.

60. "Factory Reacts to Defense Budget Cuts," *MTI* [Budapest] December 30, 1988, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-003), January 5, 1988, p. 19.

61. "1989 Military Production To Fall 31 Percent," (FBIS-EEU-89-012), p. 37.

62. "Review of the Nations Changing Defense Industry," (FBIS-EEU-91-059), pp. 21-22.

63. (JPRS-EER-89-061), p. 41.

64. *Ibid.*, p. 22.

65. "Army General Interviewed on Arms Trade," (FBIS-EEU-90-003), 15.

66. Bernard Blake, Jane's Radar and Electronic Warfare Systems, (Alexandria: Jane's Information Group Inc., 1992) p. 348.

67. The formula used here to calculate relative export specialization was developed by Norman S. Fielke and published in "A Primer on the Arms Trade," New England Economic Review, November/December 1991, pp. 47-63.

68. Yudit Kiss, p. 3.

69. For a description of the FUG see Christopher F. Foss, JANE'S Armour and Artillery, (Alexandria: Jane's Information Group Inc., 1992)

70. The division of arms exporting countries into different Tiers is explained by Keith Krause in Arms and the State: Patters of Military Production and Trade, (Boulder: Lynne Rienner Publishers, 1992)

71. "Government Decree Restricts Arms Sales," *MTI-ECONEWS*, [Budapest], February 7, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-027), February 7, 1990, 43.

72. "Army General Interviewed on Arms Trade," *Budapest Domestic Service*, [Budapest], January 3, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-003), January 4, 1990, pp. 14-15.

73. "1989 Military Production To Fall 31 Percent," *MTI*, [Budapest], January 18, 1989, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-012), January 19, 1989, pp. 37-38. See also "Government Decree Restricts Arms Sales," (FBIS-EEU-90-027), p. 43.

74. *Ibid.*, p. 43.

75. "Army General Interviewed on Arms Trade," (FBIS-EEU-90-003), p. 15.

IV. THE MOST SIMILAR CASES

A. CZECHOSLOVAKIA

Unlike Hungary which first erected an arms control system in early 1990, Czechoslovakia, and now the successor states of the Czech Republic and Slovakia, have yet to establish an export control system that fits the model advocated by CoCom.

1. Export Control Measures in Czechoslovakia

a. Review of Control Measures

Before the Czech and Slovak split on January 1, 1993, there were a number of measures established by the federal government to control the export of military hardware.[1][Question E-4] Was the outlook on exports in 1989 relatively good? Federal Law 42/1980 was a basic law which covered economic contacts with foreign countries enacted on 10 April 1980. The Federal Ministry of Foreign Trade Act 202/1988 on limiting exports of some chemicals became effective on November 18, 1988.

The 1989 Federal Ministry of Foreign Trade Act 47/1989 was enacted to prohibit the export of certain plastic explosives, particularly Semtex. On May 4, 1990 Federal Law 113/1990 replaced Federal Law 42/1980 and in conjunction with Federal Government Act 256/1990 determined export and import

of goods and other foreign trade activities that required a license. This act was later redefined by Government Decision 147/91 which required export licenses for the export of certain products to be obtained from the Ministry of Foreign Trade.[2] On January 1, 1992 the Commercial Code No. 513/91Sb was enacted which liberalized trade and effectively replaced a number of export regulations noted above, with the result of then creating a very weak arms export control system.[3]

After the 1993 split the Czech Republic attempted to retain the same export control structure as the federal government. Under the provisions of the of the legislation governing the Czech and Slovak split, effective January 1, 1993, a permit to export arms was required from the Foreign Ministry.[4] However, in April 1993 the Czech Deputy Foreign Minister, Alexandr Vondra, admitted to the press that the existing measures regulating arms exports were insufficient. To rectify this new legislation was being drafted by the Ministry of Industry and Trade for presentation to parliament. Until that time, however, the export of arms was to be controlled by decree although the decree had yet to be enacted. The legal basis for the new legislation was to be the January 1, 1993 law on separation of powers.[5] On June 11, 1993 the Czech Minister of Industry and Trade, Vladimir Dlouhy, stated that the government had done away with the arms export regulations and was crafting a new comprehensive law.[6]

Slovakia, embroiled in domestic political and economic problems has taken no moves to tighten the export control measures since the split. A new law was in front of the Czech parliament as of November 1993 but there was no formal system to control arms export in either the Czech Republic or Slovakia. Table 2-1 provides a chronological listing of the key export control measures.

Table 2-1

Chronology of Czechoslovak Export Control Measures

April 1980	Federal Law 42/1980	Law governing economic contacts with foreign countries
November 1988	Federal Min. of For. Trade Act 202/1988	Limits exports of certain chemicals
September 1989	Federal Min. of For. Trade Act 47/1989	Prohibits the export of some plastic explosives, namely Semtex
January 1990	Foreign Minister Dienstbier announces that Czechoslovakia will cease arms exports	
May 1990	CoCom offers to take Czechoslovakia off the proscribed list	
May 1990	Federal Law 113/1990	Replaced 42/1980 as the basic law governing foreign economic activity
May 1990	Federal Govt. Act 256/1990	Established the legal basis for regulating foreign trade activities
January 1991	The Federal Government relinquishes authority for export controls to the Republics	

January 1991	Czech Republic Govt. Decision 147/91	Placed responsibility for managing export licenses under the Minister of Foreign Trade
January 1992	Commercial Code No. 513/91Sb	Measure liberalizes trade in general and replaces many of the measures above
January 1993	The Czech and Slovak Republics officially split	
June 1993	The Czech Republic announced that it was setting aside previous export control measures	
November 1993	Principles of the Law on Foreign Trade in Military Material is before committee in the Czech Parliament	As of November 1993 the bill had to pass through two committees and approval was anticipated by January 1994

b. Background

The "velvet revolution" occurred in November 1989. Prior to this the only measures established to control arms were specifically related to chemical munitions and explosives. When the Communists relinquished power in November 1989 a transition government was established until elections could be held in the middle of 1990.

In an interview with the *New York Times* in January 1990 the Foreign Minister of the transitional government declared that,

> Czechoslovakia will simply end its trade in arms without taking into account what the pragmatists will say, that it will be a blow to the state coffers, that those people will get arms from somebody else anyway if we don't supply them. That hasn't been officially announced but it simply will be done and weapons just won't be sold anymore.[7]

This statement would fuel a huge internal debate over the role that the defense industry played in the federal economy. It would also become a major bone of contention between the Czech and Slovak Republics as Slovakia began to once again assert its own nationalism. Since then Czechoslovakia, and the successor states of the Czech Republic and Slovakia, has had a number of problems instituting an arms export control policy and their troubles have received the most attention in the Western press by a wide margin.

The battle between liberal dissidents and more pragmatic minded members of the Czechoslovak federal government is described below. Also described is how the issue of deciding the fate of the arms industry became an issue of national sovereignty for the Slovaks.

2. Social Aspects in Czechoslovakia

It is difficult to detail the social aspects of this problem in Czechoslovakia. Some of the aspects are common to both the Czech Republic and Slovakia, others are not. Both republics have a shared heritage and history, both have the legacy of the communist period, but their impact on the expectations for entering into a new Europe after communism collapsed are somewhat different.

a. [Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?

As one of the "Gang of Four" Czechoslovakia resisted many of the reforms initiated by Mikail Gorbachev, and later the Communist government tried desperately to stem the tide of change in 1989.[8] Demonstrations against the Communists grew larger and larger until a large demonstration in Prague on 17 November resulted in wide scale violence against the demonstrators. Having put up a fight the Communist Party finally gave up its leading role on November 25th and authorized free multi-party elections. The delays in reform on the part of the Czechoslovak Communist Party meant that Czechoslovakia could not get a head start on solving some of the problems that seemed to have been frozen in time by Communism. They were not proactive about ushering in a new age in Czechoslovakia as was the case in Hungary.

The Communist system in Czechoslovakia was very different from the one in Hungary. Far from having a system that allowed people to make reforms from the inside, the communist system forced people out and radicalized the dissident movement. During the "velvet revolution" the main opposition group to emerge was the Civic Forum which was an informal alliance of existing opposition and human rights organizations. As a result, when free elections were finally held there were large numbers of people brought into the

government that had spent years outside the political process.

The best example is Jiri Dienstbier. Dienstbier reentered the political process as the Foreign Minister for the transitional government, at that time he was a 52 year old former dissident, who two months before had been shoveling coal at the menial job he had been given by the communist government. Dienstbier, like many other dissidents who came to power in the former Eastern Bloc, had been disengaged from the practical political process for some time.

Looking back at his January 1990 announcement to the *New York Times*, there are three things that warrant close examination. First, is the obvious ingenuousness of the statement itself and the real belief that this was a legitimate policy option. Second, is that this policy decision, which had such far reaching consequences for Czechoslovakia both politically and economically, was made in an interview with the *New York Times* and not in domestic press. (In what other country could the Foreign Minister make an announcement that was one, a radical change in policy, two, made to the foreign press, and three, threatened the jobs of around 150,000 domestic workers.) Finally, note also that Dienstbier points out the fact that this "hasn't been officially announced but it simply will be done and weapons just won't be sold anymore."

When the elections finally took place the struggle over this issue began to center on "antimilitarist" members of the Czechoslovak government and pragmatic-minded economists and businessmen."[9] The pragmatists argued that Omnipol, the country's monopoly weapons trader at the time, accounted for 50 percent of foreign currency profit in the past few years. Opposing this view the antimilitarist members of the government extolled the morale virtue of the decision.[10]

The leadership of the Federal Government was divided into two camps over this issue. In one camp, arguing for strict export controls on moral grounds, was the President and the Foreign Minister. Opposing them were Prime Minister Calfa, Minister Klaus, Minister Barak and Minister Dlouhy. These two groups struggled for control over export policy but the problem with the process, as it evolved, was that it left no room for conciliation and compromise. By taking such an extreme initial position Dienstbier and his allies radicalized the opposition.

The starting point for this battle was Dienstbier's January announcement to the *New York Times*. The day after the papers publication the policy was confirmed to the domestic Czechoslovak press by a Foreign Ministry spokesman.[11] Also on the 26th of January a radio commentary

by Milan Suchanek for the *Prague International Service* urged the rest of the World to follow Czechoslovakia's example.[12]

In the commentary there are three statements that reflect how Dienstbier, and to a great extent Havel, viewed the relationship of arms exports and the world in 1990. The first assumption was that the decision would raise the "moral credit" of the Czechoslovak government. In this context at least part of the Czechoslovak leadership was anxious to show the West that they could, not only be a responsible actors in the World community, but that they could take the lead on moral issues. The second assumption was that this decision "guarantees the speedy conversion" of the defense industry to civilian production. In other words all that had to be done was to stop arms exports and demand for civilian goods would quickly fill the void. Finally it was stated that "the arms trade was in contradiction with the climate of easing world tensions," an indication of the belief at the time in the peaceful nature of the "New World Order." The timing of the statement is also important because it clearly must have been made in anticipation of the upcoming James Baker visit to Prague on February 7, 1990.

It is difficult to determine the extent of the debate concerning the course of the Czechoslovak defense industry prior to 1989, but the struggle that erupted after Dienstbier's statement indicates that it had deep roots. The

official retreat from this position did not wait for the Baker visit. The statements of the 25th and 26th were so extravagant that a spokesman for the Foreign Ministry was later forced to clarify and then retract much of the promise by saying, "the Foreign Minister's statements have to be understood in the context of Czechoslovakia's new foreign policy." Notably he added, "the system of arms trading would be thoroughly examined in relation to existing international agreements," and that "the conversion of Czechoslovakia's arms industry" would have to be taken into account.[13]

On February 9 of that year, while on a visit to Jerusalem, Josef Hromadka, Czechoslovak Deputy Premier, announced that they intended to halt its exports of arms "stage by stage."[14] The no arms sale policy was again challenged on April 17 when the Minister of Foreign Trade, Andrej Barak, declared the "decision will not be taken immediately."[15] Even Havel himself signaled a retreat from the earlier position while visiting in France on March 19, when he redefined the position that arms deliveries would be halted to "all totalitarian regimes and dictatorships" although shipments to democratic states would continue "for a little while."[16]

Minister Barak was one of the first to outline the "pragmatic" arguments that Dienstbier had discounted. In April he outlined three of the fundamental arguments presented

against Dienstbier's proclamation and the assumptions on which it was based. First, he argued that the economic and technological progress connected with arms production and development could not be discounted. Second, he stressed that Sweden, Switzerland and France were comparable models for Czechoslovakia since they were also socialist based economies and arms exporters. Finally, he pointed out that there was future trade potential, notably with China, for Czechoslovak arms producers.

By September it was finally clear that Dienstbier's proclamation had gone too far, but because it had been such a sweeping gesture, any backing away from the position appeared to be a victory for the old ways of central planning and communism. This was certainly something the dissident elite was reluctant to do. Sill the government began floating a number of justifications for continuing arms sales. The Deputy Foreign Minister Lubos Dobrovsky declared the rationale for continued exports was the need to fulfill existing requirements.[17] The pressure to expand into new markets and new contracts, however, soon outstripped this rationale.

In early May 1991 the federal government confirmed tank sales contracts with both Syria and Iran.[18] Along with the confirmation, the Prime Minister of the Federal Republic announced to Israeli radio that they would "sell

tanks to anyone."[19] Immediately following this there was a running battle in the Czechoslovak press between these two groups that lasted about two weeks. In the end the contract was completed with Syria, but not Iran.

Based on legislation prepared in December 1990, the Federal Government relinquished authority over export controls to the Republics. In the Czech Republic authority to issue export permits were given to the Ministry for Foreign Trade, and the Foreign Ministry could only make recommendations.[20] The basic law was amended in an attempt was made to establish a system for issuing licenses in 1991.[21]

In April of 1991 it was clear that Czechoslovakia had been negotiating for the sale of tanks to Syria and Iran.[22] The new rationale for expanding arms export commitments was then outlined in April by Josef Fucik of the Economics Ministry. Now the official position was that the domestic industry would only produce enough for the Czechoslovak Army and then export enough to buy what it could not produce.[23] When the U.S. objected to the planned shipments in May another rationale was presented; that exports must continue in order to fund the conversion process.[24] On July 12, 1991 Oldrich Carny, advisor to President Havel, testified before the U.S. Senates Permanent Subcommittee on Investigations and presented the two alternatives the government felt were possible for the arms industry. He told

the committee that first, "the defense industry could theoretically be completely liquidated." The second possibility was "to combine conversion to civilian manufacture with the continuation of production of armaments equipment that can be used both for limited export and meet the requirements of the Czechoslovak army." Adding that the basic rationale for this approach was to keep Czechoslovakia from becoming completely dependent on foreign suppliers he concluded that the second alternative was the only option.[25] Marion Calfa, the Federal Prime Minister stated during an interview on McNiel/Lehrer in October 1991 that "we have no other way to get the means for conversion to civilian production than to export the very weapons themselves once again."[26]

b. [Question S-2] Was the demand for a strong social safety net relatively high?

Perhaps there was no greater concern for the social safety net in Czechoslovakia but there was a strong association between the arms industry and social security. Furthermore the association was much stronger in Slovakia than in the Czech Republic. In an announcement concerning the Slovak governments decision to pursue a different export policy than the Federal government the Slovak government spokesman directly tied the social security of arms industry workers to the continuation of arms exports. In their

estimation the Federal government's decision would cost 10,000 jobs in the defense sector and the impact would be felt by another 60,000 workers in Slovakia.[27] Much greater efforts were made to maintain jobs, even at the cost of tying up valuable resources, in Slovakia than in the Czech Republic.

In the Czech lands the roots of industrialization are much deeper than in Slovakia and there is greater optimism about the potential benefits of cooperation with the West. There is greater optimism about economic growth through innovation and efficiency and fewer efforts to retain inefficient production methods for the sake of saving jobs.

c. [Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?

Czechoslovakia's prospects for inclusion into the EC and NATO were very high in early 1990 and during a February 7 meeting between Juri Dienstbier and James Baker the all-european process and the new role of NATO were high on the agenda.[28] After the breakup, however, the prospects have not remained equal for the Czech Republic and Slovakia. Slovakia's chances for entering the European community are very dim while the chances for the Czech Republic are perhaps the best in the region.

3. Political Aspects in Czechoslovakia

The political battle over this issue in Czechoslovakia was epic, and certainly contributed to the split between the Czech and Slovak republics in January 1993. Control over industrial and export policy became an issue of national sovereignty for the Slovaks. This was fueled in part by the defense industry work force which was much better organized and active than their Czech counterparts.

a. [Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?

The greatest structural problem was the question of jurisdiction over the defense industry and defense industry exports between the Federal government and the government of Slovak Republic. Here again the starting point was the January 1990 declaration that all arms export would be stopped.

The basic ideological and political differences would have been trouble enough for the Czechoslovak government in 1990, but there was also another problem, perhaps more difficult, with which they would also have to contend. This centered on the disproportionate impact the decision had in the Slovak republic in general and in the Váh river valley specifically. The January 25th proclamation was not well received in the Váh (Waag) river valley. Stanislav Neboska, deputy director at ZTS Martin declared that "when we first

heard the news we couldn't believe it."[29] He was shocked by the proclamation as were many other workers in the region whose expressions also reflected the position of the pragmatists that Dienstbier had discounted in January. For example, a graying 46 year old assembly line worker in the Slovak town of Martin told the western press "if only Czechoslovakia ceases to export arms, then the export markets we have will just be taken over by other rich countries. We are not such a rich country that we can afford to do this."[30]

The real turning point in the jurisdiction question came in January 1991. Less than a year after Dienstbier's original pronouncement, the Slovak Assembly won decision making authority for economic and industrial matters in Slovakia. On January 8, 1991 the Slovak government decided to slow down the conversion process and to continue exporting arms.[31] (This is much the way the situation has remained since early 1991; attempts to legislate the basic administrative policy have ended in failure) In March 1991 Slovakia established its own brokerage firm, Unimpex, to challenge the traditional monopoly in arms trade held by Omnipol.[32]

In announcing this new policy, and referring to the policy of the Federal Government that emerged after Dienstbier's February 1990 statement, the Slovak government spokesman Jan Comaj said,

> The fact remains that the political gesture got ahead of economic measures and interfered with the material needs of the state and also with the social security of the people. Even the most developed countries, respecting traditional democratic principles, have not stopped the production of weapons, and they do not manufacture weapons only for themselves, but also for sale.[33]

Changes after the June 6, 1992 elections have made consensus building on this issue impossible and the Czech/Slovak split in 1992 has left Slovakia in a position of starting with almost nothing in terms of export controls.

b. [Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?

Recall that there are generally three groups that would have a vested interest in continuing arms exports, among these would be the arms brokers. In Czechoslovakia Omnipol had been the country's monopoly arms exporter throughout the communist period. While it may be difficult to judge the potential political impact Omnipol could make on new government in 1990 the potential economic impact was clear; at its high point Omnipol accounted for 50% of the foreign currency profit made through foreign trade.[34] In March 1991 a second brokerage firm, Unimpex, was granted a license to engage in foreign trade activity. Unimpex is based in Martin and was established as a direct rival to Omnipol for the

representation of products coming out of Slovakia.[35] Both of these firms lobbied for continued exports although their direct effects are difficult to judge.

A clearer indication of a deliberate and effective lobbying effort is seen by the industry management in Slovakia. Here they became much better organized, and politically active much sooner, than their Czech counterparts.[36] On February 17, 1990 just after the announcement to halt arms exports by Foreign Minister Dienstbier there was a Saturday morning meeting held between the Slovak Premier Milan Cic and representatives of Heavy Engineering Works Combine headquartered in Martin Slovakia.[37] Heavy Engineering Works Combine was a holding company officially under the federal government for not only the large tank factory in Martin but also many other industrial firms throughout the federal republic involved in both weapons and civilian production.

Overall only half of the combine's total production was related to weapons, but two of its larger plants in Martin and Dubnica were almost totally involved in this type of production. In addition, with 85 percent of its workers located in Slovakia, and a good portion of them located in the plants mentioned above, it is clear that they felt they could apply greater pressure to the Slovak rather than the Federal government and did so. Just two weeks after

the announced federal policy the representatives from Martin demanded that the Slovak government pressure the Federal government into rethinking both the conversion policy and the arms export policy.

The defense industry labor force also played a substantial role in the governments decisions vis-á-vis exports controls, but here again the characteristics of the labor force, and their involvement in the issues of conversion and exports, are quite different between the Czech Republic and Slovakia. Peak employment, for both republics in the mid 1980s, had reached 120,000 to 150,000 arms industry related jobs. In 1987, for example, the arms industry employed 73,000 workers directly, and another 70 - 75,000 in supporting industries.[38] This direct employment represents around 2% of the total work force and around five percent of all workers in industry.[39] As was the case throughout the communist bloc the defense industry workers were better paid but they lived with more restrictions.

By 1991 there were 44- 46,000 defense industry workers in Slovakia compared to 26- 28,000 defense workers employed in the Czech Lands.[40] Defense industry workers in Slovakia accounted for 5.4 percent of the total labor force versus 1.7 percent in the Czech lands.[41] Moreover the defense industry labor force in Slovakia represented 16 percent of the total employment in industry and was in turn very concentrated

geographically. The Vág river valley in Slovakia contained 32.6 percent, or about one third, of all defense workers in the federated state.[42] The large numbers and geographic concentration of the Slovak workers contributed to their strong political impact, especially with the Slovak government. Moreover, the Slovak workers maintained more of the organizational structure carried over from the Communist period.

The defense workers employed in the Czech lands, on the other hand, did not have the same political capital with either the Federal or Czech government. Not only were their numbers much smaller as shown above but they were employed in much more numerous and much smaller firms than in Slovakia. Of the 111 firms, the majority, around 71, were located in the Czech lands.[43] These 71 firms accounted for only forty-nine percent of total defense industry production as compared to sixty-one percent for the forty firms in Slovakia.[44]

The lobbying effort on the part of those favoring continued exports did show signs of success. After the February 17 meeting the Slovak Government stated that they had a "unequivocal moral and political responsibility" to work out a fair solution with the Federal Government.[45] In fact Juri Dienstbier himself traveled to Slovakia on April 30, 1991 and visited two of the largest factories in the Vág river

valley. There he announced that the exports to Syria of newly produced tanks would be allowed to go ahead.[46] The impact was greatest in Slovakia and never really got off the ground in the Czech Republic.

c. [Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?

There was very little discussion on this point in Czechoslovakia, either before or after the breakup. The defense industry in Czechoslovakia was considered much more an economic recourse than a national security resource, and the arguments made to maintain the industry both in the Czech lands and Slovakia have focused on the economic rather than security impact.

Given the geostratigic positioning this view is understandable; the borders are not in dispute and they are surrounded by friendly and relatively stable countries. This is especially the case for the Czech Republic since the split which is tucked in between Germany and Austria. Far from taking measures to retain portions of the industry under state control in the Czech Republic Prime Minister Klaus has taken the position to privatize the industry and allow them to sink or swim on their own merits. In August 1993 Klaus said that "the only thing we did is that we did not order the demolition of factories producing this or that arms product. This means

those factories exist, are functioning, and if they find buyers, let them sell their products - if they fail to find them, that is simply tough luck.[47]

4. Economic Aspects in Czechoslovakia

During the communist period the main production enterprises were administered by the Federal Ministry of Metallurgy, Engineering, and Electrotechnical Industry. There were 111 production firms in this category by the end of 1989 and arms production was 8.3 percent of total in 1988.[48] The arms industry was also quite profitable, with profits doubling civilian enterprises.[49] Production of military durables accounted for an average of 7.9 percent of gross machinery output from 1972 to 1981. This represented the highest percentage among the three with Hungary averaging .46 per cent and Poland averaging 6.4 per cent during the same period.[50]

The economic structure of the defense industry in Czechoslovakia is, however, the most complex case to outline. There were, in effect, two separate and distinct industries; one in the Czech lands and on in Slovakia. The differences in the labor force are outlined above but there are a number of other significant structural differences like the demographics of production, size of industry, structure of the individual firms and the degree of sophistication. Because there were different regional characteristics in the industry, it naturally followed that very different views would emerge

about how easy it would be to convert the industry. Different views emerged, in fact, even about even the necessity to convert the industry since many Slovaks felt that there was still a market for their arms.

a. [Question E-1] Were the prospects for converting the defense industry relatively high?

In May the Czechoslovak biweekly "Reporter" outlined how much more dependent Czechoslovakia was on weapons exports than France, FRG, China and the U.S. and indicated that conversion would be much more difficult than anyone had imagined.[51] Later the Czechoslovak economic daily "*Hospodarske Noviny*" (Economic News) stated that although "conversion" had become a new and commonly used term it was clear the this would not apply to all firms or all items of "special production" (the common reference to military production).[52]

While there were problems for defense industry conversion in both republics the problem was more acute in Slovakia. Table 2-2 indicates some of the other structural differences between the industry in the Czech lands and the industry in Slovakia. Using 1987 as the index, year the data shows a steady decline in arms production that had decreased 64 percent by 1991. Through this period Slovakia retained the majority of arms production in all years except 1989. The data also shows that as the total production decreased, the

Slovak percentage of military production increased; from 60 percent in 1987 to 68 percent in 1991. Whether the differences were real or perceived the Slovak government claimed in 1991, that as a result of the structural differences between the two republics, the decision to halt arms exports would have an impact on the Slovak enterprises five times greater than in the Czech Republic.[53]

Table 2-2

Selected Official Data on Czechoslovak Arms Production, 1987-91

Year	1987 Mill	1988	1989	1990	1991
Production					
Total armaments production (mill CS crowns)	29,298	26,737	18,996	15,107	7,673
Index 1987 = 100	100	91.3	64.8	51.6	26.2
Regional Distribution					
Czech arms production (mill CZ crowns)	11,557	12,331	10,587	7,515	2,417
% Total output	*39.4*	*46.1*	*55.7*	*49.7*	*31.5*
Slovak arms production (mill CZ crowns)	17,741	14,406	8,410	7,592	5,256
% Total output	*60.6*	*53.9*	*44.3*	*50.3*	*68.5*
Sales to... (%)					
...Czech Army	22.4	28.7	35.8	47.7	32.5
...former socialist states (CMEA)	58.2	56.6	58.8	41.7	20.6
...other countries	19.4	14.7	5.4	10.6	46.8
mill CZ crowns from sales to other countries	5684	3930	1026	1601	3591

Source: Federal Ministry of Economy, 'Defense Conversion and Armament Production in the Czech and Slovak Federal Republic', paper presented at the NATO-Central and East European Countries Defense Industry Conversion Seminar, Brussels, 20-22 May 1992, p. 21.[54]

(1) [Question E-1.a] Were defense industry firms already in the process of production conversion in 1989?

In the Czech Republic the firms were already structured such that the majority of production was in civilian products. This is especially true of the large Skoda Work were, prior to the 1960s, military production accounted for the majority of production. In this case it appears that the enterprises in the Czech lands did in fact begin a more spontaneous conversion well before 1989.

In Slovakia, on the other hand, no industry to speak of existed until the Soviet initiative to build production facilities in Slovakia because it was strategically more defendable than the Czech land. The problem was that both the origins and the legacy of industry in Slovakia is centered on the defense industry. There were some attempts by the Martin tank factory to shift production into civilian goods but this normally resulted in goods that were worth less than the resources used to produce them.

(2) [Question E-1.b] Did the production possibilities for individual firms allow for the shifting of resources? Just as there are differences in the number, and concentration of employees there is a definable difference in the structure of individual firms.

Military production accounted for over 20 per cent of total output in only one third of the firms in Czechoslovakia, and far fewer firms devoted more than half of the production to military items.[55] However, in the three

largest factories located along in the Vág River, ZTS (Zavody Tazkeno Strojarstva) Dubnica nad Vágom, ZTS Martin, and ZTS Trencin the percentage production of military equipment was much higher than the average. Production of military hardware, primarily the T-72 accounted for 60 per cent of production at ZTS Martin, and at ZTS Dubnica, where they produced the OT-90 and its variants, it was 70 per cent.[56] The challenge of conversion is much greater in Slovakia than in the Czech Republic simply on the basis of the varying structure of the firms.

b. [Question E-2] Was export specialization in military hardware relatively high?

In terms of export specialization, Czechoslovakia had the sixth highest degree in the world, with a degree of specialization on a comparable level with the U.S. and mainland China. (Appendix C) This means that the whole economy of the federated state was heavily dependent on the export of arms for continued growth. Given the structure of the individualized firms in Slovakia and the fact that defense firms represented a greater proportion of the entire industry it is reasonable to conclude that Slovakia was even more dependent on arms sales than the Czech Republic.

Looking at relative export specialization over time as reflected in Table 2-3, it appears that arms exports were becoming less important over time, although not a sharp

decline, until the crucial year 1989 when there is a significant increase. While there is an danger of making too much of a conclusion based on ACDA data that is not available after 1989, the trend is corroborated by other data presented in Table 2-2. Arms exports to countries outside the former CMEA became increasingly important to the shrinking defense industry between 1987 and 1991.

Table 2-3

Relative Export Specialization in Czechoslovakia from 1985-1989

Year	Arms Exports	Total Exports	AE/TE %	Relative Export Specialization
1985	1600	29370	5.4	2.2
1986	1400	34770	4.0	1.6
1987	1300	36660	3.5	1.5
1988	925	38450	2.4	1.3
1989	875	13180	6.6	4.4

Source: U.S. Arms Control and Disarmament Agency (1991), Table II

While one can argue that nobody sat down and calculated out relative export specialization figures and therefor they were not a factor in the decision process it is clear that they had some sense of the importance arms exports played in the economy. The Czechoslovak biweekly "Reporter" published an article in May 1990 that declared the "Czechoslovak economy is much more dependent on weapons export than its principal world competitors such as France, FRG,

China, U.S.A and the Soviet Union."[57] When export specialization jumped to 4.4 in 1989 this statement was true in all cases except the Soviet Union.

c. [Question E-3] Was there a relatively high degree of autonomy in the defense industry?

Czechoslovakia had the highest degree of autonomy in the arms industry between the Central European countries. This is reflected in both the higher expenditures on domestic research and development and the variety of products that emerged as a result of that effort.

(1) [Question E-3.a] Was the level of domestic research prior to 1989 relatively high? The figures in Appendix D indicate that the research and development investment in Czechoslovakia was much higher than either Poland or Hungary. During the ten year period from 1974 to 1984 the research and development expenditures were in the 7% range of total expenditures which was more than double the percentage in Poland and seven times greater then the percentage invested in Hungary.[58]

The data is not available to show whether the research and development money was spent predominantly in the Czech Republic but there are a number of indications that this was exactly the case. An examination of the numbers and types of products that emerged from the two regions should show the

differences in the research and development effort in each region.

(2) [Question E-3.b] Were there a relatively large number of defense products of original design? There are numerous example of products domestically designed and produced in Czechoslovakia that were of world class quality and competitive in their niche markets. These products covered the range of chemical explosives, small-arms, aerospace products, radar technology and heavy weapons. Most of the products of original design emerged from the Czech lands rather than Slovakia.

Perhaps the best known Czechoslovak innovation was the almost undetectable plastic explosive Semtex favored by the IRA and Arab terrorists. In late 1989 the VCHZ (East Bohemia Chemical Works), located outside Pardubice, employed 9,500 workers and produced at its peak 350 tons of Semtex a year.[59] Exports of the product were halted by government decree in 1989 after the 1988 downing of Pan Am Flight 103. Following this the firm began work on developing a chemical marker for the product and in 1993 exports of the explosive for industrial use resumed.[60]

A number of other firms in the Czech Republic produce items that have been developed domestically and are not simply reproductions of Soviet products through license agreements. In the late 1960's Czechoslovakia had

developed a modern radar system that was superior to the one designed by the Soviets. The Soviets, however, were able to force procurement of their system in the Warsaw Pact by playing off the smaller members.[61] In 1990 there was confirmation about a lesser known product, the MCS-90 TAMARA radar system, which the Czechs contend is able to defeat "Stealth" technology at a range of 400 km.[62] The TAMARA is designed and built by *Tesla Pardubice* which is located in the same region as East Bohemia Chemical Works.[63] The system has been sold to former CMEA countries and the predecessor system, RAMONA, was delivered to Syria.

The L-39 Albatross is another example of a domestically developed item. The L-39 Albatross is a tandem seat jet trainer with armed and combat versions and is manufactured in Odelena Voda by *AERO Vodochody Akciova Spolecnost* (Areo Vodochody Aeronautical Works Ltd). Since its introduction it has been exported to many countries all around the world.[64] Recently there have been a number of improvements to the L-39, including the addition of American avionics.[65]

The Bohemian Armament Factory has been a producer of small arms since the turn of the century and today the nine millimeter pistol Type 75 is in service around the world. Anticipating acceptance into NATO the Czechoslovak government awarded a contract to the Bohemian Armament Factory

to design and produce small arms that could accept the NATO SS109 round in 5.56x45 caliber. The design work was subcontracted to the Prototypa design firm in Brno in late 1990 and completed 18 month later.[66]

The Prototypa design office has been designing small arms since the 1920s. It has designed such weapons as the Model 26 (Bren) and 37 (Besa) machineguns as well as the Model 59 and Model 61 Skorpion sub-machineguns, all of which enjoy a worldwide reputation. The new family of weapons, consisting of a sub-machinegun, an assault rifle and a lightweight crew-served machinegun, were the first small-arms in Czech history to make use of computer-aided design.[67]

The factories in Slovakia, on the other hand, produced heavy, land weapons systems. These systems were not items that had been domestically developed but were rather systems produced under Soviet license or their modifications. These included the T-72 Main Battle Tank, the PRAM-S 120 mm Self-propelled Mortar System, and the OT-90 Armored Personnel Carrier, which is a variation of the Soviet BMP. The only item produced in Slovakia of original design is the 152 mm Self-Propelled Gun/Howitzer Dana, which is a Gun/Howitzer mounted on a Tatra truck chassis. (The chassis is built in the Czech Republic) There is nothing comparable to the systems of original design that have been developed in the Czech Republic.

(3) [Question E-3.c] Is there a relatively strong move toward cooperation with Western firms? There have only been a small number of announced cooperation programs between Czech and foreign enterprises and since early 1993 no foreign firms have shown a willingness to enter into joint ventures with the firms in Slovakia. The French firm SOFMA has announced that it plans to cooperate with the Czech industry umbrella organization RDP in offering an upgrade package for the T-72.[68]

d. [Question E-4] Was the outlook on continued exports in 1989 relatively high?

While the global demand for military hardware has been on an aggregate downward course since 1985 both the Czech Republic and Slovakia have had an opportunity to compete in certain areas of the market. Ladislav Nemec, Director for the Administration of Special Technology at the Ministry of Metallurgy, Engineering, and the Electrotechnical Industry detailed for the press and the public a number of products that had good potential for export and hard currency.[69]

Czechoslovakia was the seventh largest arms exporter in the world both in 1989 and for the cumulative period of 1985 to 1989. Czechoslovakia was also fifth among the Tier II countries, with export totals comparable to those of West Germany. (See Appendix B)

(1) [Question E-4.a] Did they have export potential in expanding markets as early as 1990? (i.e. the Far East of Middle East) Though the bulk of Czechoslovakia's exports were to the CMEA, there were a number of traditional customers around the world; in Europe exports were made to Yugoslavia and Austria, in Asia to China, India, Indonesia, and North Korea, in Middle East to Afghanistan, Egypt, Iraq and Syria, in North Africa to Algeria, Libya, and Morocco, as well as countries in Sub-Saharan Africa and to Cuba.

Czechoslovakia, as a whole, enjoyed the best export potential in Central Europe; the military hardware that came out of Czechoslovakia had worldwide respect and they were established players in all the major arms markets. In 1990 there were ongoing projects with Libya, India, Algeria, Ethiopia, Iran, Iraq, Syria, Burma, Afghanistan, Egypt and Pakistan that had earned the industry 238 million crowns.[70]

(2) [Question E-4.b] Did the prospects for exports rise over time? By the middle of 1990 it is clear that Czechoslovakia understood the aggregate downward trend in arms sales, however, they would point out the fact there was some expansion, both for the less innovative products from Slovakia and for the more innovative products from the Czech lands.

The conventional wisdom holds that arms exports throughout the world dramatically decreased from 1985

to 1989. This is clearly what the aggregate data published by ACDA reveals.[71] Not everyone in Czechoslovakia trying to make a decision on this issue, however, looked at the aggregate view. Certainly some looked at the impact changes in the market were having on Czechoslovakia alone and here there is a very different story. Certainly arms exports and their associated revenues were going down for the country, but not to the same degree as the rest of the world.

Examine the trend in exports to counties outside the former CMEA from 1989 to 1991 (Table 2-2); the percentage of total sales rises from 5.4 per cent to 46.8 per cent. The CZ crowns earned from sales to other countries is even more illuminating. While the value of total arms drops from 18 billion CZ crowns to seven billion, the revenues from sales to other countries increases from one billion to about 3.5 billion CZ crowns. These are sales to the very countries, of the very items that the government was proposing to cut off.

This potential for arms export continued even after 1990. In 1991, the federal government confirmed that potential tank sales to both Iran and Syria were being negotiated. The Slovak government announced separately that Saudi Arabia was interested in their military hardware.[72] While sales to the former CMEA had all but dried up, the increase in sales to countries outside the CMEA actually

resulted in increased revenues. In the period 1987 to 1991 while total production decreased, revenues went from CZ crowns 1026 to Cz crowns 3591. (See Table 2-2) Clearly sales outside the CMEA was where the growth was by 1991. In February 1992 the current Slovak Prime Minister, Vladimir Meciar, said that the government export restriction policy was "irresponsible," and that Slovak arms factories had "such large orders we could live off them for seven years."[73] From their perspective it probably did not matter that the general demand for arms around the world was decreasing, what mattered was that there was a demand for what they produced.

Adjustments were also being made to offer more technologically advanced products. In June 1990 the director of the Special Equipment Department in the Ministry of Metallurgy, Engineering, and the Electrotechnical Industry declared that, while overall demand for arms is decreasing, future production would concentrate on military hardware that has the best export potential.[74]

Since the 1993 split it appears that the Czech Republic has the best chance to compete in an emerging market. Their products are original, inexpensive and reliable and they produce the products that address the needs of many of today's major customers. The Czech Republic also has the best chance of integrating and combining their own capable technology with more advanced western technology to produce a

very competitive product for the new market. (The L-39 Albatross already incorporates American avionics.)

The prospects for Slovakia's continued participation in the global arms market are not as bright; there are very few, if any, products of original design. Furthermore, Russia and Poland are able to produce the very same products cheeper than the Slovak factories. It is likely that the market itself will prevent Slovakia from exporting significant numbers of arms well before the political elite is able to legislate export controls.

5. Conclusions Relative to Czechoslovakia

Table 2-4 compares the conclusions for the former federated state of Czechoslovakia, the Czech Republic and Slovakia against Hungary, which acts as the model. The values listed under "Czech/Slovak" represent the overall assessment for the former federated republic, and the final two columns represent the values for each republic separately. Prior to the breakup the state of Czechoslovakia displayed a pattern far different from the model Hungary. Some of the critical differences included the difficult transition from communism, the structural problems in the political process, particularly with regard to the matter of jurisdiction between the Slovak Republic and the federal government. In addition the overall prospects for continued arms exports, while the two industries continued to cooperate were very good.

In comparing the two republics separately it is clear that the Czech Republic has moved much closer to the model than Slovakia. This appears to be in keeping with the real situation. The Czech Republic could pass the legislation establishing a comprehensive export control system by January 1994, Slovakia on the other hand is still far from making these moves.

Table 2-4

Conclusions for Czechoslovakia the Czech Republic and Slovakia vs. Hungary

Questions	Hungary	Czech/ Slovak	Czech Rep	Slovaki a
[Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?	yes	no	no	no
[Question S-2] Was the demand for a strong social safety net relatively high?	no	yes	no	yes
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes	yes	yes	no
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no	yes	yes	yes
[Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?	no	yes	no	yes
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no	no	no	no
[Question E-1] Were the prospects for converting the defense industry relatively high?	yes	no	yes	no
[Question E-2] Was export specialization in military hardware relatively high?	no	yes	no	yes
[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no	yes	yes	no
[Question E-4] Was the outlook on exports in 1989 relatively good?	no	yes	yes	no

The best chance the Federal government had to establish an export control system, along with associated legislation, was in 1990. While still enraptured by the euphoria connected with the revolution of 1989, there was a chance to set many of the economic arguments for continuing arms exports aside. If the political elite had chosen then to pursue a course of moderation and conciliation there was probably a chance to build consensus on this issue.

Instead the dissident elite chose to pursue a policy that was so extreme and so one sided in its impact that it could do nothing but polarize the country. The structure of the industry would have made this difficult to achieve but if there was any possibility of defusing the political impact of the defense industry workers, so tightly congested in Slovakia, it would have been through a process of moderated and slow change rather than the shocking blow that was delivered in February 1990.

These internal problems were not, and are not, receptive to the "carrot" and "stick" approach extended by CoCom. There was no way that this mechanism could compete with the ideological struggle in the leadership of the federal republic or the nationalist tendencies of the Slovaks. The policies that have been adopted in these two countries in the past three years arise from a whole host of factors, social, political, and economic that are very resilient to change at

all. Even relatively small policy changes like this cannot be separated from the general background. If they are not included in the social, political and economic fabric of the West then they will be forced to turn elsewhere and pursue a separate course.

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3. *Ibid.*, p. 249.

4. "Vondra: Arms Export Regulation 'Insufficient'," *CTK* [Prague] April 16, 1993, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-93-074), April 20, 1993, p. 12.

5. *Ibid.*, p. 12.

6. Brendon McNally, "Czechs Revive Arms Industry, Exports," Defense News, June 21-27, 1993, p. 1.

7. Craig R. Whitney, "Prague Arms Trade to End, Foreign Minister Says," The New York Times, January 25, 1990, p. A10.

8. See Charles Gati, The Bloc That Failed, (Bloomington: Indiana University Press, 1990). The "Gang of Four" resisted the *perestroika* reforms and included East Germany, Romania, Bulgaria and Czechoslovakia.

9. "Paper Details Foreign Arms Contracts, Profits," *CTK* [Prague] September 24, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-187), September 26, 1990, p. 7.

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11. "Foreign Minister Confirms End to Arms Export," *CTK* [Prague] January 26, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-019), January 29, 1990, p. 26.

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15. "Trade Minister Outlines Arms Sales Plan " *CTK* [Prague] April 17, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-075), April 18, 1990, p. 16.

16. Jan Oberman, "Czechoslovakia and the Arms Trade," p. 22.

17. Jan Oberman, "Arms Trading Continues," Report on Eastern Europe, Vol. 1, No. 43, October 26, 1990, p. 15.

18. "Press Comments on Arms Sales to Syria, Iran," *CTK* [Prague] May 6, 1991, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-91-088), May 7, 1991, p. 7.

19. *Ibid.*, p. 7.

20. "Vondra: Arms Export Regulation 'Insufficient'," (FBIS-EEU-93-074), p. 12.

21. "Trade Minister Baksay on Arms Export Rules," *Verejnost* [Bratislava] February 1, 1992, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-92-023), February 4, 1992. p. 13.

22. "Czechoslovakia Clings to Arms Sales," The New York Times, May 3, 1991, p. A3.

23. John Tagliabue, "Scrap the Tanks? For Slovaks, It's a Call to Arms," The New York Times, April 3, 1991, p. A4.

24. "U.S Asks Prague Not to Sell Weapons to Iran and Syria," New York Times, May 8, 1991, p. A3.

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31. "Arms and the Man in Slovakia," Financial Times, January 22, 1991.

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33. "Slovak Decision to Slow Conversion Explained," (FBIS-EEU-91-020), p. 19.

34. "Paper Details Foreign Arms Contracts, Profits," *CTK* [Prague] September 24, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-187), September 26, 1990, p. 7.

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B. POLAND

Since CoCom's 1990 offer, none of the four Solidarity lead governments in Poland have been able to establish a definitive arms export control system. The government lead by Prime Minister Suchocka had come quite close to passing relevant legislation through parliament, but could not accomplish this task prior to the change of government in October 1993. It is unclear at this point what steps the new government will take in this direction.

1. Arms Export Control Measures in Poland

a. Review of Control Measures

The Communist government in Poland, like Hungary and Czechoslovakia, had taken some steps to control the transfer of arms prior to 1989. On 23 December 1988, Poland passed the Act on Economic Activities (Ustawa o dzialalnosci gospdarczej) which was the basic law governing domestic and international trade.[1] Later that month on 30 December 1988, the Ministry of Foreign Economic Relations issued Order No. 43 which required permits for foreign trade in dual-use substances which could be used directly or indirectly in the production of chemical weapons.[2] Most of these measures were established outside of any common framework or goal, like establishing the kind of system that could get Poland off the CoCom list.

The next year on 17 April 1989, the Ministry of Foreign Economic Relations issued an order concerning the establishment of a list of goods that required official permission for export.[3] Following that, on 21 December 1989, the Ministry of Foreign Economic Relations released a list of goods and services which required official permission for their transfer. This second list was divided into four categories: military supplies of active equipment (weapons and ammunition); auxiliary equipment; services; technology and know-how.[4] Shortly thereafter, tariff regulations were also issued that introduced the requirement to get permission for imports and exports of goods covered by official permits.[5] Article 9 of the Customs Law, passed 29 December 1989, gave the government authority to restrict exports of certain materials.[6]

After the changes in 1989, subsequent governments have taken only a few steps to control the transfer of military related items. Executive Order No. 450, of the Council of Ministers, dated 5 November 1990, establishes temporary restrictions on the export of chemical substances and dual-purpose explosive materials that may be used in the manufacture of weapons.[7] Legislation to establish a new comprehensive system was before the Sejm in October 1993, but its fate is unclear after the new parliament took

over in November. Table 3-1 gives a listing of the significant events in chronological order.

Table 3-1

Chronology of Polish Export Control Measures

December 1988	Act on Economic Activities	Basic law governing domestic and international trade
December 1988	Ministry of Foreign Economic Relations Order No. 43	Requires permits for Foreign trade in dual-use substances which can be used directly or indirectly in the production of chemical weapons
April 1989	Ministry of Foreign Economic Relations order concerning the list of goods that required official permission for export	
December 1989	Ministry of Foreign Economic Co-operation released a list of goods and services which required official permission for their transfer.	The list was divided into four categories: military supplies of active equipment (weapons and ammunition); auxiliary equipment; services; technology and know-how
December 1989	Tariff regulations were issued that introduced the requirement to get permission for imports and exports of goods covered by official permits.	
December 1989	Customs Law	Article 9 gives authority to restrict exports of certain materials

May 1990	CoCom offers to take Poland off the proscribed list	
November 1990	Executive Order No. 450	Establishes temporary restrictions on the export of chemical substances and dual-purpose explosive materials that may be used in the manufacture of weapons
October 1993	Comprehensive Law on Export Controls for Military Related Items	The bill was close to being passed in October 1993, but he impact of new elections is unclear

b. Background

Although not codified in a comprehensive system, Poland had a export control structure that was potentially very restrictive through 1989, in terms of the numbers of actors involved. There was no need for a system of licensing arms exporters even through about March of 1990 because Cenzin (*Centrany Zarzad Inzynierii*) had monopoly control over negotiating and concluding contracts for arms exports.[8] Cenzin was in turn subordinated to the Ministry of Foreign Economic Relations (MoFER) and although Cenzin negotiated all arms related foreign contracts, the Ministry of Foreign Affairs retained veto power over all export deals.[9]

In January 1990, however, changes were introduced that changed both the Act on Economic Activities and Ministry of Foreign Economic Relation's 17 April 1989 order.[10] Like Hungary and the "Kalashnikov Affair," Poland suffered its own media embarrassment in 1990 when the Polish

ship *Boleslw Krywousty* was discovered to be carrying Polish arms in the Red Sea unbeknownst to the Polish government.[11] Following this affair the Minister of Foreign Economic Relations, Marcin Swiecicki, convened an interdepartmental conference on March 20, 1990 to determine changes to the system.[12] After the conference he announced that Cenzin's trade monopoly in Polish-produced armaments would be abolished; licenses for export would be issued to enterprises directly involved in the production of arms, and that the Foreign Affairs Ministry was to draw up a list of both restricted materials and restricted destinations. He indicated at that time that these changes were being made to correct the "existing shortcomings" of the system that existed in early 1990.[13]

In fact this proposed system, as announced, contained many of the elements that CoCom was requiring for elimination from the proscribed list. The proposed system included a list of controlled items, a structure to license export firms, the establishment of a list of proscribed destinations and a mechanism to approve or disapprove each transaction. Every contract involving either restricted equipment or restricted destinations required approval from the Ministry of Foreign Affairs. This change of policy came a month before the CoCom offer and it appears that Poland was

making these decisions in a vacuum, unlike Hungary who had been working closely with CoCom.

Just after CoCom made its offer to Poland, May 16, 1990, CENZIN was separated from the MoFER and established as an independent trading company. The government retained majority holdings in the joint stock company and the remainder of the stocks were distributed among domestic arms producing firms.[14] Around the same time, the trading company Cenrex was also granted permission to negotiate independent arms export contracts. The state held 76 percent of the Centrex's shares and the Union of Farmer's Co-operatives held the remaining 24 per cent.[15]

The result of these decisions was that by 1993 fifty one Polish enterprises were authorized to conduct foreign trade in the military equipment that they produced directly. In addition, there were three firms authorized to broker a wide range of weapons, spare parts and services.[16] Fifteen other enterprises were authorized to conduct trade in radioactive materials. Despite the growing number of firms involved in the foreign trade of military material, Cenzin still accounted for 60 percent of all such trade in 1993.[17]

Many of the different restricted materials lists, like the list of dual-use chemical substances and explosives list, were openly published in the *Dziennik Ustaw*. (The *Dziennik Ustaw* is roughly comparable to the Federal

Register.) In addition to the various restricted materials lists, the Polish Ministry of Foreign Affairs maintained two lists restricting destinations. The so called "negative list" consisted of a list "A", which were states subject to a UN embargo like Yugoslavia and Iraq, and list "B" which was determined by Polish authorities but kept secret.[18] As is often the case the "B" list appears to be very politicized, in referring to them the Minister of Industry and Trade pointed out that while the "A" list is not open to question, "other potential customers are a subject that should be discussed in Poland, although not in a public forum, which is obvious. Economic interests are sometimes as important as political interests."[19]

In March 1992 five Poles were arrested in Frankfurt on charges of attempting to sell weapons to Iraq.[20] The "Rifle Affair," as it became known, had a significant impact on Polish policy in two ways. First, it did force a re-evaluation of the export control system in Poland, but second, it also soured Poland's impression of the West. The affair was considered by many to be simply an effort to push Poland out of the arms market and those arrested were viewed as practical businessmen tying to save jobs in their factories. When asked to comment on the "Rifle Affair", Wieslaw Niewiarowski, Minister of Industry and Trade, remarked that it was "a manifestation of the struggle that goes on between

rivals competing against each other. It is a question of delivering a blow, of weakening the competition in the marketplace, of creating more difficulties for the competition."[21]

In April 1993 a bill was drafted by the Ministry of Foreign Economic Relations to protect Polish enterprises trading in arms. In addition a training program was established for Polish firms so that they "do not fall victim to the ambiguous activities of competitors and foreign special services."[22] This final measure was an admission of how confusing the Polish regulations were to follow.

2. Social Aspects in Poland

Like Hungary, Poland was a leader in the move toward total reform in 1989. This was a greater challenge for Poland because, unlike Hungary, Poland was the focal point of the Soviet Unions efforts to keep Eastern Europe in line.

a. [Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?

Poland had already instituted changes by 1989 that made the transition easier than in Czechoslovakia, which had gotten of to a late start and was plagued by nationalist divisions, but a bit more difficult than in Hungary where the 1968 economic reforms had brought them at least closer to a market economy. There are two important legacies of the communist period that impact on the decision for Poland to

establish an arms export control system. The first is the move toward liberalizing society began on their own initiative as early as 1982. Second, is the lock that Solidarity would hold on the country in the initial transition period by virtue of its being the champion for change prior to 1989.

Because General Jarulzelski had instituted his own crackdown of Solidarity in 1981, he gained a relatively free hand to institute modest changes even ahead of Gorbachev's *glasnost*.[23] By 1989 there was a greater readiness to sacrifice in Poland than other countries in the former CMEA, as long as political concessions were also made. This is reflected in how the population, in general, allowed deeper measures in the initial transition period like the shock therapy programs.

In Hungary there were no real dissidents and in Czechoslovakia the dissidents had been removed form the political process for some time, but in Poland the dissident movement centered around Solidarity. Solidarity had become much more than a labor movement by 1989, it attracted a wide array of political activists. The cross section of political thought that Solidarity represented in 1989 was much broader than the range of thought that had been brought into the first transition government in Czechoslovakia.

b. [Question S-2] Was the demand for a strong social safety net relatively high?

The demand to retain a strong social safety net has been quite strong in Poland. As Louisa Vinton has described the situation that, "while regaining individual freedom was a great victory for the Poles, the concomitant burden of responsibility for one's own fate has bred nostalgia for the security of communism."[24] The effect of this demand was to limit the range of economic policy and to multiply the impact of groups promoting a platform based on maintaining the safety net. The Poles have been very willing to maintain jobs for their own sake.

c. [Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?

Poland's expectations for inclusion into the EC were about the same in 1989, as Czechoslovakia and Hungary. The disenchantment with the EC that has gripped most of Eastern Europe in 1993, however, has been most pronounced in Poland. There is a strong sense that exports to the West have actually dropped since the communist period.[25]

The tide of expectation for inclusion began to shift in 1992, which was a very disappointing year for Central Europe in general, but very much so for Poland which is potentially the largest economy. As Jan B. de Weydenthal, a country specialist for RFE/RL Research Reports expressed,

"more than anything else the [EC Summit in June] served to demonstrate once again the persistent differences between the European Community and the Central European countries with the regard to mutual trade while underscoring problems in developing trade policies within the EC itself."[26] On 29 April 1993 the Polish government issued a formal statement critical of the EC. The statement said that the "EC's actions demonstrate...that the [restrictions on meat exports] are merely an arbitrary instrument of discrimination and a concealed trade barrier that violate the terms of the association agreement."[27]

Expectations for inclusion into NATO were not as high as elsewhere in late 1989 and early 1990. This is due to the fundamental understanding that they were still the key to East-West conflict because they are still the crossroads between Russian and a united Germany. Since the collapse of the Soviet Union, however, a greater expectation for inclusion in NATO has emerged. This is born out in the statement by the former Defense Minister Janusz Onyszkiewicz that, "for the first time in 500 years, we have no common border with Russia. Therefore, Russia will first direct its claims at our eastern neighbors, which separate us from this country."[28]

3. Political Aspects in Poland

In Poland, the political battle over export controls was dominated by two factors. First, as Solidarity became less a social movement and more a traditional labor interest group it began to focus its efforts on forcing the government to secure jobs. Second, because of Poland's unique geostrategic position the leadership became very conscious of the need to maintain a viable defense industry not only for the sake of jobs, but also to address real national security concerns.

a. [Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?

Poland had a very significant structural problem with the government between 1990 and 1993. These problems are a result of both the original roundtable agreements and the 1991 election law.

As one political observer described the situation, "since the round-table bargain of 1989 between the Communist party and the Solidarity opposition, the Polish political system has been a jury-rigged structure, the product of a hasty though often ingenious improvisation."[29] The issue of arms export control has been examined and reexamined by four different government coalitions. Whereas in Hungary the same people have filled the ministerial positions that

traditionally work on this problem the story in Poland has been one of constant turnover in ministerial leadership.

The second stumbling block was the 1991 election law and the "hyperproportional" representation it caused in the Sejm. Poland has struggled with as many as thirty different parties in Sejm; many of which represented the most extreme views of the political spectrum. The Sejm has largely been in a state of impasse since 1991 and consensus building has been extremely difficult.[30]

The almost constant turnover of the Polish government, both in the council of ministers, and in the Sjem, has prevented any resolution on the issues of export controls or the future of the Polish arms industry. In February 1993, Jerzy Milewski, secretary of state with responsibility for defense affairs in the Presidential Chancellery, explained that the restructuring plan for the defense industry, proposed in July 1991, was delayed by the upcoming Sejm elections and "then there was another government that devoted its attention to something else, and then it was followed by another government."[31]

b. [Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?

As the issue of Polish arms exports became an open issue and discussed in the press during the last months of 1989 and the first half of 1990, many of the interviews

with government officials pointed out that arms sales were "good business." There were of course a number of commentaries written that opposed continued arms sales, but no real examples of an organized political effort to influence government policy to stop arms sales all together.[32] Just as in Czechoslovakia, however, the initial post communist government did have a large number of anti-militarist representatives who had as a goal the total elimination of the arms industry. These efforts were never well coordinated nor was there a solid core of political leadership, as in Czechoslovakia, that raised the issue to the top of the agenda.

Cenzin and Centrex both fulfilled their traditional role as lobbying organizations pressuring the government to keep export controls weak. In terms of its position vis-a-vis arms exports, they were clearly in favor of maintaining expanded exports.[33] They both, and especially Cenzin, would have had considerable influence with the government by virtue of their hard currency earnings. This influence would have only grown as the EC and the West in general began to lock out other Polish agricultural and industrial sectors when Polish officials were desperate for foreign currency earnings.

The influence of Cenzin and Centrex might have been diminished on July 6, 1990 when Swiecicki announced that

the process would be further liberalized. The goal was to allow companies that directly manufactured a given type of weapon or equipment to conduct mediation for export themselves by the end of the year. This liberalization only applied to direct manufacturers of military hardware and did not allow for further expansion of general brokerage firms like Cenzin and Centrex.[34] The real impact of the decision was to expand the number of firms with a vested interest in continued arms exports. These moves also had the unfortunate consequence of leading directly to an ambiguous legal status for the plant managers, which in turn lead to the problems associated with the "rifle affair."

The third traditional group, with a vested interest in expanded arms exports, is the defense industry work force. In Poland, labor has the greatest degree of direct influence with the government in the region. This influence is directly tied to the impact of Solidarity.

To begin with, Poland has the strongest traditions of labor activeness among any of the countries studied, and there is no movement that equalled the scope and power of Solidarity. Although Solidarity had become much more than a labor movement by 1989, its roots were in the representation of workers and workers interests. In the four years since Solidaity wrested control of the government from the Communists in September 1989, the story of Solidarity has

been one of transition from broad based political party to traditional labor interest group.

At first, Solidarity acted as the "patron and guarantor of the expected reforms," but since then there has been growing disillusionment with Solidarity.[35] It became clear that Solidarity was acting on the principle that they were a labor union rather than a political party during the 1991 Parliamentary elections.[36] Although there has been growing disillusion with Solidarity it has remained a potent political force. The coalition government, put together by Hanna Suchocka in July 1992, gathered its legitimacy largely from the good offices of the Solidarity deputies in Parliament.[37] Since then, however, Solidarity has lost many of the leaders who gave it a moderating influence and kept it on the track of reform, and on the heading of a political party rather than a labor union.[38]

During this transformation Solidarity has been heavily involved in lobbying on the issues involving the defense industry in the form of its National Defense Industry section headed by Stanislaw Glowacki.[39] The numbers of workers represented by this section are quite large. In 1989 there was a total of 260,000 defense industry related jobs.[40] In 1991 it was estimated that there were 180,000 workers employed in the arms industry, of which around 40,000 were employed in the production of final products.[41] Though there

has been a reduction in the labor force, it has been relatively small; it was reduced by only 22,000 jobs between 1991 and 1992.

Solidarity's impact is multiplied by two factors: concentration geographically, and concentration of labor force by firm. The largest concentration of defense industry production is in the central and south-east region of the country, particularly in Silesia and Poznan. The Bumar Mechanical Equipment Combine, located near the city of Gliwice, employed up to 20,000 workers, or eight percent of all defense related jobs in one complex.[42] Eleven of the largest arms producers employed over 1000 workers each and six of these enterprises, in turn, employed from 1700 to 7400 workers.[43]

The ability of the Polish defense industry labor force to gain access to and lobby the government is unmatched in Central Europe. On May 6, 1993 a meeting was convened by President Walesa that included Prime Minister Suchocka, Deputy Prime Minister Goryszewski, the Ministers of Industry and Trade, National Defense, Foreign Economic Cooperation, the chief of the General Staff, Solidarity representatives from the defense industry factories and their managers, to work out the issues involving the defense industry.[44] A plan that incorporated the decisions of the body was to be completed by the end of July and presented by

Deputy Prime Minister Goryszewski to the National Defense Industry section of Solidarity for review.[45] Since the government changed in October it is unclear what has happened with these latest agreements.

c. [Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?

Of the three Central European countries, Poland has made the greatest expression of the link between a viable defense industry and national security. There is no illusion of complete self-sufficiency, but the Poles are very cautious about becoming overly dependent on either Russia or the West for military hardware. On June 13, 1991, a special interdepartmental Commission on Organizational Reform of National Defense recommended the creation of a state defense industry corporation which would operate under separate laws, to include a ban on trade union activities. Under the recommended plan the state defense industry corporation would operate between eight to ten plants, but the Polish army would be authorized to award contracts for supplies and equipment directly to the private sector.[46]

Not only were steps taken to retain crucial portions of the industry but also to increase self-sufficiency in military hardware since research and development was planned to continue. The 1991 plans called for an increase in domestic research and development for the production of

aircraft, communications equipment, armor, ships, electronic equipment and ammunition.[47] The military modernization program also called for a ten percent increase in the amount of modern equipment used by the Polish Army.

In 1992 the principles of the program were embedded in the new Polish defense doctrine creating a strong link between the survival of the defense industry and the nation's existence and sovereignty. In May of that year the Sejm adopted principles for the restructuring of the industry based on that doctrine.

In the end, the most likely organization of the industry will place all firms into three categories: state arms enterprises, joint-stock companies, and private enterprises. The state arms enterprises would be those firms that produce basic weapons and perform repairs. The 1993 plans propose that 19 enterprises will be directly retained by the state. Eight firms will be subordinate to the Ministry of Industry and Trade to produce battle tanks, small and heavy arms, ammunition and other equipment. The remaining eleven firms are to be subordinate to the Ministry of Defense to perform major repairs and modernization of arms and equipment.

The government will remain the major share holder in about 31 joint-stock companies, perhaps grouped together into four separate holding companies.[48] Decisions on production, structure and trade policy will therefor be

controlled by the government in these cases. All remaining enterprises are to become privatized and out of the sphere of direct government influence.[49]

4. Economic Aspects in Poland

The structure of the Polish arms industry has been shaped by a very complex history. An independent armaments industry did not exist in Poland until the end of the First World War, nor did the industrial infrastructure to support one. When Poland regained its independence in 1918 one of its first tasks was to set about the difficult task of building an arms industry. The task was difficult because, although government investments were concentrated in the armaments sector, the old infrastructure had been destroyed, the former markets disrupted, and the population was actually less industrialized in 1929 than it had been in 1900. Industrial managers were also attempting to develop along western lines without the support of capital investment because of Poland's low credit rating.[50]

Despite the difficulties several technologically advanced armaments factories were established during the 1930s in the Central Industrial Region of Poland, which is the middle and south-eastern part of the country. (Arms production remains concentrated in this region even today.) The key factories and plants, located in Starachowice, Pionki, Swidnik, Mielec, Rzeszow and Stalowa Wola, produced basic

military equipment for the infantry, mechanized infantry, artillery and air forces.[51] The statistics for armaments production in the interwar period would be sketchy, if even available, but with six concurrent wars between 1918 and 1925 it is clear that military orders would have been high. Increasing demand for armaments also had impetus in a growing standing army that went from 266,000 in 1923, to 350,000 in 1935.[52]

The Second World War devastated Poland's entire economy and the armaments factories build in the 20's and 30's fared no better. In 1946 there were questions as to whether Poland would even rebuild the shattered arms industry that had been built only in the last thirty years.[53] After 1949, in conjunction with Sovietization, the Soviet Union pressured Poland into not only rebuilding the defense industry but also developing an administrative system for the arms industry that was a carbon copy of its own.[54] In 1950 the six year plan that was announced for the period 1950 to 1955 limited military industry investments, to include workers housing to only 2% of total government investments.[55] The turning point for the Polish arms industry came with the outbreak of the Korean War. In 1951 a supplement to the six year plan stipulated that all military-industrial investments would be fulfilled in two years and that "new investment programs were

to be planned in conjunction with the Soviet Union for the construction of a new modern weaponry base.[56]

In 1989 Poland was the largest Warsaw Treaty member and the defense industry was the most "Sovietized."[57] One hundred and twenty eight industrial, service and trade enterprises were classified as part of the defense industry in 1989. The Ministry of Industry managed 84 enterprises, the Ministry of Defense managed 36, while another three were under the Ministry of Internal Affairs and the remaining five functioned as part of other departments.[58] For the firms designated defense industry enterprises, management through the defense industry association was mandatory.[59] However, at least 19 of these enterprises were not engaged in production, but were managed directly by the Ministry of National Defense to conduct repair work.[60] In 1993 there were a total of 350 industrial enterprises involved in the production of armaments and military equipment, 120 of which manufactured final products.[61]

a. [Question E-1] Were the prospects for converting the defense industry relatively high?

The prospects for converting the individual firms in the Polish defense industry were widely differentiated. Some firms got of to an early start during the era of *perestroika*, others had a production structure that allowed the easy shifting of resources. Still there was a

core of enterprises that were concentrated geographically, employed large numbers of people and whose production was concentrated on military equipment making their chances for conversion very poor.

(1) [Question E-1.a] Were defense industry firms already in the process of production conversion in 1989? The Ministry on Industry had drafted plans for the expansion of "civilian" production by the defense industry enterprises as early as 1987.[62] In 1990, the Ministry of Industry was planning for a 37 percent expansion of civilian production for the defense industry firms.[63] Despite the efforts on the Ministry of Industry the tangible efforts to convert the industry were small in scale even though they had clear intentions to move in this direction.[64] BUMAR-Labedy had also initiated conversion programs, but the civilian products were very expensive because they making inefficient use of the means of production.

(2) [Question E-1.b] Did the production possibilities for individual firms allow for the shifting of resources? In total the defense industry enterprises were utilizing only 40 percent of their production capacity for military products and the other 60 percent for "civilian" production. Very few of the defense industry plants used more than 50 percent of their capacity for military and the majority used under 15 percent.[65] In addition, according to

the general trend in east bloc industry, machinery and other equipment used for military production was normally located in a separate department from the general-purpose machinery and equipment that could be used in both civilian and military production, so these departments could be separated out as independent entities.

Table 3-2

Percent of Total Production in Military Equipment for Selected Firms

Stocznia Polnocna	95	Okecie	32
Przemyslowe Centrum Optyki	90	Warszawa-Wola	25
Radwar	84	Zaklady Radiowe	24
PZL-Swinik	81	Belma	22
Warel	81	Wisla	19
BUMAR-Labendy	71	Lucznik	16
PZL-Warszawa	69	Pronit	16
PZL-Rzeszow	67	Star SA	15
PZL-Kalisz	65	Stalowa Wola	9
Pressta	60	Krasnik	6
Hydral	59	Nitro-Chem	5
PZL-Mielec	54	Gamrat	4
Dezamet	53	Niewiadow	2
Mesko	47	UNIMOR	2
Radmor	43	ERG-Tychy	0.6
Tarnow	35	Nitron-ERG	0.5

Source: Military Department of the Ministry of Industry and Trade

For the 32 enterprises classified by the government as major arms producers the story is somewhat different. Of the eleven establishments under the Ministry of Defense, overall military output accounted for 80-90 percent. For the firms under consideration for establishment as a joint-stock company the share of total military production ranged from 60 to 90 percent.[67] (See Table 3-2)

b. [Question E-2] Was export specialization in military hardware relatively high?

Poland had the highest degree of export specialization in arms in Central Europe; roughly the same as Czechoslovakia for the five year period 1985 to 1989 but more than five times as specialized as Hungary. Not only was Poland the most specialized arms exporter in the region it had the third highest degree in the world, ranking only behind the Soviet Union and Israel. (Appendix C)

Table 3-3 describes the trends in export specialization over a five year period from 1985 to 1989. From this perspective it is clear that although the ratio of arms export to total exports declined dramatically between 1985 and 1988, Poland's position in the world arms market remained roughly the same as expressed by the relative export specialization.

Table 3-3

Relative Export Specialization in Poland from 1985-1989

Year	Arms Exports	Total Exports	AE/TE %	Relative Export Specialization
1985	1300	20160	7.3	2.3
1986	1500	25920	6.4	2.7
1987	1300	26560	5.3	2.3
1988	1200	32010	3.9	2.1
1989	400	28480	1.4	0.9

Source: U.S. Arms Control and Disarmament Agency (1991), Table II

One of the contributing factors to the high arms export specialization was the difference in profitability between military and civilian goods. In 1988, 200-300 zlotys were required to cover the cost of production to obtain $1 in hard currency export earnings for sales of military hardware. In the automobile industry the same $1 in export earnings required twice the cost in zloty and in the electronics industry three times.[68] This in turn was explained by the fact that productivity was much higher in the arms industry because of high-technology appropriations, a more disciplined organization of labor and a substantial R&D content in production inputs.[69] In addition, the firms, described as the core of the defense industry, were very dependent on exports for their production orders. For example, in 1987 and 1988, eighty percent of the military production at the Bumar Mechanical Equipment Combine was exported.[70]

c. [Question E-3] Was there a relatively high degree of autonomy in the defense industry?

Poland's arms industry in total was much more autonomous than the industry in Hungary and Slovakia and perhaps comparable to the industry in the Czech lands although much larger.

(1) [Question E-3.a] Was domestic research prior to 1989 relatively high? Poland ranked in between Hungary and Czechoslovakia for domestic research and development expenditures as a percentage of total military budget. (See Appendix D) The total military budget was larger, however, and therefor there was an overall positive effect on the development of independent polish products and especially production techniques.

(2) [Question E-3.b] Were there a relatively large number of defense products of original design? The variety of original defense products is a good indication of how fruitful the research and development effort was and in this context it is apparent that Poland was indeed successful.

In September 1993 there was an exhibition of Polish military products held in Kielce intended to show the Polish military and the rest of the world the level of Polish technological advancement in arms. Deputy Prime Minister Pawel Laczkowski attended the exhibition and declared at the closing ceremony that "the Polish arms industry

enterprises have mastered highly advanced military technology," adding that the Polish arms industry is able to compete in international markets.[71] This statement was obviously politically motivated statement but it was not groundless.

The items displayed at the exhibit included a wide array of items, designed and manufacture in Poland, that are technologically sophisticated and militarily viable. For example, the PT-91 (*Twardy*) tank, which is a modernized version of the Russian T-72 built in Poland through Russian license. There are a number of domestic improvements like reactive armor, a laser warning array, and a thermal sight.[72] The laser warning array for the PT-91 was designed and produced by Radwar and PCO, two Polish electronics firms. The thermal sight was developed in cooperation with the Israeli company El-Op.[73]

Poland has been innovative in the design and production of aerospace equipment. For example, the I-22 Iryda twin-jet advanced trainer, manufactured by PZL-Mielec, which is produced in both trainer and combat versions. The Iryda with the K-15 engine is intended for both the Polish army and for export.[74] Also PZL-Warszawa has designed the new Scorpion attack aircraft for high maneuverability and firepower. It has a fly-by-wire control system, can achieve

an angle of attack greater than 50 degrees and the manufacturer claims a projected warload of 4000 kg.[75]

Poland is the only one of the East/Central European countries that produces naval equipment. Here again there are examples of the fruits of the Polish R&D effort. The Polish Naval yard in Gdynia-Oksywie has been producing glass-reenforced plastic (GRP) hulled minesweepers since 1981. This year they launched a modernized version for testing new types of sweeps and minehunting sonar.[76]

There are additional items that are being offered for export the have yet to reach the production phase. The Research and Development Center of Mechanical Appliances in Gliwice has also developed a prototype of an armored engineer vehicle based on the T-72 chassis and components of the WZT-3 armored recovery vehicle. The vehicle has a front-mounted V-shaped dozer blade and a telescopic crane arm for erecting or dismantling battlefield obstacles.

Polish industry has also displayed a great deal of technological innovation and modification in the means of production. The director of the Bumar Tank plant claimed, for example, that they could machine the tank frame on a single machine tool; the same procedure required 15 separate tools in other plants.[77]

(3) [Question E-3.c] Is there a relatively strong move toward cooperation with Western firms? Poland has

perhaps the highest degree of cooperation with western firms. Poland recognized early that it has an opportunity to develop military hardware that is both unique and technologically advanced if it developed cooperation with Western firms. As early as 1990 there were indications that Poland was making overtures to Western firms to enter into joint ventures that could take advantage of domestic technical capabilities developed in recent years.[78]

The French have been among the most active in establishing industry to industry cooperation. The Polish firm Radwar and the french firm "Thomson-CSF" signed an agreement in May 1993 on the production of military reconnaissance and command systems. The goal, according to the firm's president Giscard d'Estaigne, is to establish a common defense industry in Europe.[79] Other examples include agreements between Polish and Swedish firms to cooperate in the production of weapons and military equipment both for their domestic markets and for export.[80]

d. [Question E-4] Was the outlook on continued exports in 1989 relatively high?

Poland was the twelfth largest arms exporter in the world in 1989 (tenth among the Tier II states) but eighth for the cumulative period of 1985 to 1989. (See Appendix B) The Polish army purchased 49 percent of the miliary goods, 5

percent was sold to Polish police agencies, and 46 percent was exported to other countries.[81]

Exports were considered very profitable, with a rate of return approaching 40 percent. Poland exported an average of 1.14 billion dollars worth of arms between 1985 and 1989. (See Appendix B) Two thirds of Poland's exports were shipped to socialist countries were the trade was conducted on a largely barter basis, however, other exports did earn Poland over 300 millions dollars a year in convertible currency during the late 1980s.[82]

(1) [Question E-4.a] Did they have export potential in expanding markets as early as 1990? i.e. the Far East of Middle East. Like Czechoslovakia their list of customers was quite long, including many countries in the Middle East, so they did have a broad customer base by 1990.

In 1990 a representative from the Ministry of Foreign Economic Relations told the press that Polish arms exports included, "ammunition, fire arms, armored vehicles, tanks, naval craft, aircraft, radio tracking stations, radar components. Very, very various things, some of which have an enormous content of very modern technology."[83] The official added that there were countries like Syria and Iraq that still owed Poland money, but that others like Iran had already paid in full. Prior to 1990, however, countries outside the CMEA did not account for more than 12 percent of Poland's total

arms exports.[84] The hard data on arms exports is not available after about 1990 but there were indications that Poland would be able to expand its base outside the former CMEA.

(2) [Question E-4.b] Did the prospects for exports rise over time? There are indications that the prospects for expanded exports of polish military production has grown in the past few years. In January 1993, Poland concluded a deal with Pakistan for the purchase of Polish T-72's worth $450 million.[85] The U.S. opposed the deal and it was apparently scrapped, but the Minister of Industry and Trade indicated in July 1993 that the tank contract with Pakistan might still be realized.[86]

In 1993 PZL-Warsaw received an order for the delivery of over 100 "Wilga" training aircraft to be delivered in south-east Asia. This order was in addition to another 20 aircraft delivered to two other countries. When asked to be specific on which countries had purchased the aircraft the director replied; "do you know why we did not sell tanks to Pakistan? Because everyone knew that we were planning to sell them there."[87] PZL-Swidnik has also received numerous offers for its Sokól (Falcon) helicopter.

The Minister of Industry and Trade expressed the belief that some sectors of the arms industry

would come out of the crisis quicker because of export potential, stating that,

> The aviation industry will be the first. The helicopters already have certificates - European and American ones. New markets have appeared in, for example, Africa. The industry processing materials will pick up somewhat later, and that will give a boost to the ammunition industry. The electronics sector has bought new technology, and that will yield results. The shipbuilding industry is receiving an increasing number of orders.[88]

In addition to sales of complete systems Poland has good potential for expanded spare parts and services sales. Many of the bilateral military agreements between Poland and its neighbors include provisions for joint overhauling of military equipment. This would give them an opportunity to conclude service contracts on not only equipment that they produce but also similar equipment produced in Russia and elsewhere.[89]

5. Conclusions Relative to Poland

Table 3-4 outlines the conclusions for Poland in comparison to the base country Hungary.

Perhaps the driving factor in Poland is the firm connection they make between the maintenance of a viable portion of their defense industry and their national security. This factor not only sets them apart from Hungary but also the Czech Republic and Slovakia. Because of this they will pay a greater cost to keep the industry in tact and producing military equipment. Because they are set on this course, arms

sales abroad will always be a tempting way to lower that cost even if it brings it into conflict with the U.S.

Table 3-4

Conclusions for Poland vs. Hungary

Questions	Hungary	Poland
[Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?	yes	no
[Question S-2] Was the demand for a strong social safety net relatively high?	no	yes
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes	no
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no	yes
[Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?	no	yes
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no	yes
[Question E-1] Were the prospects for converting the defense industry relatively high?	yes	no
[Question E-2] Was export specialization in military hardware relatively high?	no	yes
[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no	yes
[Question E-4] Was the outlook on exports in 1989 relatively good?	no	yes

There are other areas where Poland does not fit the model. First, the structural problems with the political process brought about by "hyper-representation", although the new election law should ease the problem over time. Second, while the effectiveness of Solidarity as a broad-based political party has greatly diminished it is still very effective as a traditional labor interest group. Finally,

because the Polish defense industry was relatively autonomous, with effective R&D and cooperation with Western firms its export potential is perceived to be very good.

Poland may very well emerge as the major arms exporter in the region five to ten years in the future. The legislation establishing an arms export control system may indeed pass through the Sejm but a strong propensity to export arms will remain. There are three factors that contribute to this conclusion.

First, Poland is determined to retain a large portion of its defense industry for national security reasons. It has no more desire to become dependent on the West for military hardware as it has to remain dependent on Russia. Currently, the Army is financially strapped and unable to procure new equipment but the government will take steps to protect the industry for the time when the financial situation is improved.

Second, Poland will use arms sales abroad, just as many other countries do, to maintain its potential for both continued development and production. The Army wants equipment like the PT-91 and the Scorpion attack aircraft and there will likely be a push to offer them for export both to be the production line open but also to lower the eventual procurement cost.

Finally, Poland has been very aggressive in seeking joint ventures with Western firms to produce technologically advanced military hardware. This drive, combined with their own intellectual capital and comparative advantage in production costs should make them competitive in certain areas of market.

The internal factors that relate to Poland's inability to establish an export control system are not ones that could be influenced by outside pressure. For one thing there was nothing that could have been done to prevent the constant turnover in government. Aside from that, however, Poland's views on maintaining a solid core of the industry, the lobbying power defense industry labor force, and their potential to find room in the future arms market will not be affected by the stick of being left on the CoCom proscribed list.

As well as being ineffective, the pressure to get Poland to adopt these export controls has also had largely negative consequences. Many in the polish government regard the export control measures advocated by the West to be simply protectionist moves intended to preserve the western military industry also in a time of crisis.

In the years since Poland has broken away from the communist bloc the fascination with and the popularity of the Armed forces has grown. Although the military has always been

popular there is today an even greater and open expression of this sentiment. The Army wants to be modern and respected and generally the population wants this for them although they are concerned with the price. The Polish arms industry says it can build and supply the Army with modern equipment today, but since the government has no money to buy new equipment they must turn to exports in order to survive till that day when Poland can modernize its force.

Arms sales abroad are a matter of Polish pride, for if someone wants to buy Polish military products it is a statement that the industry is sophisticated, independent and competitive. When efforts are taken to stop them from going through with a deal it is perceived that the West is simply trying to drive them out of the market.

1. Original source: *Dziennik Ustaw nr 41 z dnia 28 grudnia 1988, poycja 324, artikul 11*(Register of Bills of the Polish People's Republic no. 41, 28 December 1988, item 324, Article 11). See Katarzyna Zukrowska, "Poland", in Arms Export Regulations, edited by Ian Anthony, (New York: Oxford University Press, 1991), p. 130.

2. Original source: *Dziennik Urzedowy MWGzZ nr 1 z dn 14 stycznia 1989* (Official Register of the Ministry of Foreign Economic C-operation no. 1, dated 14 Jan 1989). See Katarzyna Zukrowska, 1991, p. 130.

3. Original source: *Dziennik Ustaw nr 21 z 17 kwietnia 1989, poycja 114* (Register of Bills of the Polish People's Republic no. 21, 17 April. 1989, item 114) See Katarzyna Zukrowska, 1991, p. 130.

4. Original source: *Dziennik Ustaw nr 72 z 21 grudnia 1989, poycja 432* (Register of Bills of the Polish People's Republic no. 72, 21 December 1989, item 432) See Katarzyna Zukrowska, 1991, p. 131.

5. Original source: *Dziennik Ustaw nr 75 z 28 grudnia 1989, pozycja 445* (Register of Bills of the Polish People's Republic no. 75, 28 December 1989, item 445). See Katarzyna Zukrowska, 1991, p. 131.

6. "Order on Restricting Chemical, Explosive Exports," *Dziennik Ustaw* [Warsaw] November 12, 1990, Foreign Broadcast Information Service, (JPRS-TAC-91-005), February 28, 1991, p. 3.

7. *Ibid.*, p. 3.

8. *Centrany Zarzad Inzynierii* [Central Board for Engineering] (Cenzin), was established in 1955 to exclusively conduct the sale of military equipment to foreign countries.

9. "PAP Report," *PAP* [Warsaw] November 10, 1989, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-89-220), November 16, 1989, p. 69.

10. Katarzyna Zukrowska, 1991, p. 130.

11. "Arms Trade Demonopolized 'Within a Month'," Warsaw Domestic Service [Warsaw] March 20, 1990, Foreign Broadcast Information Service, Daily Report: East Europe, (FBIS-EEU-90-057), March 23, 1990, p. 69.

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V. THE LEAST SIMILAR CASES

A. RUSSIA

1. Export Control Measures in Russia

The CoCom requirements for an export program can be met by following the guidelines in the U.S. Department of Commerce's A Guide for National Export Control Programs. The manual was designed for use by the Republics of the Commonwealth of Independent States to develop the fundamental administrative and legal structure for an export control system. To meet the CoCom requirements, an expansive program will have to be adopted that enacts regulations, has enforcement and supervisory provisions, has public awareness policies, and adheres to international control regimes. Because of its expansiveness, adopting CoCom supporting legislation would have an influence on a wide number of interest groups. Given the political volatility of Russia since 1991, it is not surprising that such legislation has not been promulgated.

A perspective on what should and should not be sold is developing in Russia. There is a clear consensus that

nuclear, biological and chemical weapons should not be sold.[1] Russian president Boris Yeltsin expressed his support for the London guidelines on conventional arms sales.[2] The State Commission for Military-Technical Cooperation (GTVS) was created in 1992 under the chairmanship of Deputy Prime Minister Georgiy Khizha. The commission's task is to monitor and promote the process of arms exports. The GTVS is also tasked to develop a unified Russian policy in the area of arms exports.[3] Minister Khizha also headed the Russian Federation Export Control Commission. This commission, an interagency group formed in 1992 by Presidential decree, gives final approval for exports of military equipment, technology and services. Thus, initially, Russia demonstrated its desire to tie together the arms export efforts with the need to control and monitor the sale of weapons. Yet, the Russian government's removal of Minister Khizha from the GTVS and the Export Control Commission does signal an emphasis on arms sales. The issuing of export licenses is controlled by the Ministry of External Economic Relations with input from the Export Control Commission.[4]

Even with these structures in place, Russia still has to develop sufficient enforcement and supervisory abilities at the state level. The state has still to develop programs to educate potential arms sellers on state laws and restrictions. Russia also needs to create bureaucracies which

are efficient enough to take away the incentive to circumvent the established state structures. Finally, Russia will have to report arms sales and transfers to a degree exceeding the voluntary requirements of the United Nations conventional arms register.

2. Social Aspects in Russia

a. [Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?

The greater a country views conventional weapons as a symbol of their sovereignty, the less likely the country is to adopt non-proliferation legislation. For some members of the Russian government production of conventional arms was and still does reflect the glory of the State and should be protected. This should not be surprising. For many years the engineering and weapons sectors of the economy received the best of materials and personnel. Their products were held up as proof of the Soviet Bloc's ability to be able to compete with the West. Those perceptions die hard.

The old Soviet fear of being surrounded by the West has reemerged with a new twist. According to Anotoly Shestakov and Vladimir Yurtayev, both members of Russian Ministry of Foreign Economic Relations, the creation of the Central Asian Regional Union (CARU) is an effort to deprive Russia of profitable commercial and economic partners and

access to world markets for goods and raw materials especially Russia's profitable military-technical cooperation with Iran.[5]

The same sentiment is intertwined with the idea of prestige when on 19 August 1993 Russian Federation Premier Chernomyrdin said that his government:

> has no intention of going with an outstretched hand to ask for any kind of help. Russia wants equal cooperation on the world market in every direction, including the sale of arms. But those who run the world market are not one bit interested in seeing the country make progress. They want Russia to fall apart, but they will not see that[6]

The same conspiracy theory was held by the previous Russian Prime Minister Valentin Pavlov. Dr Khripunov, Senior Scholar and Co-director of the "Newly Independent States Export Control Project" at the University of Georgia in Athens, Georgia, contends that conservative members of Parliament have been able to argue for the conspiracy theory because projects supporting non-proliferation have been funded by the Pentagon from the US defense budget.[7]

Echoes of the East/West conflict have taken shape in the debate to sell arms. Hence, Vice President Aleksander Rutskoi said "the remainder (non-soviet type weapons sold to Middle East countries) were not sold by God descending from the heavens but by real producers, including the chief one - the United States. And only our rival's lobbyists can push Russia toward a unilateral reduction of the arms trade."[8] He is pointing out that the selling of arms is

a zero sum game in which the U.S. is attempting to increase its market share at Russia's expense. Deputy Defense Minister Andrei Kokoshin pointed out that "if other countries would have started reducing arms deliveries this would have had some effect, but it turned out that most democratic countries are not stopping arms sales but increasing them ... Naturally, it's very disappointing to our arms producers to see ... other countries advancing on our markets."[9]

The leadership in Czarist as well as Communist Russia had a strong desire for secrecy. During the Gorbachev period, secrecy hindered the exchange of information needed to scrutinize the VPK. Public debate about the VPK was also missing which made it difficult to achieve genuine reform of the military/industrial complex (MIC). Information on the MIC became more accessible in the first year of the Yeltsin presidency but seems to have become more restricted in the later part of 1993.[10] The Russian desire for secrecy seems to be reasserting itself and is most noticeable in those Russian officials who don't want to join an arms control regime that will demand a great degree of transparency.

As Hufbauer and Schott pointed out, CoCom restrictions in the past played a relatively uninfluential role in the economic troubles of the Soviet Union.[11] Internal mismanagement and the inherent contradictions of the Marxist system were far greater factors.[12] This perception has

carried into the post Soviet era. Nowhere were Russian elite attitudes about CoCom restrictions better displayed than at the July 93 G-7 meeting at Tokyo. At the concluding press conference, President Yeltsin said:

> Not all the components of the package proposed by the G-7 are of equal significance. They are not all in keeping with the way we see the problem; we attach special significance to the removal of trade barriers and the repeal of economic documents that discriminate against Russia. The process here has been less appreciable than it is in politics. The prohibitions within the framework of the Coordinating Committee for Multilateral Export Controls (CoCom) have not yet been lifted

At first, President Yeltsin's remarks seem to express his belief in the importance of CoCom restrictions. But that was not, nor will be the case because Yeltsin views the CoCom sanctions as an anachronism that must pass as the political and economic relations of Russia and the United States are regularized.[13] At the G-7 meeting, he suggested a timetable of about two years to remove the restrictions to Russian-American trade.[14]

Even if the restrictions have credibility, many Russians have the perception that the restrictions are a temporary event. Since 1990 the number of items on the CoCom list has been reduced. One main reason is in a statement from the Embassy of the Federal Republic of Germany which said: "In an age where via dialogue and cooperation we try to assist reform processes in Poland, Hungary and the USSR, CoCom is

outdated"[15] This same opinion was expressed in an article about the restrictions hindering access to the Russian space launch market. Two writers for the business paper Kommersant Daily have noted that:

> The main thing, however, is not that the CoCom restrictions can be gotten around, but that they themselves, now an anachronism from a political standpoint, must, with time, be removed as the political and economic relations of Russia and the United States are regularized[16]

Such an attitude is noteworthy because the potential for growth in the space industry is so great. Not only does Russia produce the "Energia" rocket, Russia, including Ukraine launch vehicles, has the capabilities to perform almost 60% of the world's commercial launches but is only performing 3% of the commercial launch market because of the CoCom restrictions.

One is clearly left with the impression that the CoCom restrictions are of minimal economic impact on the Russian economy, except for the space sector where Russia has suggested lifting CoCom restrictions in exchange for Russia joining the less economically intrusive Missile Transfer Control Regime (MTCR).

The Socialist legacy of providing each person a job disguised a great deal of hidden unemployment. Add to that the dynamics of industrial dependent towns or regions,

the prospect of cutting military industrial production will present sever economic, political and social problems.

The Soviet period of Russian history reinforced Russia's perception as a great power. Russia must now decide how it will define great power status and to what degree it will pursue that status. Additionally, Russia must now decide what will be its rational for adopting international norms. It is not possible to define exactly how Russia will play its great power role, but there are indications that Russia is following a policy, common during the soviet era, of using arms exports to increase the influence of Russia in other countries.

For example, in Azerbaijan, Russian support helped 2nd Azeri army corps commander colonel Guseynov lead a successful revolt that toppled the Popular Front Government of President Elchibey and brought to power the former Communist Party chief of Azerbaijan, Haydar Aliyev.[17] The Armenian army has received spare parts for weaponry through the Black Sea port of Bitumi which were then brought to Armenian forces along truck routes that pass through Russian army garrisons and under Russian army control.[18] In Georgia, covert military support was provided to Abkhasian forces to limit the success of Georgian forces. In October 1993, Russia also provided weapons to the Georgian government of Edward Shevardnadze during a critical juncture in Shevardnadze's war against

Zviadists. Russia supplied weapons to the Georgian army in order to get Georgia to join the CIS and to curtail the influence of Zia Gamsakhurdia who was considered a protege of Turkey.[19] The examples above show a pattern of Russian arms sales and grants designed to facilitate the return of Russian influence into regions previously controlled by the USSR.

b. [Question S-2] Was the demand for a strong social safety net relatively high?

Russia also suffers from the social norm that the state factory had to provide for all its members. The attempts by factory managers to insulate their workers from the harsh effects of conversion and cutbacks has added impetus to the overall drive to sell weapons on the arms market. Any politician who would adopt legislation to restrict arms sales would have to show how the arms enterprise workers would gain by reduced arms sales. After the last two years and the failures in conversion and privatization, this would be a very difficult task for any politician.

c. [Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?

The more the political leadership of a country has the expectation of being part of regional trade and security organizations the more willing they will be to adopt non-proliferation legislation that is in line with the adopted policies of the organizations to which they hope to gain admittance. This in turn is predicated on the degree to which

the party, or leadership in power, desires to become a member of a regional trade or security organization.

Russia is a member of North Atlantic Cooperation Council and an associate member of the North Atlantic Council. Russia's admission into the Council of Europe (CE) is being held up until the adoption of a new Constitution and parliamentary elections. Opponents of admission into the CE point out that Russia is too large and contains too many problems for the Council to effectively handle. Opponents further argue that the Council of Europe would have to alter its present structure and increase its budget.[20] Membership in NATO is seen by Russia as a possible long term goal. The Russian Foreign Minister's remark that Poland could act as a "neutral bridge" between Russia and Germany highlights Russia's perception on membership.[21] The minister's remark was made as preparation for President Boris Yeltsin's statement that Russia would not object to Poland's admission into NATO. Even without the Russian Draft Doctrine which reportedly recommends blocking Polish membership in NATO, it is clear that none of the European organizations have had any effect in influencing Russia towards adopting restrictive arms control legislation.[22]

CoCom restrictions were a tool in the arsenal of the West in its battle against the USSR during the Cold War. Originally designed to deny the "threat" access to

western technology that would increase Soviet military capability, eventually there developed an attitude that it was repugnant to trade with the enemy. This attitude can be seen by the CoCom restrictions that went beyond cost-benefit analysis. Thus the line between economic restrictions which were designed to influence a country and economic restrictions which highlighted a state's repugnant nature became blurred.

To some degree that taint of CoCom restrictions must carry over to the post-soviet present and seems to be illustrated in the nationalist statements such as the following by Vladimir Gerasimov. In Pravda he is critical of the West's frustration of Russian attempts to enter the high technology markets. He sarcastically remarked that:

> all Russian attempts to break into the world market with achievements in science have been blocked. Now there are bright prospects: the elimination of CoCom and the lifting, in ten years, of restrictions on Western countries' trade with Russia. But that's another 'penalty kick' into one side's goal[23]

3. Political Aspects in Russia

a. [Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?

In the absence of political power or in the face of the perceived weakness of the State, the state creates an impression that trading can go on unencumbered by state restrictions. A firm may also feel that it must take

care of itself in the absence of a supportive state structure. The ineffectual policies of the Russian state is evident in the comments of Mikhail Bazhanov, chairman of the Russian Federation State Committee for Conversion. Commenting on the plans for establishing working places for displaced military and civilian specialists from the military-industrial complex, he noted that plans have been adopted but can't be implemented for lack of funds. He then made an indictment of his government's ability to make plans but not act upon them:

> Göbbels is known to have grabbed for his pistol at the word 'communist'. I want to do the very same thing when people say 'plans', 'plans for measures,' and 'commissions' to me, for if you intend to disrupt matters, just set up a commission or write a plan. We produce heaps of measures, but where is the execution? I believe what is needed is not write plans, but to work specifically.

Russia would have difficulty enforcing arms control legislation because the state does not really know how many weapons it owns or what is carried out of its borders. The military commentator for Cegodnya, Pavel Felgenhauer, suggested that the Russian figures to the UN Arms Register identify three problems with arms control in Russia. First the General Staff may not even know what it has, second weapons are being sold through unofficial channels and third Russia can ship weapons to Ukraine for export and then not have to be responsible for their accountability.[24]

Russia would be foolish to adopt arms control legislation that it could not enforce. Russia can not police its own borders. Moscow does not really know what weapons it owns nor what is being produced. The Russian Federation has republics developing their own weapons programs. The military is authorized to sell weapons and has sold weapons without authorization from Moscow. Factory managers and workers unions are actively seeking commercial arrangements. Russia, by signing a formal and international agreement, would be creating a situation where the Russian government's inadequacies are constantly highlighted to the West.

b. [Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?

The greater the degree of political influence held by internal political groups that are morally or philosophically opposed to arms sales, the more likely Russia will adopt non-proliferation legislation. The converse is also true. During the first two years of Russia's statehood the preponderance of influential actors are in favor of arms sales

The Civic Union, a moderate to centrist political group, proposed a new economic union which would include Russia, Belarus, Ukraine and Kazakhstan. Civic Union claims that the leaders of centrist forces in each country support this initiative.[25] A main component in such an

economic integration would be the rejoining of the arms production structure. This supports the contention that the reconstitution of the empire will find its roots and basis of support in economic integration.

General Mikhail Malei, Russian State Counselor for Conversion, strongly supports the sale of arms but wants to limit sales to regions of tension and emphasize the export of defensive weapons.[26] The clearest example of the government's pro-arms position was the firing of the previous Minister for Foreign Economic Relations, Petr Aven. President Yeltsin said that Aven's failure to promote Russian arms sales had cost him his job. According to RFE/RL staff writer, Stephen Foye, the more recent resignation notice of the standing Minister for Foreign Economic Relations, Sergai Glazyev, was partially due to pressure he was receiving over a policy to impose stricter control on the export of strategic raw materials and military technology. The pressure was being exerted by Deputy Prime Minister Vladimir Shumeiko, a supporter of Boris Yeltsin.[27] Aside from demonstrating the government's position on arms sales, his resignation highlights the Russian government's desire to sell all types of weaponry.

Yeltsin has demonstrated for what ever reason that he is unwilling or unable to pass a law that restricts arms sales. He realizes that the arms sales question stands

far in line behind other more pressing problems. In the face of a budget that will increase the deficit by at least 12% of GDP before adoption of populist measures proposed by Parliament, parliament is making hash out of his economic policy.[28] Parliament is threatening to bring privatization to a halt, and pronouncements about Sevestapol are undermining the credibility of Russia as an international partner. The above types of problems will demand Yeltsin's attention before any questions on arms sales.

The need to form coalitions and political alliances at this key juncture in Russian internal politics forces Yeltsin to avoid any policies that would further antagonize his relationship with industrialists in Russia. Yeltsin's decision to withhold rocket motors from the Indian government brought him criticism from the industrialists and nationalists who objected to Russia giving in to American pressure. The adoption of legislation that would deny him political backing when he needs it most would be a foolish political move. In the public referendum conducted during April 1993, the following question was asked - "Do you think it necessary to have new parliamentary elections?" Of those who voted, 67% answered "yes". For Yeltsin this is encouraging but not a clear mandate to act against Parliament. He must still subordinate his foreign policy goals to the realities of domestic power politics.

As a populist leader, Yeltsin must attend to the public demands. At the same time that he might be decreasing arms sales, he is faced with demands such as those from the Vorkuta miners. They demanded the government develop a program of real social guarantees for those who lose their jobs to government directed coal pit closures. A reduction in arms sales means less money for social demands such as above. This condition will continue during the difficult process of conversion, deregulation and especially during the conflict for control of Russia's political future.

If weapons production and sales have some political utility then there will be pressure by Russian officials against adopting the CoCom supporting legislation. Structurally, the market is such that the political utility of conventional arms has decreased. In commenting on the international arms trade system from 1980 to 1992, Dr. Edward Laurance has pointed out that:

> Although some supplying states may continue to believe that arms transfers create structural influence, only in extreme cases does a structural arms transfer relationship guarantee that established supplier-recipient relationships and their resulting political and strategic alignments will be maintained. As the political visibility of commodities being traded on the international arms market has declined, so has the utility of arms transfers as a political instrument.[29]

With the exception of the Near Abroad, this trend is continuing as part of the post Soviet arms trade

because the decrease in the number of arms purchasers concurrent with the increase of the unit price of the items being purchased has created conditions for a buyers market. The ability of Russia to use weapons as a foreign policy tool in bilateral relations is therefor limited.

The utility of weapons sales and production changes considerably with the introduction of a third party or another state. In this arena the Russian government is demonstrating that weapons do have a degree of political utility. One has only to look at the Russian use of nuclear weapons to appreciate the political utility of weapons. The proposed sale of cryogenic rocket engines to India illustrates the same point.

The political regions within the Russian Federation are demanding a piece of the arms market. For example, the Republic of Udmurtiya is being converted into an enormous military complex, in as much as they work on labor intensive, high technology products.[30] Another example of the influence of the political regions of the Russian Federation is that the Russian arms show for 8-13 September was organized by both the Russian Defense Ministry and local government officials.[31] The former Tatar autonomous republic, where is located many important defense industries, has declared itself independent of Russia. The same can be said of the Chechen-Ingush autonomous republic, whose president, Dzhokhar Dudaev,

claims control over the former soviet forces stationed in the republic.[32]

To make matters more difficult for the Russian central government, many republics have been holding back or reducing their tax receipts to the central government. As a result, Professor Jacques Sapir, Foundation de la Maison des Sciences de L'homme in Paris, believes the Russian central government is practically broke but the many regional governments have money. Of course, money is power but that is only one card that the regions can play in order to have influence in the arms market.

Vitaly Shlykov, former Deputy Chairman of the Military Committee of the Russian Federation, claimed that the MIC is using mobilization reserves to continue production lines. To use his words, there is in Russia a shadow economy which "uses up the economic fat, accumulated over the last fifty years in the form of different stockpiles and other assets."[33] Naturally, these reserves are located in the regions. Even though the Yeltsin government issued several decrees forbidding the use of the stockpiles, the regional leaders are allowing the MICs access to the mobilization reserves.

c. [Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?

The connection between national security objectives and arms sales begins with Russia's new view of the term "security". According to Dr. Evgueni Volk, Deputy Director of the Russian Institute for Strategic Studies, the Law of the Russian Federation "On Security" signals a change in the Russian definition of security. The principle challenges to Russia's security will be from communal turmoil, massive corruption, separatists trends and economic crisis. These threats will replace the narrow militarized understanding of what is national security. The implication of this change is that weapons sales can be justified as a means of insuring Russia's economic security.[34]

In the 29 April 1993 issue of Nezavisimaya Gazeta, Vladislav Chernov, the deputy director of the Russian Federation Security Council's Strategic Security Administration, made a connection between arms sales and the security function they provide for the Russian Republic. In his explanation of the basic provisions of the Russian foreign policy, he noted that in the economic sphere, Russia faces a continual threat of being crowded out of a number of foreign markets and an ongoing restrictions on access to high technologies. This set of restrictions in combination with threats of a military nature (especially the continued

qualitative arms build up in the West) are reasons why Chernov has said that "special emphasis is placed on precluding any action that would undermine Russia's strategic stability and defense potential and its position in world arms markets."[35]

In an article in Novoye Vremya, the author noted that "almost 70 percent of the scientific and technical potential from among high-level specialists, mainly designers and scientists, have already left or intend to leave in the near future.[36] To underscore this point the Economist noted that of the 440,000 immigrants to Israel from the old Soviet Union, 90,000 had some kind of engineer, medical or scientific degree.[37] The writer's conclusion is similar to director Chernov's; "by the end of the nineties Russia will not be able to catch up in the area of arms production - the only area where Russia can compete in the international arena."[38]

A more parochial view on the same theme was expressed by an engineer at the St. Petersburg Rubin Central Naval Equipment Design Bureau. He noted that a portion of the profits from arms sales needs to be funneled back to support the Russian naval shipbuilding industry or else Russia may lose her position achieved in arms development as well as the upgrading process. The lack of funds will ...

> throw us backward and require considerably greater expenditures for eliminating the natural lag which will take us more than a decade to overcome. Most importantly, we are depriving our Motherland of the

> potential of a reliable defense of her borders and the protection of her own interests.[39]

The ideological conflict has been replaced by the economic conflict. With respect to the arms trade, Maley said:

> Protecting such profitable business against competitors is a paramount task for the authorities of any country. How else to explain that the Coordinating Committee for Multilateral Export Controls both impeded the penetration of military output from the country under the red flag onto the world market and is impeding it now, although the state does not exist, and Russia has changed its flag, abandoned communism, and embarked on a democratic path. That can be explained by economic interests.[40]

The factory manager for the Tela small arms factory expressed a similar sentiment when he said "the dynamics of technology require constant attention - If we stop producing modern ammunition we'll fall behind the technically developed states in just one year."[41] This could be read as an attempt to justify his job but if it is repeated often enough it will assume its own validity.

4. Economic Aspects in Russia

As in any country, Russia's need to have a modern capable armed force should be related to their perceived security environment. The need for modern weapons can be met in Russia by either producing what is needed or by purchasing weapons on the open market. The later would require hard

currency which Russia does not have to spare. Producing their own weapons is an attractive alternative until one considers that Russia can hardly afford that option either unless the weapons industries can produce with economies of scale to make production profitable. Here is the economic motivation to export part of their arms production.

Even though Russia has not sold much equipment in its two years as a state, the prospects for sales have always seemed to be in the wings. The negotiations between China and Russia for the sale of the tanks has held out the promise of more weapons sales. The same can be said of Russian arms sales to Malaysia and the opening up of the Pacific Rim market. Russian aviation equipment was chosen for the first time to participate in a special test program of U.S. models of arms. As a result of the test some Russian equipment will be used by American armed forces.[42]

a. [Question E-1] Were the prospects for converting the defense industry relatively high?

The greater the prospects for successful conversion, the less demand there will be to sell arms. In reality, the process of conversion in Russia has reflected the general confusion accompanying the change from a communist state. In short, conversion has not been successful enough to act as an alternative to arms production and sales.[43]

Russia was not initially prepared for conversion. As stated earlier in the paper, in late 1991 and 1992 Russia did not have the military doctrine and conceptual framework for the armed forces in which to guide equipment needs. In many cases firms just produced according to resources available and old demand levels. Additionally, as in the Central European states, there were misconceptions on the ease of conversion; but instead of giving support to the adoption of non-proliferation legislation, it gave way to an unstructured process of conversion and arms production.

The production possibilities for individual firms did not allow for the efficient shifting of resources from military to commercial production. During the 1980s, the defense industries were utilizing about 50-60 percent of their production capacity for military products and the other 40-50 percent for "civilian" production. In addition, according to the general trend in east bloc industry, machinery and other equipment used for military production was normally located in a separate department from the general-purpose machinery and equipment that could be used in both civilian and military production, so these departments could be separated out as independent entities. By 1993, the civilian component of the MIC output has risen to more than 80% of the total defense industry output. This argument which seems to support conversion is not the full

story. Because the civilian component of the VPK's production was not planned for a consumer market, but rather as filler for wartime defense expansion, the commercial products coming from its assembly lines were very low quality and inefficiently produced. The same problem exists today in Russia.[44] The civilian products are of such low quality that they can not compete on the unregulated market. Thus, production of defense related products appears to be the most efficient use of basic resources.

Part of the confusion surrounding the conversion process is due to the scale of conversion - approximately 68 percent of the arms industry.[45] By way of rough comparison, the annual conversion rate in the United States has been targeted between 3-5%. During that process, many plant directors claim to had been blindsided by the conversion program. They certainly have a valid claim because the Soviet government did not give ample time for factories to adjust to the loss of state subsidies. Without reopening the debate about whether the economy should have been lead through conversion by the state or allowed to be shaped by the marketplace, the end result was one where many weapons producers felt they had to rely on their own corporate skills. The director of the Tela Small Arms plant had the following to say in response to planned governmental support of the arms industry "we are relying on ourselves

most of all, counting on our production and scientific potential. We have excellent people, and that's what keeps us going"[46]

The result was a unstructured process where weapons plants tried conversion to products for a saturated market. The confusion during the conversion process prompted the writing of one article titled "Tanks to Tractors or How Many Stainless Steel Salad Bowls Can One Family Need?" In the article, the author explained how one factory decided to produce stainless steel bowls because it seemed a good idea. So good was this idea that other factories decided to produce the same thing at the same time - unbeknown to each other. Eventually, all the producers failed because of over production.

In addition to market management problems, the arms factory managers were tasked to find work to replace the lost governmental orders. Now, individual plants are having to seek clients, conclude contracts, and carry through deals, often without the government's interference much less support. The priority was to find orders and retain jobs. Thus, western diplomats in Beijing have commented on the number of Russia defense industry people operating in China without the knowledge of the Russian embassy in Beijing.[47]

Difficulties in conversion gave rise to debate on the worth of conversion. That debate has pitted

reformists against a block of conservatives and industrialists. The reformers view conversion of the military-industrial complex (MIC) as a synonym for economic reform. For the reformers, conversion and privatization are closely linked. The program for privatization though has been held hostage to an anachronistic political system which attempts to delineate relationships between the president and the parliament at time when the two political groups are competing for control. Hence the law to regulate 1993's program of privatization has not been presented to Parliament as of July 1993 because the government assumes the anti-reform majority would block it.[48]

The industrialists see the MIC as a viable part of the national economy which should be supported and expanded. Many leaders in Russia see the industrial sector as a viable entity to compete on the world market and can't understand why Russian leaders would give up a comparative advantage? In fact, the MIC was viewed as the area of the economy that the rest of the conversion program could be built upon. Mikhail Maley's description of conversion is:

> the transformation of the military-industrial complex by selling the output from it which is bought on the world market. Conversion is liberation of the meager Russian budget from expense on the military-industrial complex and the swelling of the budget with currency in cash[49]

Some have pointed out that the amount of sales needed to stay solvent are surprisingly small. An economist at the U.S. and Canada Institute, Sergai Somuylov, cited the case of the Uralvagonzavod which he claims needs only to sell about 200 T-72 tanks for hard currency in order to survive - and convert to civilian production.[50] Multiple interviews with industrial managers bear out this same perception that a small amount of sales will keep the industry alive. Partly, this is due to the exchange rate and a cut in social services. From the interviews one gets the sense that they feel that during better times the arms industry will be able to compete, not just survive.

Proponents of arms sales draw strength from the argument that arms sales are a legitimate means of supporting conversion. This idea grew naturally from the set of misperceptions about the costs of conversion and the projections for earnings from arms sales. The projected cost of conversion over ten years was $150 billion at an exchange rate of R100:$1.[51] State appropriations for 1992 were approximately R40 billion at the rate R100:$1. Projections for earnings of arms sales in early 1992 were $8-12 billion. At such a rate it was conceivable that arms sales would be able to fund conversion. In 1993 it is obvious that the above formulation will not come true. First, the exchange rate is settling at about R1000:$1. Second, the Russians were only

able to earn about $1-3 billion from arms sales in 1992 with hardly better prospects for 1993.

There are a multitude of other difficulties associated with the type of Russian arms sales that could support conversion. The internal inhibitors include:

The long lead time for licensing. This requires nine separate signatures, including the president, the MoD, Foreign Ministry, Ministry of Security, Ministry of Economy, the Foreign Intelligence Service and the Ministry of Foreign Economic Relations. Their collection can take up to 15 months.[52]

The difficulty in receiving reliable raw materials and components which is exacerbated by the forming of monopolies to control supply and prices as well as the Russian government's inability to break up monopolies and form competitive suppliers. Once again the arms trade is held hostage to Russian internal politics.

The evolving political structure has lead to public statements by Russians that undermine a possible arms recipient's confidence in Russia. Top Russian officials talking about possible civil war in the country does not help secure long term contracts which require partial funding before construction.

Anarchy will reign in the absence of a legitimate system to control arms sales. The Ministry of

Foreign Economic Export has two affiliates to officially handle the advertising and contracting for the government- "Oboroneksport" and "Spetsvneshtehknika", yet a bounty of other firms, producers and intermediaries have sprung up in the vacuum of governmental enforcement. In many cases this has caused haggling among Russian sellers trying to underbid each other for the right to sell Russian equipment.[53] The MiG sale to Malaysia highlights this characteristic of the Russian arms industry.

The Malaysian Defense Minister decided in July 1993 to send a air force team to Moscow to evaluate the technology which is to be part of a pending purchase of 18 MiG-29s to Malaysia.[54] The Malaysian decision seems to be in response to fighting among Russian defense contractors who each claim to hold the rights to sell the aircraft to Malaysia. This confusion between defense contractors, according to writer Petr Vasilyev, stems from the dissolution of the Russian governmental department which oversaw the Russian arms trade.[55] Apparently, the Malaysian government is concerned that the Russian squabble in the MIC will leave them on the short end of the stick and have made confirmation of the deal conditional on warranties on improved aircraft performance and guarantees of future maintenance and technology transfers.[56] Russia will also have to be able to provide all the support aspects of a weapon's sale. Their

ability to provide a "package" of training, simulators, modernization and special design features to go with the purchased piece of equipment is evidenced by the Varshavyanka class submarine.[57] With Russia's internal political scene, this type of coordination among different republics or regions within Russia will be more difficult to effect.

One reason for the downturn of arms purchases in the world market is the world wide constraint of capital. The western arms dealers have been able to adjust to this development with creative financing schemes vis-a-vis the potential buyer. Russia's economic difficulties do not allow Russia to extend such loans and credits to its potential customers. The need for hard currency has reduced the Russian options for creative financing as a method for helping arms recipients bridge the high cost of arms purchasing.

Retooling and equipping problems which hamper the drive towards worker productivity and competitiveness are first and foremost affected by inflation which is not going down in the near term. The Russian Supreme Soviet has adopted a Law on Grain. One third of the cost of producing a ton of grain as well as 50% of the expenditure of other supporting activities will be paid by the state.[58] The Central Bank is planning to recreate a system of central banks which will have monopoly authority to allocate funds to specific industries. This will monopolize the credit markets forcing inefficiencies

which will lower the effectiveness of the money issued and result in pressure to increase the money supply.[59] The outcome will be a reduction in the amount of capital available for conversion. The probability of legally developing investment capital is being frustrated by high taxes, inflation, lack of preferential terms for investment, lack of turnover funds, high prices for equipment, a weak banking and investment ethos and a negative balance of payments in most industries. Funds are also constrained by the rising cost of energy and materials. Volatility as a result of deregulation has added to an business environment where it is difficult to project future costs and profits. The air of uncertainty leads managers to stay with low risks enterprises.

Inexperienced factory managers have also hurt the process of conversion. Managerial ignorance is evidenced in statements such as "Less cost means more efficiency."[60] In fact many managers were reticent to support privatization of their factories because they feared the new owners would fire the workers as a step towards efficiency.

On top of all these difficulties is the reality that the debate over conversion is being conducted in the crucible of domestic power struggles and has naturally become a politicized issue.

There are several external inhibitors to Russian arms sales that constrain Russia's ability to sell arms to fund conversion. They include:

1. Uncollectible foreign debt to the old Soviet government left some production firms without capital for conversion or future production. Of the $146 billion currently owed to the Russia from old contracts, more than 40% of that figure Russia will probably not collect.[61] The paucity of the Russian state does not allow for the allocation of state credits which would make up for the loss of foreign revenues.

2. The Gulf War increased the prestige of American weapons. Russians have labored to show that their weapons have the qualities of American weapons. Hence an advertisement in Tekhnika I Vooruzheniye for the 1L219 'Zoopark-1' counterbattery radar finished with a positive comparison to the American AN/TPQ-36 counterbattery radar.[62] The same glaring effort is evidenced in an advertisement in Military Technology where a MTLB variant armored personnel carrier is being advertised under the title "Whatever the weather-rely on a storm!"[63]

3. The Russian have a desire to curry favor with Western Powers for specific issues. The Russian decision to not sell rocket motors to India seems to have been tied to U.S. aid for the development of the Russian oil and gas industry and an agreement to cooperate on space exploration.

For Russia, the reduced world arms market is exacerbated because of arms embargoes on Iraq, Libya and the former Yugoslavia. Add to that the glut of Soviet style equipment from the former socialist countries and the republics of the former Soviet Union.

b. [Question E-2] Was export specialization in military hardware relatively high?

There are other reasons, from the Soviet era, that predispose Russia to sell arms and not adopt restrictive treaties. First, the USSR was number one in arms exports from 1985-1989 and had a relative export specialization which was four times the specialization of the United States (see Appendix C). Given the structure of the Russian arms market, arms exports would have constituted an influential portion of the total Russian export market.

Table 4-1 shows that the Soviet Union was becoming less dependent on arms exports as a percentage of its total exports as it approached the pivotal year of 1991. This trend is partly due to the policies of Michael Gorbachev and probably would have followed him into house arrest had not the USSR fallen apart. Much more telling is the data on relative export specialization. There the Soviet Union was increasing at the same time that other nations of the world were moving in the opposite direction. Russia would develop as a state with this upward trend of relative export specialization

already established as a significant element in its economy. So after 1991, when the other countries of the world were able to sustain themselves through a diverse group of products for trade, Russia entered the world market with very few viable manufactured, exportable products.

Table 4-1

Relative Export Specialization in the USSR from 1985-1989

Year	Arms Exports	Total Exports	AE/TE %	Relative Export Specialization
1985	17100	87200	19.6	7.84
1986	21300	97050	21.9	9.13
1987	22600	107700	21.0	9.13
1988	21600	110700	19.5	10.2
1989	19500	109300	17.9	11.9

Source U.S. Arms Control and Disarmament Agency (1991).

c. [Question E-3] Was the outlook on continued exports in 1989 relatively high?

Russia is playing a part in the world's arms trade, albeit a reduced role. The future of its participation, and thus its desire to adopt arms control legislation, is influenced by Russia's outlook on the export market, its ability to find a spot in that market and the country's ability to successfully convert its arms industry to other lines of production.

The international and domestic arms market has shown a steady down trend for Russia, but it is not a closed market, and it is one in which both Russian officials and private enterprises see some possibilities. Many of the sales possibilities stem from the structure of the arms market as it was developing under the influences of the Gulf War and the breakup of the Soviet Union.

First of all, markets appear to be opening up to former Soviet bloc countries that were not previously open during the Cold War. The major market is in Asia. Malaysia's announcement on June 29, 1993 of the planned purchase of 18 MiG-29s represented a first for the former Soviets in what is potentially a hugh market.[64] The mixed purchase of both American F-18 and Russian MiG-29 type aircraft could be a good sign for former East Bloc countries trying to break into traditional western arms markets. The Malaysian deal never went through.[65] Whether it was the Malaysians inability to trust Russian production promises, lack of a spare parts deal with India or simply the Malaysians trying to bid down the price of American fighters is difficult to ascertain. Clearly, there were enough reasons for the Russian industrialists to continue in their belief that Russian weapons have export potential.

There are some limitations on this belief that Asia will be a new arms market for the Russians. Russian

efforts to offset its interest on its debt to South Korea with shipments of weaponry was not accepted by South Korean officials. South Korea cited its wide ranging defense ties to the U.S. as a primary reason for the refusal.[66] Optimistically, Russian arms merchants can point out that the traditional Soviet arms recipients, i.e., Iran, Syria, Libya, etc., are not likely to turn to the West for arms. Admittedly, in 1991 the United States dominated the Middle Eastern arms market but East Bloc weapons dealers could point out that if the U.S. arms are excluded, then the overwhelming number of weapons ordered by Middle East countries in 1991 were Soviet designed equipment.[67] But as the example above illustrates, traditional recipients of western arms may now look to the former Soviet block for weapons since there are no ideological and few political consequences. In May 93 Russian Defense Minister Pavel Grachev visited Turkey to initiate a contract for armored personnel carriers and helicopters, thus becoming the first NATO country to outfit itself with Russian equipment.[68] The preeminence of economics over politics as the motive for arms sales will open up more markets to the former Soviet states.

In the short term, this trend will be offset by the lack of hard currency available in the countries who used to trade with the Soviet state, but hard currency will not be this constrained indefinitely. In many cases, barter has

acted as a substitute for hard currency but is not as desirable a form of trade for the former Soviet states, however it will keep production lines open.

Another systemic aspect of the market demand is that countries or groups at war, or faced with the immediate prospect of war, will be looking for inexpensive but effective weapons. The former Soviet stockpiles of weapons which are now free as a result of CFE arrangements can fill that market. That is what happened in 1992 when Kazakhstan sold excess military equipment to Afghanistan. Even the new military equipment produced by Russia is less expensive than the western equipment and could reasonably be the first choice of a country in a state of war where capital is scarce.

The former Soviet states could have success in the market not only because their equipment is inexpensive but also because it can be upgraded with a host of packages which then will give it a level of quality which is equal to western equipment. Often this can be accomplished while still undercutting western prices.

The Gulf War has spurred the market for high technology weapons, especially missiles. The effectiveness of the air war has influenced the sale of SA-10 and SA-12 missiles as alternatives to the Patriot missile.[69] Another example of the market demand opened up by the Gulf war is the SS-N-22, a 100km-plus infrared and active radar homing missile

designed for anti-shipping combat. It represents some of the most current Russian technology.

The SS-N-22 also represents a new market for Russian weapons. The American military intends to purchase six of the missiles for testing purposes so that an effective counter to the missile can be developed.[70] This does not represent a long term market. But at hundred million dollars per missile, the Russians can clearly see a lucrative market.

The Gulf War also highlighted the dynamics of technology and how it would increase the demand for military equipment. It is no coincidence that the Russians exhibited their X31 and X35 missiles at the International Defense Exposition-93 (IDEX-93). Both are anti-ship missiles. The X31's anti-radar version can be used to attack AWACS type aircraft. It has a passive radar homing seeker head which represents a significant step in the level of weaponry a country can purchase. In the air to ground mode, it can target missile control radars. The Patriot missile's guidance radar was specifically mentioned.[71] The X35 missile is named the "Harpoonski". Its similarity to the American "Harpoon" anti-ship missile is such that the missile is advertised as a target for defensive training. These few missiles represent only a fraction of those in production or the R&D phase which are for sale. Clearly, the Russians see a market in weapons

systems designed to counter the western technologies of the Gulf War.

d. [Question E-4] *Was there a relatively high degree of autonomy in the defense industry?*

In a variety of subtle ways, the old soviet arms system influences the present government of Russia and its populace to not adopt restrictive arms control measures. What will follow is a review of some of the salient features of the Soviet weapons procurement and sales system and its effects today.

The most outstanding aspect of the Soviet arms production industry was the dependance that the Republics had on the Russian SSR. Weapons production was not centered in one location. Reflecting the lessons learned during WWII, production was dispersed throughout the Republics. By distributing production facilities the Soviet state was able to motivate its citizens to populate inhospitable locations, justify the movement of ethnic Russians into other territories, and fulfill the Socialist pledge to provide a better future for the Soviet people. The result was a system where a ship such as the Heavy Air-Capable Cruiser Kuznetsov could be built in Ukraine but still require the input of 169 separate ministries and departments and over 3,500 basic enterprises throughout the USSR.[72]

On the surface this appears to be a system of interdependence until one notes that the preponderance of final assembly plants were located inside the Russian SSR and in the Ukraine. With the exception of the Petropavlovsk final missile assembly plant in the Kazakhstan SSR, the Chkalov aircraft plant in the Uzbekistan SSR, and the T'bilisi aircraft plant, all other final assemblies were performed in either the Ukrainian SSR or the Russian SSR. When one considers that nearly three fourths of the former Soviet Union's military research, development and testing facilities were in the Russian SSR, the argument for interdependency looks weak as the Russian SSR could have adjusted for the loss of a major component producer with production or development in another Republic. In reality, many plants produced the bulk of their subassemblies and stockpiled materials in order to avoid any disruptions in meeting production quotas. Though weapons factory managers can be criticized for many things, one thing for which they strived was to circumvent the obstacles to production that they saw at their level, regardless of the goal of interdependence or efficiency. This determination by factory elites to "meet the plan" has been supplanted by the need to "meet the market". Often this involves factory elites entering the market on their own.

Another aspect of the defense industry in the Soviet Union was its highly vertical integration. The output

of a military industrial facility as well as the amount of inputs and sourcing of sub-components was centrally directed. This had a marked influence on the development of the Soviet defense industry. This shielded the local managers from the burdens of plant management known in the West. At the same time, the plant managers were also shielded from the knowledge and experience needed to run a successful plant. There was no formal requirement to develop independent arms industries in each of the former Soviet Republics. In fact, the former Soviet State seemed to have been planning against such developments. Finally, the level of sophistication and understanding, by members of the different Soviet ministries, about the requirements of arms trading was minimal because decisions on arms exports were made in Moscow, by the Ministry of Foreign Economic Affairs with limited input from Defense officials, industry ministers nor their foreign trade organizations.[73]

This aspect of Russian decision making bureaucracy was illustrated in Russia's adoption of its new defense doctrine and shows how the lack of experience of new Russian bureaucrats has hampered the efforts at conversion and privatization. According to the Russian "Law on Defense", the Russian president confirms the state programs and plans of armaments' development. With that authority, President Yeltsin instructed the Security Council of the Russian

Federation to develop a military doctrine that would guide the conversion and privatization efforts of Russia. Twice, President Yelsin had to reject the proposed Draft Doctrine because it did not contain guidance from which long term defense guidance, and thus conversion, could be derived. The doctrine had no political vision because the writers of the document lacked experience from the communist period.[74] As a result of having inexperienced personnel in the Security Council, only the military provides information to the doctrine writers. The military's position as information source is secure because Russia's "Law on Security" does not allow independent academic institutions to vet the military's contribution to Russia's military doctrine. According to Dr. Shlykov, this structure will be preserved with the new Russian Parliament.

All of these structural developments created an uninformed group of bureaucrats and industrialists who have unreal expectations about the ability to sell arms and the benefits of arms sales. To many people the benefits of arms sales are apparent. Mikhail Maley, advisor to President Yeltsin, believes that profits of 300-800 percent can be found in arms trade.[75] Viktor Glukhikh, chairman of the Russian Commission of Defense Industries, Roskomoboronprom, thinks that Russian defense industries can sell $3-3.5 billion worth of arms in 1993.[76] More optimistic projections of $30-32

billion are projected if the country can solve its supply and customer problems.[77] Both sums are optimistic but telling in light of the importance attached to the 3 billion aid package offered at the G7 meeting at Tokyo in 1993. The supply and customer problems cited by Glukhikh are significant and highlight the dependency concerns of the weapons producers within Russia.

5. Conclusions Relative to Russia

Of all the countries in the study, Russia varies the most from the test case. None of the factors in Russia are the same as in Hungary (see Table 4-2). Not surprisingly, Russia is not expected to adopt any meaningful arms control measures in the near future.

The internal factors that relate to Russia's desire to adopt weak control system measures are not ones that could be influenced by outside pressure. Russia's position on maintaining a solid core of the industry, the lobbying power defense industry labor force, and their potential to find room in the future arms market will not be affected by the stick of being left on the CoCom proscribed list.

As well as being ineffective, the pressure to get Russia to adopt these export controls has also had largely negative consequences. Many Russians regard the export

Table 4-2

Conclusions for Russia vs. Hungary

Questions	Hungary	Russia
[Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?	yes	no
[Question S-2] Was the demand for a strong social safety net relatively high?	no	yes
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes	no
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no	yes
[Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?	no	yes
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no	yes
[Question E-1] Were the prospects for converting the defense industry relatively high?	yes	no
[Question E-2] Was export specialization in military hardware relatively high?	no	yes
[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no	yes
[Question E-4] Was the outlook on exports in 1989 relatively good?	no	yes

control measures advocated by the West to be simply protectionist moves intended to preserve the western military industry. More importantly, the line between what is international business competition and what is international political competition can become a grey area given the difficulties of reform in Russia.

Regardless of the road taken by the political process, Russia will develop with a core of highly advanced

weapons producers. Russia is determined to retain a large portion of its defense industry for national security reasons. Russia has defined its history by its feats of arms. The military is a part of Russian culture and will remain so in the future. Currently the Army is financially strapped and unable to procure new equipment but the government will take steps to protect the industry for the time when the financial situation is improved.

Russia will use arms sales abroad, just as many other countries do, to maintain its potential for both continued development and production. The ground work for tieing arms developments and modernization in Russia to the export of those same products is taking place right now in Russia. The trend is only tempered by the inefficient economic structures presently in Russia. Once the Russian economy, and the Russian arms industry in particular, gets on its feet, the West may have to deal with a Russia that has learned the future of security and force modernization is married to foreign sales.

Russia may indeed adopt a full panoply of arms control measures but a strong propensity to export arms will remain. This propensity will remain in the short run because the exchange rate and the access to inexpensive stockpiles of raw materials makes the production of weapons a "profitable" business. How things will develop when the raw materials are

used up is difficult to determine but undoubtedly the stakes for the military-industrial complex will be more severe. Therefore, now is the time for supporters of reform to put in place measures that will insure the government's control over the military-industrial complex.

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2. Lee Feinstein, "Third Round of Arms Sales Talks Fail to Resolve Notification Issue, Arms Control Today, June 1992, p.21.

3. "Better Management of Arms Exports Needed", Novoye Vremya in Russian, No. 17, 20 Apr. 93, pp 18-21.(JPRS-UMA-93-023, 7 July 1993, p.38)

4. Dr. Igor Khripunov, "Nonproliferation Export Controls in the Former Soviet Union", The Director's Series on Proliferation, Lawrence Livermore National Laboratory, 7 June 1993, p.13. Dr. Khripunov is Senior Scholar and Co-director of the "Newly Independent States Export Control Project" at the University of Georgia in Athens, Georgia.

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B. UKRAINE

As with Russia, the U.S. Department of Commerce's A Guide for National Export Control Programs demands an expansive set of programs that will affect many different political and interest groups. If this where a front burner issue for the Ukrainian government (it is not) then the political divisions in the country would undoubtedly make it a difficult problem to solve. But the question of how and when Ukraine will adopt arms control restrictions will be even more complicated still. It will be complicated because the answer to the question will be decided in the shadow of many other influences. The most noticeable influences will be the relationship between Russia and Ukraine, the West's treatment of the nuclear question and how that treatment is perceived in Ukraine, Ukraine's definition of independence and the future of Ukraine's economy. All of these influences are undergoing change. For this reason it is difficult to forecast the future of Ukrainian conventional arms restrictions. One observation can be made with some certainty. As in Hungary, the more restrictive the arms control measures, the less confidence one can have that they will be followed.

1. Export Control Measures in Ukraine

Ukraine has shown an intention to adopt export control measure in several ways. By participating in the

sanctions against Yugoslavia, Ukraine has shown its good will to follow international obligations. As some Ukrainian officials have pointed out, in relative terms, the sanctions cost Ukraine much more than they cost the western countries.

Following the issue of Presidential Decree No. 3 on January 3, 1993, the State Commission of Export Control (SCEC) was established. The SCEC is not a permanent body but assembles, as necessary, to make final approval on the granting of export licenses to companies.[1] Members of the SCEC are drawn from the various governmental ministries. The membership of the SCEC illustrates the high degree of influence that the President, Prime Minister and Parliament exercise over the SCEC. The decisions of the SCEC are also influenced by political fighting between the Parliament, President and the Prime Minister. This structural aspect of the SCEC results in the SCEC being a relatively ineffectual commission. Presidential Decree No. 3 also created the Expert-Technical Committee (ETC). This committee is a permanent body responsible for technical advice to the SCEC, consulting the appropriate ministries for their evaluation of export licenses, and preparing decisions for the SCEC.[2]

Valery P. Kazokov, Ukrainian Deputy Minister of the Military-Industrial Complex and Industrial Engineering, said that while Ukraine is not a member of the Missile Technology Control Regime (MTCR), Kiev will abide by its guidelines

provided the MTCR does not interfere with the commercial sale of weapons for peaceful purposes or with the Ukrainian space program.[3]

Ukraine has sent two members of its Foreign Ministry to the CIS Non-Proliferation Project at the Monterey Institute of International Studies. They have studied issues of conventional and nuclear non-proliferation. The two students were Eugene P. Sharov, First Secretary of the Arms Control and Disarmament Directorate and Anatoly Scherba, Head Non-Proliferation and Export Controls Department. The governmental positions held by each student demonstrates the Ukrainian government's desire to become more informed on export related issues.

These measures not withstanding, Ukraine has many problems in the area of export control of conventional weapons. Ukraine still needs to develop its programs for training of future specialists, understanding of other export control systems as well as needing both technical and financial assistance.[4] Ukraine will also have some difficulty with the enforcement of material crossing their rather porous border. A general crime law has been adopted which has provisions and punishment guidelines for export violations but has not been tested.

Other problems exist with Ukrainian export measures. Export licenses can only be given to state owned companies.[5]

This gives the existing defense industries a strong position over newly emerging non-defense industries which are restricted in export potential. In the battle for the influence of political actors in Ukraine, the defense industries will be better placed. Members of the SCEC are not technical experts and the ETC is only starting to build a group of technical specialists to evaluate export contracts.[6] Thus, the ETC must turn to the company wanting to export the goods to get an appraisal of the material. This can result in a situation where the fox is asked to guard the hen house. Finally, the fact that all export control legislation has been passed as decrees, not laws, points to the weak legal ground on which export legislation now stands.

2. Social Aspects in Ukraine

a. [Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?

The greater a country views conventional weapons as a symbol of its sovereignty, the less likely it is to adopt non-proliferation legislation. For some members of the Ukrainian government production of conventional arms was and still does reflect the glory of the state and should be protected. This position is evident in groups such as the Union of Ukrainian Officers (UUO). The UUO is often referred to as a nationalist group but they claim to be formed only to

protect the rights of servicemen. Their pro-production position should not be surprising. For many years the engineering and weapons sectors of the Soviet economy received the best of materials and personnel. Their products were held up as proof of the Soviet Bloc's ability to be able to compete with the West. Those perceptions die hard. The reductions in state orders left many engineers out of work and with a loss of prestige. The movement of these engineers to other sectors of the economy or to other countries is viewed as a threat to national security.

Many Ukrainians feel Ukraine needs to define itself in terms other than the historical model of being Little Russia. This means embracing all forms of statehood. At present, Ukraine uses nuclear weapons to highlight its emergent status. The leader of Rukh, (the Ukrainian Popular Movement for Restructuring), Vyacheslav Chornovil, set the tone for this motivation when, in response to Yeltsin's call for all nuclear arms to Russia, he said nuclear arms and Ukraine's desire to become a non-nuclear state would serve as "good incentives" for resolving the problems connected with the creation of a Ukrainian national army and for securing international recognition of Ukraine's independence.[7] The idea of using the negotiations surrounding nuclear disarmament to reaffirm the new order of the former Soviet Republics is captured by Ukrainian Foreign Minister official Andrii

Veselovsky. He said that Ukraine "still aspires to be a non-nuclear state, but this could only happen after a process of negotiations with all nuclear powers"[8] President Kravchuk reinforced this point during the G7 conference. "You see how the G7 meetings are held? Everything is directed towards Moscow. But today this means only Russia. What about the other states, such as Ukraine?"[9]

At this time Ukraine uses nuclear weapons to highlight Ukrainian statehood and independence. In the future, this mantle may be taken up by conventional weapons. Elements of this process are evident in the statement above by Valery P. Kazokov about MTCR. Additionally, Anatoly Scherba has said that the United States must be willing to play by the same export rules that it demands of Ukraine.[10] He means that the United States must allow Ukraine the same freedom to inspect U.S. facilities as the United States will have in Ukrainian facilities. This comment by Mr. Scherba is an unveiled demand for recognition as a sovereign state expressed in the area of export controls.

b. [Question S-2] Was the demand for a strong social safety net relatively high?

Ukraine also suffers from the social norm that the state factory had to provide for all its members. The attempts by factory managers to insulate their workers from the harsh effects of conversion and cutbacks has added impetus

to the overall drive to sell weapons on the arms market. Any politician who would adopt legislation to restrict arms sales would have to show how the arms enterprise workers would gain by reduced arms sales. In the last two years, this has been a very difficult task for any politician.

c. [Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?

The more the political leadership of a country has the expectation of being part of regional trade and security organizations the more willing they will be to adopt non-proliferation legislation that is in line with the adopted policies of the organizations to which they hope to gain admittance. This in turn is predicated on the degree to which the party, or leadership in power, desires to become a member of a regional trade or security organization. Ukraine has announced many times its desire to be part of European economic and security structures. Ukrainian officials have underlined this desire during negotiations on nuclear disarmament. Dmytro Pavlychko, head of the Parliament's Foreign Affairs Commission has put it more poetically. He said Ukraine "will embrace Europe. Our dream - to enter the common European home."[11] Ukraine would like to depend on a multi-country security arrangement to mitigate the need to produce or acquire arms. This idea was alluded to by Ukrainian Deputy Prime Minister Tarasyk when he said "the

future of stability in the central region of Europe is tied to the resolution of growing ethnic divisions. Some sort of all-European security system was the solution to this growing threat."[12] Left unstated was that Ukraine would have to prepare for that threat by itself if it did not have a security arrangement. Furthermore, the more that trading blocs close their markets to the products of Ukraine, the more likely Ukraine will take advantage of other export outlets i.e., arms sales. To date, the possibility of Ukraine entering into a meaningful security and trade organizations, with the exception of the CIS, has been minimal.

The future prospects for Ukraine entering the European body of nations also appears dim. On 27-30 September 1993 the United Nations held a symposium about security and disarmament issues relating to the former soviet states.[13] In a discussions about the developing of relations between the CIS countries and possible regional organizations, the participants highlighted several points germane to Ukraine's future role in Europe. First, it was acknowledged that there is a growing complexity to the term "security." Security is being defined by much more than military power. There is the growth of economic interdependence, shared values, and integrated environmental threats that force security problems to be political problems. Because of the interdependent nature of these problems, the countries of the West have to

unite to enforce the resolution of these problems. Thus, at the UN conference, Ukraine was faced by a coalition of countries that wanted to keep Ukraine out of European security structures until Ukraine adopted more international norms of arms control. The European Community representative reinforced this perception by pointing out that Ukraine's membership in the European Community is not even projected until some time in the next century.

3. Political Aspects in Ukraine

a. [Question P-1] Were the structural impediments to the legislative process, in the transition period, relatively high?

If weapons production and sales have some political utility then there will be pressure in the Ukrainian government to forgo restrictive arms export legislation. Structurally, the market is such that the political utility of conventional arms in a bilateral relationship has decreased. In commenting on the international arms trade system from 1980 to 1992, Dr. Edward Laurance has pointed out that:

> Although some supplying states may continue to believe that arms transfers create structural influence, only in extreme cases does a structural arms transfer relationship guarantee that established supplier-recipient relationships and their resulting political and strategic alignments will be maintained. As the political visibility of commodities being traded on the international arms market has declined, so has the utility of arms transfers as a political instrument.[14]

This trend is continuing as part of the post Soviet arms trade because the decrease in the number of arms purchasers concurrent with the increase of the unit price of the items being purchased has created conditions for a buyer's market. The ability of Ukraine to use weapons as a foreign policy tool in the bilateral, supplier/recipient relationship is therefor limited.

The utility of weapons sales changes considerably with the introduction of a third party or another state. In this arena the Ukrainian government is demonstrating that weapons do have a degree of political utility.

Ukrainian sensitivity to arms sales and their political implications is apparent in the following exchange between Russia and Ukraine. During the week of 10-14 May 1993 a Ukrainian parliamentary delegation headed by Speaker Ivan Plyushch had been visiting Tehran, Iran. During the visit, Moscow's *Ostankino* TV broadcast a story about Ukraine possibly selling rockets to Iran. The story resulted in an immediate rejoinder from Radio Ukraine. Radio Ukraine accused Ostankino TV of deliberately spreading disinformation.[15]

This exchange demonstrates that not only does the Ukrainian government understand that a political relationship exists with respect to arms sales, the government seems predisposed to make the most of it. There is no better

demonstration than in the ongoing issue of possession of nuclear weapons.

There are many reasons why Ukraine is motivated to possess nuclear weapons. Many of these reasons can be used to justify a conventional capability. The following set of reasons might reasonably be used in a similar debate over conventional arms sales:

1. Ukraine can use the nuclear weapons or material as a source of hard currency and is holding up the release of weapons in order to see how much the West will pay. 2. Nuclear weapons will enhance Ukraine's prestige and national standing. 3. America and Russia have substituted arms control talks for politics and have, therefor, encouraged Ukraine to follow their example. 4. Nuclear weapons and conventional arms provide security for the new state. 5. A militarily strong Ukraine can form the basis of a Central European security sphere. It is easy to see how some conventional arms, especially missile production, could be used for the same political goals. Ukrainian leadership has demonstrated both an understanding and a willingness to use the relationship between politics and arms sales.

b. [Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?

The greater the degree of political influence held by internal political groups that are morally, or

philosophically opposed to arms sales the less likely Ukraine will adopt non-proliferation legislation. The converse is also true. Making any assessments of a strong political constituency is perilous at this juncture in Ukrainian political development, but it is safe to say that during the first two years of Ukraine's statehood the preponderance of influential actors were in favor of arms exports.

President Kravchuk has publicly supported the sale of arms abroad. Chairman of the Parliamentary Foreign Affairs Commission, Dmytro Pavlychko, said the rate of conversion will not be high hence the need to sell weapons to fund conversion[16] Prime Minister Leonid Kuchma was former director of the Yuzhmash missile plant and stated his desire to "supply missiles to any republic of the CIS or any other country".[17]

The military is supportive of arms sales.[18] The military sees benefits in a smaller military force. The savings from not maintaining such a large military force could then be applied to upgrading the level of military equipment. The newer equipment could then be sold on the world arms market for hard currency which would constitute the main source of funds to meet the social needs of the servicemen. The money could also be used to complete the construction of a Ukrainian aircraft carrier.[19] Many of the military commanders also support the idea of selling CFE excess on the

international arms market. Furthermore, the military wants to cautiously consider which plants are marked for conversion.[20] To assist in selling military hardware a "trading center" was formed within the Ukrainian military. 10 percent of the profits will go to the armed forces, 25 percent will go to the state budget and the remainder will go to the Defense Ministry.[21] Evidence of a political union between the military and the industrialists is the military newspaper *Chest*(honor) which is being funded by industrial enterprises.[22]

The arms industry employs enough people to constitute an influential force in the new state. Furthermore, the industry, being well established by the Soviet system, had the lead on other emerging political groups as an influential actor.

In January 1992 a new coalition of left wing groups was formed with the name "New Ukraine". "New Ukraine" believes that statehood would come first from economic reform and through cooperation with the rest of the former Soviet Union.[23] Another political group, The Ukrainian Labor party was born in Zaporizhzhya and one of its goals was to prevent the final split between Russia and Ukraine. That was not surprising given the amount of interrelated military production which occurred at the Zaporizhzhya facilities.[24]

The political support for reintegration is very hard to accurately determine. Many political groups have fractured on the issue of joint Ukrainian/Russian industrial production. Although there are those who see an economic future in closer economic ties with Russia, others fear that close economic ties to Russia will be a precursor to full reintegration and a loss of sovereignty. This split is apparent in the political fortunes of Ukrainian Minister of Machine Building, the Military Industrial Complex and Conversion, Victor Anotov.

In 1992 Mr. Antonov signed several documents on cooperation between his defense enterprises and those in Russia. At that time he was considered an "enemy of the people" by several groups who were opposed to the developing relationship with Russia.[25] By January of 1993 Antonov remarked that "even the most radically minded deputies, including from *Rukh*, have approved the closer ties of the two country's military-industrial complexes"[26] Antonov may be generally correct but a month after his statement the political parties, *Rukh*, *KNDS*, the Ukrainian Republican Party and the Democratic Party of Ukraine formed a coalition called the Anticommunist and Anti-Imperial Front of Ukraine (AAFU). Among the tasks set for itself were the following: combatting the attempts to draw Ukraine into the superstate structures of the CIS, and taking a common stand against the communist party

nomenclature, many of whom were in management jobs in the military industrial complex.[27]

The diversity of political parties has made it difficult for the Ukrainian government to adopt the enforcement provisions of an acceptable export control program. An example is the formation of the Export Control Committee for the Cabinet of Ministers of the Ukrainian Government. This committee will be responsible for conducting the technical verification of items on an Ukrainian export control list. As of November 1993, the committee was still waiting for funding for office space in Kiev. The reason the Ukrainian government has been so slow in funding this committee is some members of Parliament have been holding up funding until they could get their supporters a seat on the committee so they can have influence on its direction.[28]

The demographics of Ukraine make the adoption of arms export controls a serious political problem. Eastern Ukraine is highly Russified where as western Ukraine is the seat of Ukrainian nationalism. This difference is exacerbated by the location of the major final assembly plants and major component producers in Ukraine. Eastern Ukraine has the bulk of these facilities. In fact, only two final assembly plants and one major component plant are located in western Ukraine.[29] A limitation on arms sales would affect the eastern region directly and would threaten the stability of

Ukraine. Ukrainian officials are sensitive to the politics of the region as evidenced by the Government's concessions to the Donbass miner's strike in 1993. Additionally, the government must adopt policies that won't increase the support of the influential pro-communist and Russian oriented forces which are trying to form an autonomous "Novorossiia" region that would include the Donbass, Crimea and the "Dniester Republic".

c. [Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?

During interviews with First Secretary Sharov he mentioned that Ukrainian officials need more time to fully understand all the ramifications of an arms export agreement.[30] He expressed a sense of hesitancy that reflected the Ukrainian concern that export controls will give the United States, or some other country, an advantage in the production of weapons and thus a military advantage. David Schlecty, Director of Foreign Affairs, Office of Technology and Policy Analysis, U.S. Bureau of Export Administration, reinforced this perspective. Mr. Schlecty pointed out that Ukrainian officials have commented to him that the United States has persued a policy on arms control designed to strengthen the U.S. position in the market. First, the U.S. government asks the FSU to restrict sales while the U.S. continues arms sales. Second, the United States has raised doubts about the U.S. reasons for wanting export controls

adopted in the FSU. This confusion is a result of channeling Nunn-Lugar money through the Defense Department and not through the Commerce Department.[31]

Ukrainian confusion is further enhanced because Ukrainian officials don't appreciate why the United States wants economic support for export controls dependent on resolution of the Ukrainian nuclear issue.[32] For Ukraine, the nuclear issue is a national security and military issue, not a commerce issue. The U.S. attempts to tie the two areas together in Ukraine creates the perception that the United States wants export controls to enhance the U.S. economic position, not to advance security. Thus, Anatoly Scherba, Head Non-Proliferation and Export Controls Department, Foreign Ministry of Ukraine said in an interview on this topic that "export controls are a means of competition. It is seen in MTCR where the U.S. wants Ukraine to follow the rules but not become a member."[33]

4. Economic Aspects in Ukraine

The nature, the extent, and possibly the future of the Ukrainian arms market is heavily influenced by the structure of the now defunct Soviet arms industry. The vestiges of the old Soviet system makes it difficult for the Ukraine government as well as Ukrainian businessmen to manage raw materials, subcomponents, profit shares, the pace and extent of conversion and other economic variables necessary to

determining if the arms industry is worth saving. Such calculations are, of course, important to determining the cost of implementing the CoCom legislation. At this point it is important to review the legacy of the Soviet arms industry with respect to Ukraine.

The most outstanding aspect of the Soviet arms production industry was the dependance that the Republics had on the Russian SSR. Weapons production was not centered in one location. Reflecting the lessons learned during WWII, production was dispersed throughout the Republics. By distributing production facilities the Soviet state was able to motivate its citizens to populate inhospitable locations, justify the movement of ethnic Russians into other territories, and fulfill the Socialist pledge to provide a better future for the Soviet people. The result was a system where a tank produced in the Russian SSR might be dependent on tank barrels from the Ukrainian SSR and optics from the Armenian SSR.

On the surface this appears to be a system of interdependence until one notes that the preponderance of final assembly plants were located inside the Russian SSR. With the exception of the Petropavlovsk final missile assembly plant in the Kazakhstan SSR, the Chkalov aircraft plant in the Uzbekistan SSR, and the T'bilisi aircraft plant, all other final assemblies were performed in either the Ukrainian SSR

or the Russian SSR. When one considers that nearly three fourths of the former Soviet Union's military research, development and testing facilities were in the Russian SSR, it becomes clear that the Russian SSR could have adjusted for the loss of a major component producer with production or development in another Republic.

The Ukrainian SSR was the only Republic that could claim an interdependent military production relationship with the Russian SSR and even then Russia was the dominate partner. This limited interdependent relationship has had multiple ramifications for the Ukrainian arms industry. The relationship was close enough for intrested parties in Ukraine to now call for closer economic union between Russia and Ukraine. Still the split between Russia and Ukraine has hurt Russian sales because the lack of a totally solid relationship between them has caused potential buyers of Soviet style weapons to look to other weapons producers.

The defense industry in the Soviet Union was highly integrated vertically. The output of a military industrial facility as well as the amount of inputs and acquisition of subcomponents was centrally directed. This shielded the local managers from the burdens of plant management known in the West. At the same time, the plant managers were also shielded from the knowledge and experience needed to run a successful plant. There was no requirement to develop independent arms

industries in each of the former Soviet Republics. In fact, the former Soviet state seemed to have been planning against such developments. Finally, the level of sophistication and understanding of the arms trade among the Republics was narrow because decisions on arms exports were made in Moscow, by the Ministry of Foreign Economic Affairs with little input from the defense industry ministers nor their foreign trade organizations.[34]

a. [Question E-1] Were the prospects for converting the defense industry relativly high?

Ukraine's prospects for conversion reflect their study of previous efforts by other countries as well as the reality of their arms industry. In an interview with the Minister for Machine Building, the Military-Industrial Complex and Conversion, Victor Antonov, he mentioned three variants for conversion. The first variant was "shock conversion". It involved giving the market a free hand at conversion. A second method was to sell military equipment abroad in order to fund conversion. This idea was not fully adopted because of Ukraine's dependency on components from Russia. He was reflecting the concern that purchasers which was mentioned above. The third variant for conversion, the Ukrainian option, is a combination of the positive factors of the first two. To use Minister Antonov's words "we are in favor of stabilization at the macro level, and of using export

capabilities, but in the process the state must provide support to conversion."[35] Ukraine has made sales of military equipment part of its plans for successful conversion. Ukraine believes that the market demand is there because Ukraine sees Russia and the West filling orders. In the same article Antonov mentioned that one of Ukraine's strong areas for attracting foreign interest was in the scientific-strategic area. He hopes to involve western countries in specific high technology projects which will result in conversion of Ukraine's military-industrial complex. Two such projects are the production of the TU-334 aircraft at the Kiev Aircraft Plant and an advanced ceramic engine by the Ukrainian Academy of Sciences.[36]

Regardless of the plan finally followed in Ukraine, the chances for any program of conversion to be successful, and thus obviate the sale of weapons on the arms market, appear slim. There does not seem to be a plan for the selecting, financing and production of substitute goods on a systematic basis. Factory managers are not experienced in western, capitalistic methods and do not understand how to produce for a demand economy.

Working capital for conversion is scarce. With joint enterprise tax rates near the 70% mark, it will remain the case. Interest rates in 1992 were above the 40% mark. Ukraine's vulnerability to external energy sources has made it

very difficult for the Ukrainian state to build up the funds needed for conversion.[37] Ukrainian revenues will fall even further when Russia completes the oil pipe line through Poland as well as increases the percentage of fuel from Russia which must be purchased at world market prices.

Raw materials are hard to find and even harder about which to make cost projections. The difficulty in finding raw materials is evidenced in the Ukrainian government's decision to explore the use of fiber optic cables in lieu of aluminum or copper cables for the reconstruction and growth of state owned enterprises.[38]

On top of these difficulties, the breakup of the Soviet Union and the advent of new borders now hinders trade. Many of these problems will be solved with time but they certainly argue against any expectation that conversion will be easy and provide an alternative to the need to trade arms.

In order to reduce concerns about the reliability of Ukrainian military exports, thus increase the demand for Ukrainian weapons as well as support conversion, Ukraine is moving forward with economic ties to Russia. The Russian Military-Industrial Complex Head Victor Glukhikh went to Kiev on 12 January 1993 to sign a package of documents on cooperation of the Russian and Ukrainian defense complex enterprises.[39] Part of that package may have included

proposals for the creation of joint venture defense enterprises and a Russian-Ukrainian military industrial bank to ease the situation with reciprocal payments.[40]

Ukrainian President Leonid Kravchuk has made many statements in favor of preserving and enhancing the weapons complexes of the CIS.[41] In May 1993, President Kravchuk again pointed out the need for economic relations between Russia and Ukraine.[42] On 6 July 1993, delegations from Ukraine and Russia meet in Kiev to discuss details of a full scale treaty on friendship and cooperation. This treaty included all aspects of Ukrainian-Russian relations that have emerged in the post-Soviet period.[43] The need is there for some type of cooperation because of the interrelated production facilities. For Ukraine there is an added incentive. The longer the links of interdependency are broken, the less chance Ukrainian arms industry will have to survive.

Regardless of any action taken by the Ukrainian or Russian government, economics are forcing a split in the Russian/Ukrainian production relationship. This split will effect the conversion process and the Ukrainian ability to produce weapons. It appears that Russia is severing the ties with arms production facilities in Ukraine. One tank factory manager in Karkov commented that he was forced to stop production because Russia is producing the tank parts that his

firm previously produced.[44] Yuri Kostenko, Ukrainian Minister of the Environment, also felt that Russia is pursuing an arms production policy designed to reduce Russia's dependence on Ukrainian arms manufacturers.[45]

There are several reasons why the Russian manufacturers would want to produce weapons without Ukrainian support. First, the Russian firm could realize a greater percentage of profit. Second, the work in Russia would provide more jobs for idled Russian workers. Third, it would follow a Soviet historical production trend of insuring access to spares and component parts by producing them at the final assembly plant. In this post-soviet period, the political problems which have disrupted the previous production network between Russia and Ukraine and caused shortages in component and spare parts, is the catalyst for the decisions of Russian factory managers to produce weapons exclusive of Ukraine. Fourth, weapons built in Russia and without Ukrainian support would be more attractive to foreign customers. The products would be more attractive to buyers because the Russian firm could more reliably predict delivery dates and insure product support. There are two reasons that Russian manufacturers can point to in order to justify not working with Ukrainian firms. First, stated above, Russian orders for components are subject to Ukrainian/Russian relations. Second, Ukrainian economic structures are not sound. There is no real currency,

inflation is growing, there is no banking structure, etc. Both of these reasons impact how reliable a Ukrainian enterprise can be on meeting it contractual arrangements.

Russian arms producers are aware of the need to appear as a reliable agent. In 1993, Malaysia sent a delegation to Russia to confirm Russia's ability to honor a contract for 18 MiG-29 aircraft. Part of Malaysia's decision to purchase the aircraft was based on getting an agreement with India for maintenance and spare parts for the MiGs.[46] During the International Defense Exposition-93 (IDEX-93) the same concern of Russian delivery reliability was expressed.[47]

Russian manufacturers are losing domestic as well as foreign business because the FSB arms production network is unreliable. *Irene Rabinovich*, legal councilor for Trace Enterprises, is representing a Russian firm interested in purchasing american aircraft.[48] The Russian firm wants to phase out its IL-86 fleet and replace it with western aircraft. Even though the IL-96-300 recently received its flight worthiness certificate, it is not being considered.[49] Ms. Rabinovich mentioned several reasons for this decision. The quality of Russian aircraft is less than in the West. There is no product support. The price of the Russian planes are approaching the cost of western aircraft, but the main reason is the unreliability of Russian firms are too costly to her client's business. If her client had purchased a Russian

passenger plane then the engines would probably have been produced at a Ukrainian factory.

b. [Question E-2] Was export specialization in military hardware relatively high?

Empirical discussion about the Ukrainian arms industry is difficult because of a lack of current and historical data. Ukraine reported to the UN that they did not have any sales of military equipment for 1992.[50] In terms of relative export specialization, it would appear that arms exports would constitute only a fraction of total exports and therefore not be an argument against restrictive arms sales legislation.

Drawing conclusions on the basis of 1992's performance could lead to faulty conclusions. The USSR was number one in arms exports from 1985-1989 and had a relative export specialization which was four times the specialization of the United States (see Appendix C).

Given the structure of the former Soviet arms market, arms exports would have constituted a influential portion of the total Ukrainian export market. Table 5-1 shows that the Soviet Union was becoming less dependent on arms exports as a percentage of its total exports as it approached the pivotal year of 1991. This trend is partly due to the policies of Michael Gorbachev. He would have probably reversed this trend had he stayed in power. Much more telling

is the data on relative export specialization. There the Soviet Union was increasing at the same time that other nations of the world were moving in the opposite direction. Ukraine would develop as a state with this upward trend of relative export specialization already established as a significant element in its economy.

Table 5-1

Relative Export Specialization in the USSR from 1985-1989

Year	Arms Exports	Total Exports	AE/TE %	Relative Export Specialization
1985	17100	87200	19.6	7.84
1986	21300	97050	21.9	9.13
1987	22600	107700	21.0	9.13
1988	21600	110700	19.5	10.2
1989	19500	109300	17.9	11.9

Source U.S. Arms Control and Disarmament Agency (1991).

c. [Question E-3] Was there a relatively high degree of autonomy in the defense industry?

Ukraine inherited the second largest, and in some areas, the most advanced portions of the former Soviet defense industry. Ukraine has the only shipyard in the former Soviet republics capable of building aircraft carriers. The Dnipropetrovsk Southern Machine Building Plant has been the sole producer of SS-18 ICBM and the SL-16 space launch vehicle and the plant at Pavlohrad was the final assembly facility for

the SS-24 ICBM. Military production in the Ukrainian SSR constituted an estimated one third of the total Soviet military production and 38 percent of Ukraine's total industrial production.[51] It has been suggested that 1840 industrial enterprises and 2.7 million people-5 percent of the population-are engaged in military production, with 700 of these enterprises, employing 1.3 million people, producing exclusively for the military.[52] Other studies use a smaller figure of about 500,000 employees directly employed in the defense sector and another approximately 1 million people who contribute to defense output.[53] Regardless of the exact size, the industry employs enough people to constitute an influential force in the new state. Furthermore, the industry, being well established by the Soviet system, had the lead on other emerging political groups as an influential actor. Of further interest is the majority of the final assembly plants are located in eastern or southern Ukraine and are thus influenced by the politics of those regions.

Even though Ukraine has the ability to produce final assembles of armored vehicles, missiles, aircraft, and ships, it does not have a self-sufficient defense industry. Its industry reflects the interrelation of the Soviet defense industry. Though Ukraine has an armored vehicle production capability, it lacks a systems capability and must import, for instance, 60 percent of tank systems and 40 percent of

communications systems.[54] On the other hand, Ukraine has the ability to provide some key subcomponents such as tank barrels, aircraft engines, avionics and missile parts. Many of these subcomponents are integral to systems which are high interest weapons in the international arms market.

Even though Ukraine has not sold much equipment in its two years as a state, the prospects for sales have always seemed to be in the wings. The aircraft carrier Varyag (displacement 67,000 tonnes) is a case in point. Negotiations for its sale to China have gone on for some time, keeping alive the hope that its construction would prove to be profitable. As of April 1993, the negotiations for its sale stalled leaving Ukraine with the decision of trying to sell the ship for scrape or holding out for a possibly sale.[55]

There is also the share of the profits earned by Russian arms sales where Ukrainian firms would act as a subcontractor. For example, the contract between Iran and Russia for three KILO class submarines will require the subcontracting of Ukrainian optical devices for the periscopes.[56]

Ukraine is playing a part in the world's arms trade, albeit an small part. The future of its participation, and thus its desire to adopt arms control legislation, is influenced by Ukraine's outlook on the export market, its ability to find a spot in that market and the country's

ability to successfully convert its arms industry to other lines of production.

d. [Question E-4] Was the outlook on continued exports in 1989 relatively high?

The international and domestic arms market has shown a steady down trend for Ukraine but it is not a closed market and it is one in which both Ukrainian officials and private enterprises see some possibilities. With the end of the Cold War and the occurrence of Desert Storm, a good possibility to sell Ukrainian weapons seemed on the horizon. The prospects seemed most bright in 91-92, but even today Ukrainian officials have a positive outlook on the future of arms exports. There are many reasons why.

First of all, markets seem to be opening up to former Soviet bloc countries that were not previously open during the Cold War. The major market is in Asia. Malaysia's announcement on June 29, 1993 of the planned purchase of 18 MiG-29s represented a first for the former Soviets in what is potentially a hugh market. The planned, mixed purchase of both American F-18 and Russian MiG-29 type aircraft could be a good sign for former East Bloc countries trying to break into traditional western arms markets. Additionally, the traditional Soviet arms recipients, i.e., Iran, Syria, Libya, etc., are not likely to turn to the West for arms. But as the example above illustrates, traditional recipients of western

arms may now look to the former Soviet block for weapons since there are no ideological and few political consequences. The preeminence of economics over politics as the motive for arms sales will open up more markets to the former Soviet states.

In the short term, this trend will be offset by the lack of hard currency available in the countries with whom the Soviet state used to trade. Barter has acted as a substitute for hard currency in many cases which is not a desirable form of trade for the former Soviet states but it will keep production lines open.

Another systemic aspect of the market demand is that countries, or groups, at war or faced with the immediate prospect of war, will be looking for inexpensive but effective weapons. The former Soviet stockpiles of weapons which are now free as a result of CFE arrangements can fill that market. That is what happened in 1992 when Khazakstan sold excess military equipment to Afghanistan. Even the new military equipment produced by the former Soviet states is less expensive than the western equipment and could reasonably be the first choice of a country in a state of war where capital is scarce.

The former Soviet states have had some success in the market not only because their equipment is inexpensive but also because it can be upgraded with a host of packages which then gives it a level of quality which is enough to

rival western equipment. Often this can be accomplished while still undercutting western prices.

The Gulf War has spurred the market for high technology weapons, especially missiles. The effectiveness of the air war has increased interest in the sale of SA-10 and SA-12 missiles as alternatives to the Patriot missile.[57] Another example of the market demand opened up by the Gulf war is the SS-N-22, a 100km-plus infrared and active radar homing missile designed for anti-shipping combat. It represents some of the most current Ukrainian technology.

The SS-N-22 also represents a new market for Ukrainian weapons. The American military intends to purchase six of the missiles for testing purposes so that an effective counter to the missile can be developed. This does not represent a long term market. But at hundred million dollars per missile, the Ukrainians can clearly see a lucrative market.[58]

The Gulf War also highlighted the dynamics of technology and how it would increase the demand for military equipment. Writing in the Ukrainian Officer's paper *Golas Ukrainy*, two Ukrainian officers pointed out that the "rates of science and technological progress in the military are such that while tanks previously were modernized every 10-15 years in peacetime, now it is done every 5-6 years."[59] Their comment underlines the belief that the pace of technology will

create its own demand. Ukraine, with its body of technical expertise, would be able to meet that demand.

The demand for former Soviet equipment has been tempered by the difficulties of divorce. The disruptions in the former Soviet Bloc's ability to produce weapons has been a result of political conflicts over resources. Strangely, this conflict has not reduced the belief that Ukraine can compete in the world arms market.

During a conversation with the plant manager for the tank building enterprise at Kharkiv, the manager was told that several Arab countries were interested in buying Russian/Ukrainian military equipment but they were concerned about the ability of the former Soviet states to be able to reliably deliver equipment. The manager was asked him why the Ukrainian government could not work out its differences in order to take advantage of this market opportunity. Sardonically, he responded that the government is stupid! Undoubtedly, joint Ukrainian/Russian arms projects are second to the overall Russian/Ukrainian relationship and at times even held hostage to that relationship but as the plant manager's comment suggests; the perception still exists that there is a viable place in the world arms market for Ukraine.

An article in *Komsomolskaya Pravda* expressed the same idea that Ukraine could compete in the international market. The writer was critical of Prime Minister Kuchma's

decision to restrict funding for D-27, high thrust, high efficiency, engine because

> this policy could result in the fact that we have to terminate work on the "fantastic" engines. Its as if lagging behind is being planned-even in those areas where the USSR and later the CIS were "ahead of the entire planet". There are already precedents: say, active development of a high thrust engine has begun in the West and specialists in independent Russia and Ukraine who are ahead of many of their colleagues "from abroad" just gnash their teeth: they won't give us the money. Do we need to prove that even here savings will turn into 100-fold losses?[60]

The level of frustration by the writer as well as by Ukrainian factory managers underscores their belief that Ukraine's possibilities in the export market were good. Obviously, Prime Minister Kuchma did not agree.

5. Conclusions Relative to Ukraine

Ukraine differs from the base case in every question except the autonomy of the industry. (Table 5-2) Therefore, it is worth looking at that question closer.

It is almost ironic that while other countries are consolidating their arms industries in regional structures in order to preserve some capacity, Russia and Ukraine have separated theirs. The logic that has forced the development of arms production consortiums in the West has not been lost on the Ukrainian arms producers nor on President Kravchuk. Given no political constraints, Ukrainian arms producers would move towards a closer economic relationship with Russia.

Table 5-2

Conclusions for Ukraine vs. Hungary

Questions	Hungary	Ukraine
[Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?	yes	no
[Question S-2] Was the demand for a strong social safety net relatively high?	no	yes
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes	no
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no	yes
[Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?	no	yes
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no	yes
[Question E-1] Were the prospects for converting the defense industry relativly high?	yes	no
[Question E-2] Was export specialization in military hardware relatively high?	no	yes
[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no	no
[Question E-4] Was the outlook on exports in 1989 relatively good?	no	yes

Indeed that will probably be the trend with a Ukrainian Government which will quietly support the closer Russian/Ukrainian relationship. It is difficult though to forecast how that relationship will develop in light of problems such as: rising nationalism in each country, conflict over the Crimea and Dneister Republic, distribution of Soviet state property, and control over nuclear weapons. The Ukrainian government has made it clear that arms sales and

arms export measures will be subject to politics. On the other hand, increasingly politics is being subordinated to economics. This is clearly the conditions for either effective compromise or else intransigence.

Russia has made clear its intent to sell in the international arms market. Once Russia overcomes its political turmoil it should return to the arms market as a significant member. But in the short term, it will need Ukraine's participation to be competitive in key sectors of the market. If a constructive relationship exists between Ukraine and Russia then a majority of the Ukrainian arms industry will share the benefits of an aggressive Russian export program. If the Ukrainian arms industry is left without Russian interdependence then the industry will probably follow the East European model of defining niches in the market and diversifying. As explained in the section on conversion, this process of separation seems to be occurring at a brisk pace.

During the Soviet era, the arms industry received the priority of resources. Some have wondered how might the arms producers adjust to an environment of constrained resources? So far this has not been a problem because customers, not resources, has been the defining shortage. Some producers have voiced bitterness about the cutback on state orders. Others are angry about the unplanned and

unsupporting manner the Ukrainian government chose to contract the market. In their criticisms of the government, many producers are unwittingly acknowledging the realities of the new system. Furthermore, any move back to heavy State subsidies would alienate that part of the arms production lobby that supports the industry because of the industry's perceived capacity to generate hard currency. In short, heavy state subsidies for the arms industry would be a mark of a new political system which is different from the system evolving right now.

1. For a listing of the members of the State Commission on Export Control(SCEC) see the monograph series titled Nuclear Profiles of the Soviet Successor States by Dr. William C. Potter. The monograph series is one of many documents produced by the CIS Nonproliferation Project which is directed by Dr. Potter and works in conjunction with the Program For Nonproliferation Studies, Monterey Institute of International Studies.

The name of the SCEC may appear as the Governmental Export Control Commission(GECC). This term was used by Anotoly Scherba, Head of the Non-Proliferation and Export Controls Department of the Ministry of Foreign Affairs of Ukraine, during Captain von Tersch's interviews with him.

2. Eugene Sharov, "Ukraine and the MTCR: Implications for Ukrainian Membership"[draft], 14 May 1993. In the paper he discusses the ramifications of Ukraine joining the MTCR. His draft paper argued for participation in MTCR. During discussions five months later with Mr. Sharov, he explained that his opinion in the paper has changed. He has become more cautious about Ukraine joining MTCR. His evolving opinion on MTCR probably reflects his accepting a position in the Arms Control and Disarmament Directorate, Ministry of Foreign Affairs of Ukraine. As a governmental official, he supports Ukrainian participation in MTCR so long as it does not impinge on the Ukrainian industry's peaceful participation in the missile systems and technologies market. As of 14 May 1993, a draft of the paper could be obtained from the Program for Nonproliferation Studies at the Monterey Institute of International Studies, 425 Van Buren Street, Monterey Ca. 93940. Ukrainian export policy is also based on interviews with Anatoly Scherba.

3. Comments made by Valery P. Kazakov at *The Arms Trade in a Transnational Economy*, a conference sponsored by Global Outlook, May 25, 1993, in Washington DC. Citation taken from an IFPA/NSPA puplication "Defense Conversion and Arms Transfers: Ukraine, p.39.

4. Sharov, p. 4.

5. Interviews conducted with Anatoly Scherba on 12 November 1993.

6. Interview conducted with Dr. Sergai Yatskevitch, member of the Institute for Nuclear Research, Ukrainian Academy of Sciences. He was approached in October 1993 by Mr Alex Petrick, Chief of Technical Committee of Export Control, to do technical evaluations for the ETC. Dr. Yatskevitch claims that his employment, as well as the employment of other scientists, is pending funding from the ETC. Alex Mykyshko, vice-chairman of

the Committee of Export Control, told Dr. Yatskevitch in October that his committee did not have an office or a phone yet because of funding.

7. *Molod Ukrainy*, 12 September 1991 in Bohdan Nahaylo, "The Shaping of Ukrainian Attitudes toward Nuclear Arms", RFE-RL Research Report, 2, no.8, (19 February 1993), p.25.

8. John Rettie, "Ukraine Says 'No Panic" on Nuclear Arms", *The Guardian*, 24 October 1991 in Bohdan Nahaylo, "The Shaping of Ukrainian Attitudes toward Nuclear Arms", RFE-RL Research Report, 2, no.8, (19 February 1993), p.28.

9. "Will Ukraine Remain A Nuclear Power?", Ukrainian Business Review, 3rd Quarter, Spring 1993, p.11.

10. Interview with Anatoly Scherba on 12 November 1993.

11. from a paper given by Stephen R. Burant at the 50th Anniversary International Congress of the Polish Institute of Arts and Sciences of America, Yale University, New Haven, Ct., 18 June 1992.

12. Comments of Deputy Minister for Foreign Affairs of Ukraine, Boris Tarasyk, during the Stanford University Symposium titled "Ukraine in the International Arena", Stanford University on 01 May 1993.

13. United Nations Symposium on Security, Disarmament and Confidence-Building in the CIS Context held in Kiev, Ukraine, 27-29 October 1993.

14. Edward J. Laurence, The International Arms Market (New York: Lexington Books, a division of Macmillan, 1992), p.168.

15. Bohdan Nahaylo, "Ukraine's Trade Ties with Turkmenistan, Iran", RFE-RL Daily Report, 13 May 1993.

16. "Ukrainian Arms Sales", Ukrainian Business Agency Bulletin, 15 March 1993, p.3.

17. Christopher K. Hummel, "Ukrainian Arms Makers Are Left on Their Own", RFE-RL Research Report, Vol 1, No.32, (14 August 1992), p.36.

18. "Ukraine's Young Turks-The Union of Ukrainian Officers," Jane's Intelligence Review, January 1993, p.23.

19. "Nuclear, Conventional Weapons Policy Discussed", Golos Ukrainy in Russian, Kiev, 27 Jan 93, p.7.(JPRS-UMA-93-016), 19 May 1993, p.46.

20. "Progress Forming National Army Assessed", Rossiya in Russian, No.24, Moscow, 9-15 June 1993, p.4. (JPRS-UMA-93-021), June 23, 1993, p.37.

21. Brigitte Sauerwein and Matthias Plugge, "Rich in Arms, Poor in Tradition", International Defense Review 4, 1993, p.318.

22. "Ukraine's Young Turks-The Union of Ukrainian Officers", Jane's Intelligence Review, January 1993, p.24.

23. Roman Solchanyk, "Democratic Political Blocs In Ukraine", RFE/RL Research Report, Vol.2, No.16, 16 April 1993, p.16.

24. "Defense Industry, Russian-Ukrainian Common Interest", Komsomolskaya Pravda in Russian, Moscow, 19 Jan 93, p.3(JPRS-UMA-93-015), May 11, 1993, p.18.

25. "Defense Industry, Russian-Ukrainian Common Interest", Komsomolskaya Pravda in Russian, Moscow, 19 Jan 93, p.3(JPRS-UMA-93-015), May 11, 1993, p.19.

26. "Defense Industry, Russian-Ukrainian Common Interest", Komsomolskaya Pravda in Russian, Moscow, 19 Jan 93, p.3(JPRS-UMA-93-015), May 11, 1993, p.19.

27. Roman Solchanyk, "Democratic Political Blocs In Ukraine", RFE/RL Research Report, Vol.2, No.16, 16 April 1993, p.17.

28. Opinion of Alex Mykyshko, vice-chairman of the Committee of Export Control and based on conversation between Dr. Sergai Yatskevitch and Alex Mykyshko in October 1993.

29. see map in United States Central Intelligence Agency, Directorate of Intelligence, The Defense Industries of the Newly Independent States of Eurasia, (Springfield, VA.: National Technical Information Service, 1993), p.6.

30. Conversations between Captain von Tersch and Mr Sharov conducted over the week of 26 September 1993 to 01 October 1993.

31. Comments of Mr Schlecty to Captain von Tersch during phone conversation on 10 November 1993.

32. Dr. Stephen Miller explicitly linked resolution of the Ukrainian nuclear issue to western economic benefits at the United Nations Symposium on Security, Disarmament and Confidence-Building in the CIS Context. The conference was held in Kiev, Ukraine from 27 to 30 September 1993. The Ukrainian government could have come to the same conclusion by realizing the following argument. Getting off the CoCom proscribed list is dependent on adopting export controls. Adopting export controls is dependent on money tied in the Nunn-Lugar legislation. Nunn-Lugar money will be available to Ukraine after resolution of the nuclear issue. Thus the nuclear issue is tied to commerce.

33. Interview with Anatoly Scherba conducted on 12 November 1993.

34. For discussion on the Soviet export decision making process see: Herbert Wulf, "The Union of Soviet Socialist Republics" in Arms Export Regulations, ed. Ian Anthony (New York, Oxford University Press, 1991), 165-173.

35. "Ukrainian Minister Antonov Discusses Conversion Options", Golos Ukrainy in Russian, Kiev, 15 May 1993, p.3.(JPRS-UMA-93-022), June 29, 1993, p.2.

36. "Ukraine's Military Industry Minister Antonov Interviewed", Ekonomika I Zhizn in Russian, Moscow, No. 27, July 1992, p.6 (JPRS-UMA-92-037), October 07, 1992, p.36.

37. For a listing of the Ukrainian oil import figures see Statistical Handbook: States of the Former USSR prepared by the World Bank, Country Department II, Europe and Central Asia (Washington: The World Bank, 1992) p.403.

38. This is the position of the president of the joint private and Ukrainian state owned company "Inestro". "Inestro specializes in the production of fiber optic communication equipment. The company president, Nikolai Dolgov, has negotiated with many of the factory managers of the Ukrainian state owned firms in order to install fiber optic communication systems. He supplied anecdotal evidence of many firms that are experiencing shortages of raw materials. Conversations between Captain von Tersch and Mr Dolgov conducted over the week of 26 September 1993 to 01 October 1993.

39. "Defense Industry, Russian-Ukrainian Common Interest", Komsomlskaya Pravda in Russian, Moscow, 19 Jan 1993, p.3 (JPRS-UMA-93-015), May 11, 1993, p.16.

40. "Defense Industry, Russian-Ukrainian Common Interest", Komsomlskaya Pravda in Russian, Moscow, 19 Jan 1993, p.3 (JPRS-UMA-93-015), May 11, 1993, p.18.

41. For an example of his belief in the future of high technology see "Kravchuk Urges Developing Aviation Industry", TV report on Kiev Ukrayinske Telebachenya Network in Ukrainian, 1700 GMT, 26 January 1993 (FBIS-SOV-93-016), January 27 1993, p.42.

42. Roman Solchanyk,"Ukraine on CIS", RFE/RL Daily Report, 06 May 1993.

43. Roman Solchanyk, Ukrainian-Russian Treaty, RFE/RL Daily Report, 08 July 1993.

44. Based on interviews between Captain von Tersch and Nikolai Dolgov, president of "INESTRO".

45. Interview with Minister Kostenko conducted on 24 September 1993.

46. "News From DSA 92", Military Technology, 5/92, p.58.

47. Pamela Pohling-Brown, "Sales Boom Expected But Careful Marketing Required", International Defense Review, 2/1993, p.193.

48. Interview was conducted with Irena Rabinovich by phone on 11 November 1993. Trace Enterprise is a California firm which helps companies in the former Soviet Union purchase products made in the United States.

49. "Defense Industry, Russian-Ukrainian Common Interest", *Komsomlskaya Pravda* in Russian, Moscow, 19 Jan 1993, p.3 (JPRS-UMA-93-015), May 11, 1993, p.17.

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59. "Nuclear, Conventional Weapons Policy Discussed", Kiev Golos Ukrainy in Russian, 27 Jan 93, p.7 (JPRS-UMA-93-016), May 16, 1993, p.46.

60. "Defense Industry, Russian-Ukrainian Common Interest", Komsomlskaya Pravda in Russian, Moscow, 19 Jan 1993, p.3 (JPRS-UMA-93-015), May 11, 1993, p.18.

VI. CONCLUSIONS

How can the West limit the impact of conventional arms proliferation from the Former Communist Bloc (FCB)? In the prologue, this paper asserted that the old Soviet weapons industries will survive and pose several problems in the future. The FCB will fill the market with advanced technology weapons and those weapons will be designed to counter western high technology weapons. CoCom, whose original purpose was to limit the FCB's access to technology, did serve a non-proliferation function prior to 1989. Some argue that in the post Cold War period CoCom can continue to serve a non-proliferation role. Since 1990, CoCom has attempted to fulfill this function by making free access to western technology conditional on the establishment of export control measures in the countries of the FCB. Some have argued that since Hungary has adopted measures in line with the CoCom requirements that this is now a viable model for CoCom in the future.

The Czech Republic has come closest to establishing the same type of control measures as Hungary, and these measures are also being explored by Poland, Slovakia, Russia and Ukraine. This study looked at a range of factors in each of these countries that influenced or continues to influence their decisions in this regard.

Table C-1
Conclusions Matrix

Questions	Hungary	Czech Rep	Slovakia	Poland	Russia	Ukraine
[Question S-1] Did the social legacy of the communist period allow for a relatively smooth transition period?	yes	no	no	no	no	no
[Question S-2] Was the demand for a strong social safety net relatively high?	no	no	yes	yes	yes	yes
[Question S-3] Were the prospects and initial hopes for full integration with Western Europe relatively high?	yes	yes	no	no	no	no
[Question P-1] Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?	no	yes	yes	yes	yes	yes
[Question P-2] Were political interest groups, for example defense industry workers, influential in the debate over these questions?	no	no	yes	yes	yes	yes
[Question P-3] Do the national security objectives dictate the maintenance of a domestic military industrial base?	no	no	no	yes	yes	yes
[Question E-1] Were the prospects for converting the defense industry relatively high?	yes	yes	no	no	no	no
[Question E-2] Was export specialization in military hardware relatively high?	no	no	yes	yes	yes	yes
[Question E-3] Was there a relatively high degree of autonomy in the defense industry?	no	yes	no	yes	yes	no
[Question E-4] Was the outlook on exports in 1989 relatively good?	no	yes	no	yes	yes	yes

The questions outlined in Appendix A were answered for each country. (The overall results are presented in Table C-1) Each of the case studies has highlighted the limits that a policy of conditionality has had on the adoption of restrictive arms transfer measures in the FCB.

Four factors seem to warrant special attention because the responses in Table C-1 are common in the four countries showing the least proclivity towards adopting restrictive conventional arms export measures. The same four factors have similar values for the Czech Republic and Hungary and the greatest divergence from the rest of the cases.

The first two factors, the demand for a strong social safety net [S-1] and the strength of interest groups in favor of continued exports [P-2] are closely related. In Hungary and the Czech Republic there was neither the willingness to save defense industry related jobs for their own sake, nor did the labor force in this industry mount an organized lobbying effort to save their own jobs. In the remaining four countries, however, those demanding a strong safety net were closely allied, for different reasons, with the influential and organized lobbying effort of the defense industry labor force and management.

Two other factors, prospects for conversion [E-1], and high export specialization [E-2] also have similar values for Hungary and the Czech Republic. In both countries, the

percentage of arms exports to total exports was low. Additionally, the relatively small number of companies that would be involved in a conversion effort helped to keep conversion from being a contentious issue. These conditions, which predict an effective export control policy, are missing in the four remaining countries of the study. Defense industries are such a key element in the struggling economies of Poland, Slovakia, Ukraine and Russia that attempts at conversion have tremendous economical/political ramifications. In short, they produce weapons because they don't perceive a viable economic alternative. Therefore, the policy of conditionality is involved in a catch-22 situation where arms are indiscriminately sold for lack of an economic alternative and the very programs that would provide economic alternatives are denied because the countries sell arms indiscriminately. One additional factor also has a significant impact on the problem. Only Poland, Russia, and Ukraine have made the determination that retention of a solid core of the defense industrial base is critical to their national security objectives. Therefore, no matter how good the prospects of conversion throughout the industry or how poor the prospects are for export, military hardware will continue to be produced in these countries. Some core of the industry will remain, the only question is how large that core will be.

Conditionality as a policy is in doubt both because of its ineffectiveness and because the policy may in fact incur many costs. Since conditionality will not change the focus of FCB arms designers, they will continue to design and produce what they know how to make and what the market will demand - anti-western systems. Naturally, the western countries will have to respond to this development with some degree of an arms race. The driving motive of this arms race will not be country related, but rather technology related. Either way, it will be expensive.

Second, an aggressive and punitive export control system will be used by conservative parties to gain influence in the targeted countries. Since governmental decisions are being primarily driven by domestic concerns, an aggressive export policy will result in conservatives gaining strength. They will make arguments such as the West is being hypocritical. They will argue that an extension of CoCom is proof of a hostile West. Meanwhile, export controls deny the struggling entrepreneurs the opportunities to develop as a political counter to the established *nomenclatura*.

Third, a strict export policy will cause tension in NATO and will reduce the credibility of NATO. The carrot of acceptance in NATO is a strong one for the West to use. The West should avoid policies that reduce viability of NATO.

Some may question the efficacy of NATO's military power, but undoubtedly it has political utility.

Fourth, the United States could be locking itself out of a potentially tremendous market. That market will be important to U.S. firms who will want to take advantage of the years of science and high intellectual education that are a part of the FCB workforce. Not only will U.S. businesses be more competitive, their stronger financial positions will allow more company funds to be invested in research and development. This will have obvious security benefits for the United States.

Two methods for limiting the effects of FCB arms sales, which do not have the costs associated with export controls, are cooptation and monitoring. Generally, cooptation means the United States would develop a positive relationship with the seller country such that the US could influence the arms export policies of the seller country. Cooptation recognizes the domestic considerations inherent in arms export measures and the developmental stages that the FCB countries are in. Cooptation could have any of the following four aspects.

First, bring FCB countries into joint economic or security structures that prescribes common defense production standards. The Standard Nato Agreement (STANAG) is a good example of this technique. This will reduce the number of weapons systems which are produced specifically to counter

Western systems. The West should license out production of Western defense products to the East's ailing industries. The military products licensed out should be of similar design to what the East Bloc military industrial complexes would normally produce and require a minimum amount of infrastructure development. This approach recognizes that there is a tendency among arms producers as well as elites to maintain traditional links with the old economic structures rather than gambling on the uncertain dividends of conversion and general economic reform. The goal is not to foster new plant development, but rather to allow the East Bloc industries to serve a portion of the West's demand for weapons. This conversion process must be in areas that provide an immediate job for defense workers.

Second, cooptation does not mean control of the coopted state nor absolute compliance to export norms. The United States should strive for passive assent by the FCB to arms export measures. Such a policy allows room for the exporting government to shift alliances and build coalitions among the different political groups. All the states in our study have demonstrated generally poor levels of support for the political process. This is a result of the difficulties that are characteristic of any post-communist state as it grapples with falling living standards. Cooptation attempts to reduce

some of this political cynicism by providing jobs and thus speeding the pace of political party development.

In this thesis we have stressed the importance of maintaining friendly, influential relations with each country in the study. Again, the thinking is that eventually a country will always be able to get the materials needed to produce conventional arms.[1] If the United States wants to be able to affect where those weapons go, the U.S. will have to work with the selling country, not confront the selling country. This thesis concludes that it is better to target the violating enterprise or item, not the state. What good does it accomplish to follow a policy which controls the export of conventional weapons but aids the accession of political groups who wish to sell weapons? By targeting the offending enterprise or business, instead of the government, CoCom members retain the flexibility to continue trade and development projects in the FCB which will strengthen the political power of reformers and entrepreneurs.

Another method to limit the impact of conventional weapons sales is to focus on the weapon's production and distribution network. This is termed monitoring.[2] What must be avoided is a country X developing a military capability that American force planners are not aware of. This assumes that the United States can counter any enemy conventional technology capability. A weapon's production and distributio..

network needs to be monitored closely for those items which are essential to the production of the critical weapons systems. In order to interrupt the flow of weapons to an aggressive country, the United States would focus on the critical components of the exported weapon. By tracking critical production nodes of a weapon system as well as the final user of high technology weapons from the FCB, the United States will be able to focus its own arms development and procurement process to more efficiently counter future world arms sales.

1. The idea that the states of the FCB will be able to produce high tech weapons regardless of export structures erected against them is taken from the comments of Professor John Barton, Stanford Law School during the CISAC Workshop Export Controls on Dual-use, High Technology: Implications For National/Economic Security on 18-19 October, 1993 at Stanford University.

2. The structure of a monitoring system that would serve as an alternative to export controls is developed by Lt. Daniel Green, "Monitoring Technology Proliferation: An Open Source Methodology For Generating Proliferation Intelligence", (Master's thesis, Naval Postgraduate School, 1993)

APPENDIX A

LIST OF QUESTIONS

A. Pertaining to Social Factors

1. [Question S-1]
Did the social legacy of the communist period allow for a relatively smooth transition period?

2. [Question S-2]
Was the demand for a strong social safety net relatively high?

3. [Question S-3]
Were the prospects and initial hopes for full integration with Western Europe relatively high?

B. Pertaining to Political Factors

1. [Question P-1]
Were the structural impediments to the governments ability to make changes, in the transition period, relatively high?

2. [Question P-2]
Were political interest groups, for example defense industry workers, influential in the debate over these questions?

3. [Question P-3]
Do the national security objectives dictate the maintenance of a domestic military industrial base?

C. Pertaining to Economic Factors

1. [Question E-1]
Were the prospects for converting the defense industry relatively high?

a. [Question E-1.a]
Were defense industry firms already in the process of production conversion in 1989?

b. [Question E-1.b]
Did the production possibilities for individual firms allow for the shifting of resources?

2. [Question E-2]
Was export specialization in military hardware relatively high?

3. [Question E-3]
Was there a relatively high degree of autonomy in the defense industry?

a. [Question E-3.a]
Was the level of domestic research prior to 1989 relatively high?

b. [Question E-3.b]
Were there a relatively large number of defense products of original design?

c. [Question E-3.c]
Is there a relatively strong move toward cooperation with Western firms?

4. [Question E-4]
Was the outlook on exports in 1989 relatively good?

a. [Question E-4.a]
Did they have export potential in expanding markets as early as 1990? (i.e. the Far East of Middle East)

b. [Question E-4.b]
Did the prospects for exports rise over time?

APPENDIX B

Arms Exports of Hungary vs. Top 12 Exporters, 1985-1989

	1989			1985-89 Cumulative		
Country	In Mill of $	% of World Total	% Change 85-89 Avg	Country	In Mill of $	% of World Total
Tier I Countries						
Soviet Union	**19,600**	**43.14**	**-3**	**Soviet Union**	**102,200**	**39.86**
United States	11,200	24.65	-7	United States	60,600	23.64
Tier II Countries						
United Kingdom	3,000	6.60	+3	France	18,300	7.14
France	2,700	5.94	-26	United Kingdom	14,500	5.66
China-Mainland	2,000	4.40	+20	China-Mainland	8,275	3.23
West Germany	1,200	2.64	-6	West Germany	6,400	2.50
Czechoslovakia	**875**	**1.93**	**-28**	**Czechoslovakia**	**6,100**	**2.38**
Israel	625	1.38	-45	**Poland**	**5,700**	**2.22**
Sweden	575	1.27	+61	Israel	3,155	1.23
Canada	410	.90	-25	Italy	2,840	1.11
North Korea	400	.88	+6	Canada	2,735	1.07
Poland	**400**	**.88**	**-64**	Bulgaria	2,185	.85
Tier III						
Hungary	**50**	**.11**	**-30**		**830**	**.32**

Source U.S. Arms Control and Disarmament Agency (1991), Table II

APPENDIX C

Relative Export Specialization for Hungary and the Ten Leading Arms Exporters, Cumulative 1985-89

Country	Relative Export Specialization	Rank by Arms Exports 1989	Rank by Arms Exports 1985-89
Soviet Union	**9.72**	**1**	**1**
Israel	3.65	8	9
Poland	**2.22**	**12**	**8**
United States	2.13	2	2
China-Mainland	2.04	5	5
Czechoslovakia	**1.95**	**7**	**7**
France	1.23	4	3
United Kingdom	1.11	3	4
Italy	.25	26	10
West Germany	.22	6	6
Hungary	**.45**	**29**	**22**

Source U.S. Arms Control and Disarmament Agency (1991), Table II

Relative Export Specialization is calculated using the equation in Figure 1.
In the equation C represents the individual country, W is the world, EM is arms exports and ET is total exports.

Figure 1

$$\frac{C^{EM}}{C^{ET}} / \frac{W^{EM}}{W^{ET}} = \frac{C^{EM}}{W^{EM}} / \frac{C^{ET}}{W^{ET}}$$

APPENDIX D

Estimated Military Research and Development Expenditures, as a Percentage of Reported Military Budget: 1974-84

Year	Hungary	Poland	Czechoslovakia
1974	0.95	2.70	7.10
1975	0.68	2.75	7.03
1976	0.86	2.91	7.06
1977	1.03	2.61	7.41
1978	0.93	2.53	7.40
1979	0.68	2.38	7.52
1980	0.90	2.29	7.07
1981	0.84	2.02	7.24
1982	0.99	1.44	6.87
1983	1.19	1.28	6.88
1984	1.23	1.08	6.70

Source: Journal of Comparative Economics, Vol. 12 No. 4, Dec. 1988, p. 540

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(Code NS/TK)
Naval Post Graduate School
Monterey, California 93943

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International Policy Studies Division
Monterey Institute of International Studies
Monterey, California 93940

16. CDR. R. Mitchell Brown III, USN 1
(CODE NS/BR)
Naval Postgraduate School
Monterey, California 93943

17. Richard A. Hove 1
Marshall Center/FLTI
Unit 24502
APO AE 09053

18. Eric J. von Tersch 1
Marshall Center/FLTI
Unit 24502
APO AE 09053