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Non-Proliferation Export Controls

Origins, Challenges, and Proposals for Strengthening

Edited by
Daniel Joyner

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Foreword

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Weapons of mass destruction are proliferating, in large part through normal channels of international commerce. The revelations about A.Q. Khan's proliferation network effectively dispelled any doubts on that score. If illicit trafficking in the technology and substances needed to build nuclear, biological, chemical or radiological arms goes unchecked, it could make life in the twenty-first century a nasty, brutish prospect.

Alongside their many benefits, the modern science, technology and commerce that permeate today's global economy raises new challenges for international export controls and non-proliferation. Individuals across the globe now have access to the technologies, equipment and know-how they need to produce weapons of mass destruction. Such items can be bought and sold through normal channels of international commerce, as the Khan affair showed. If these commodities are not carefully controlled, they may well find their way into the hands of those intent on terrorist acts of catastrophic proportions.

Governments, international organizations and other bodies must do a number of things to stave off such catastrophes. Bolstering export controls is one of these. Goods, technologies and services now flit around the globe at incredible speeds. These include dual-use technologies and materials that not only have legitimate commercial uses but are integral to nuclear, biological, chemical and other advanced weapons, as well as to missiles that can carry these weapons across state borders.

Responsible businesses and governments around the world acknowledge that export controls reduce the likelihood of harmful transfers, but they find the practice of export control extraordinarily difficult in this interconnected world. With so many goods, technologies and services passing so quickly through so many borders, detecting and quashing the few transactions intended for weapons of mass destruction is like searching for the proverbial needle in a haystack. Our present-day policies, practices and institutions, most of which were crafted in and for the Cold War – an age far different from the one we encounter today – do not help matters.

While national export control systems and international arrangements, such as the Nuclear Suppliers Group and the Missile Technology Control Regime, continue to play a critical role in stemming weapons proliferation, they are woefully unequal to today's proliferation challenge. The Khan affair and other experiences shone a spotlight on the shortcomings of these institutions. The good news is that many influential people now recognize these problems, national and international export

controls can be and are being improved, and analysts such as those who have contributed to this book are making critical contributions.

My colleagues and I at the Centre for International Trade and Security at the University of Georgia have been working on these issues for nearly two decades. We have witnessed the end of the Cold War and the advent of the War on Terror. We have evaluated the use and utility of export controls, both past and present. We have found that export controls play an important role in controlling the spread of weapons of mass destruction. And we know that export controls remain vital. They definitely have a future – but what will that future be?

This book brings together a group of distinguished analysts of non-proliferation, hailing from several regions and numerous countries around the world. International experience, perspectives and analysis are critically important when examining the future of international export controls, the central topic of this book. The inhabitants of different regions and countries tend to appraise the practice of export control differently, just as they appraise the problem of terrorism differently. The international community's efforts to counteract terrorism and proliferation benefit greatly from international research, dialogue, communication and understanding.

This volume contributes significantly in this regard. The experience and analysis found in these pages raise and address in depth a host of critical issues surrounding international export controls. The authors present insight and analysis regarding national systems, international institutions and the economic, political and security contexts in which export controls operate. Taken together, the chapters that follow provide much of what we need to know to reconfigure export controls to meet the challenges of the twenty-first century.

I commend the editor, Professor Daniel H. Joyner of the University of Warwick, and his contributors for producing a book that speaks truth to power. They have drawn on their scientific training and practical experience, calling attention to issues that policymakers must address if we are to avoid weapons proliferation that we and our children may live to regret. The topic of this book is of critical importance. The analysis within it is of great value. *Non-Proliferation Export Controls: Origins, Challenges and Proposals for Strengthening* makes an important contribution on one of the critical endeavours of our day.

Gary K. Bertsch
Athens, Georgia, USA
February 2006

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Introduction

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As edited volumes tend to do, this one has evolved in its scope and theme due to the individual perspectives of the authors on their subjects. And while for an editor this can cause some initial concern, in the end inevitably the result is a richer collection of contributions, and a better overall work.

The theme of this volume was originally intended to be an analysis of the multilateral export control regimes (MECR), growing out of work in which I was involved, along with a core group of researchers at the University of Georgia Centre for International Trade and Security. As we pursued our research into the MECR, we were very fortunate to receive the support and advice of officials in a number of national governments, as well as colleagues in other academic institutions and non-governmental organizations. This research network of scholars and regime experts became the nucleus of the contributors to this volume.

Thus, I originally chose as a theme for this volume *The Future of Multilateral Non-Proliferation Export Control Regimes*. However, as work progressed on the authors' contributions, and as other authors from various disciplines were invited to participate, I observed that a number of authors were writing very interesting and original pieces expanding on this theme in very useful ways, and broadening the treatment to consider not just the regimes themselves but also a variety of issues in national systems and in international law and policy that have an effect on, and are affected by the MECR.

I was extremely gratified by this expansion of scope, as I thought it gave a more comprehensive and well-rounded view of the regimes themselves, as well as, importantly, the national and international legal and political contexts in which the regimes operate.

The title *Non-Proliferation Export Controls: Origins, Challenges and Proposals for Strengthening* has therefore been chosen to reflect this greater diversity of issues examined. It is meant to encompass institutional analysis of the MECR (Gahlaut, Lipson, Jones), analysis of national export control systems and their relationship with the MECR (McEldowney, Anderson and Svankjaer Thagaard), challenges facing the MECR from global economic dynamics (Smith and Garcia-Alonso), trends in regionalization of international export control norms (Yamamoto), as well as a number of other perspectives, ranging from the highly practical to the highly

theoretical, on how the MECR and international export controls generally can be strengthened (Scheinman, Cupitt and Jones, Joyner, Kelle).

I hope that this broader coverage will enhance the contribution of this volume to the wider literature on export controls and non-proliferation studies more generally. I further hope that it will promote greater attention to the role of export controls in the international community's overall non-proliferation programme.

Export controls are an element of national regulatory frameworks which receive little notice, and even less rigorous scrutiny from high levels of official pay grades, until they fail in a spectacular way. This phenomenon was brought to the world's attention in alarming fashion in early 2004, when it was revealed that the father of Pakistan's gas centrifuge programme, Dr Abdul Qadeer Khan, had been masterminding a long-standing, clandestine international smuggling ring in nuclear materials and related dual-use goods. It has since become clear that through this complex system of middlemen and trans-shipment points, both fissile materials and an array of both tangible and intangible technologies fit for use in nuclear weapons programmes, were transferred to countries including Libya, Iran and North Korea.

The inherent limitations of export controls, and export control regulation on both the national and international levels are well known. Since not all states have effective export control systems in their national law, there is a strong collective action problem present in the system, and a danger of economic undercut.

In terms of the multilateral regimes (which could be technically referred to as plurilateral, as accession must be approved by the standing membership) there are many states who are either unwilling to become members of the regimes, or who have not been allowed membership by existing regime members. This non-universality therefore limits the influence of the regimes in harmonizing export control standards in national systems.

A further limitation of the MECR, inherent as well in the treaties to which they are related (most notably the Nuclear Non-proliferation Treaty, the Chemical Weapons Convention and the Biological Weapons Convention), is the fact that all existing restrictions within these regimes upon manufacture, possession and trafficking in weapons-related technologies are addressed to states. Thus, at the international level there is no substantive restriction on private parties, including business entities as well as other non-state actors, engaging in any of these activities.

These problems of the universality of the non-proliferation 'treaties and regimes' system, as well as its state-centric regulatory character, were precisely the problems which the United Nations Security Council sought to address through Resolution 1540, passed on 28 April 2004.

Notwithstanding these limitations, export controls and the multilateral regimes which seek to harmonize and standardize them, have been, and continue to be, a vital component part of the international non-proliferation legal and policy framework, and their value and importance should not be underestimated.

While their precise impact can never be calculated due to the absence of control case, it is strongly persuasive, both from anecdotal evidence and from what empirical evidence has been gathered, that for the past 40 years national

export controls have had a significant effect in slowing the proliferation of WMD-related items and technologies to states and non-state actors of concern to export-controlling countries.[1] The MECR, in turn, have played a very significant role in providing normative standards for the coordination and harmonization of national export control regulations, and in fleshing out the details of the spirit of the treaty instruments to which they are related.

However, as a number of the authors in this volume point out, national export control systems and the multilateral regimes which seek to harmonize them, face unprecedented challenges due to changing global political and economic realities. The concern is expressed by a number of contributors that, unless more attention is paid to their proper maintenance and rigorous application, the usefulness of export controls will be diminished as a result of these forces, resulting in a likely increase in both the speed and scope of the problem of WMD-related materials proliferation.

It is hoped that the analysis of these challenges, as well as proposals for strengthening international export controls included in the chapters of this volume, will contribute to both scholarly and policy-oriented discourse on this important subject.

Daniel Joyner
Coventry, United Kingdom
February 2006

[1] For research into the effectiveness of export controls, see the University of Georgia Centre for International Trade and Security website at http://www.uga.edu/cits/home/index.htm.

PART I
Introduction to International Export Controls

Chapter 1

Multilateral Export Control Regimes: Operations, Successes, Failures and the Challenges Ahead

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The international non-proliferation community has been grappling with a number of challenges over the past few years. Recent research suggests that terrorist groups are becoming interested in acquiring weapons of mass destruction (WMD), that state actors continue to remain interested in developing latent WMD capability (if not the weapons themselves), and that the black market in materials and technologies that can assist both types of actors in this quest continues to thrive. This situation persists even as we see a growth in the number of international agreements and initiatives to control the proliferation of nuclear, chemical, biological weapons and missiles. Within these, the agreements to regulate trade and transfers of sensitive dual-use technologies have been under maximum strain. Globalization of liberal free market ideology, the diffusion of advanced technologies to an ever larger number of states, and the transnationalization of the high-tech industry have together created an environment where controls on export of sensitive technologies are hard to legislate upon, and even harder to implement and enforce at the national level. Reaching and sustaining export control agreements between nations has become correspondingly more difficult. Despite these trends, the four major multilateral export control regimes: the Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR), the Australia Group (AG) and the Wassenaar Arrangement (WA) have survived, and are engaged in efforts to re-equip themselves to face the changed environment (see Table 1.1). In order to assess whether, and to what extent, they will succeed in their mission, we must examine their origins, operations, successes and failures.

Origins of Multilateral Export Control Coordination and Cooperation

The first post-Second World War attempt to coordinate export controls resulted in the establishment of the Coordinating Committee on Multilateral Export Controls (COCOM) by the United States and its allies. Yet the objective of export controls in COCOM was not the prevention of WMD proliferation in general: the focus was

primarily on denial of technology to the opposing Communist Bloc – the Soviet Union, China and members of the Soviet-led alliance.[1] In time, the focus expanded to include states that were either considered sympathetic to the Communist ideology or were deemed to be potential conduits of western technology to the Communist Bloc.

Within two decades of the formation of COCOM, during the late 1960s, negotiations on the Nuclear Non-proliferation Treaty (NPT) produced near-identical drafts from the United States and the Soviet Union regarding the broad contours of the proposed treaty: the two ideological adversaries recognized their common interest in preventing the proliferation of nuclear weapons technology to other states. The final form of the NPT text, however, had no specifics on how to implement and enforce Article 2 commitments.[2] Suppliers within the NPT formed the Zangger Committee to create guidelines on regulating nuclear exports within the mandate of NPT.[3]

The nuclear test by India in 1974 necessitated the creation of an alternate arrangement that would regulate nuclear trade *more strictly* than the NPT-bound Zangger Committee. Thus was born the first of the multilateral export control regimes in 1975: the London Suppliers Club – later renamed the Nuclear Suppliers Group (NSG).[4] Subsequently, two other parallel regimes came to be established: the Australia Group (AG) to regulate trade in chemical and biological technologies in 1985[5] and the Missile Technology Control Regime (MTCR) in 1987.[6] The fourth regime, the Wassenaar Arrangement (WA) was established in 1995 (Smith and Udis 2001, 81–92). It was a refurbished and updated successor to the COCOM which, by 1993, had already lost its *raison d'être* as the primary targets of this regime – the Soviet Union and the Warsaw Pact – disintegrated.

Table 1.1 The Four Multilateral Export Control Regimes[7]

The Nuclear Suppliers Group (NSG) is an informal agreement established in 1975. Currently, 45 states are members (with the European Union as an observer). NSG members agree to common guidelines governing exports of nuclear materials, technologies and related equipment. NSG seeks to ensure that civilian nuclear trade does not contribute to nuclear weapons acquisition. The Group's actions are viewed as complementary measures in support of the 1971 Nuclear Non-Proliferation Treaty and the 1954 International Atomic Energy Agency (IAEA). The IAEA first published the NSG guidelines on nuclear export in 1978. There are two sets of NSG Guidelines: the first one governs the export of items that are especially designed or prepared for nuclear use, while the second one includes items that can make a major contribution to an unsafeguarded nuclear fuel cycle or nuclear explosive activity, but which have non-nuclear uses as well. The Group has no charter or constitution. It operates by consensus. Members voluntarily adhere to the guidelines, and share information on nuclear proliferation concerns. Recently, NSG members have begun to consider proposals for responding to the threat posed by nuclear terrorism. Website: <www.nsg-online.org>.

Table 1.1 continued

The Australia Group (AG) is an informal agreement established in 1984. Currently, 39 states are members (with the European Union and Singapore as observers). AG members agree to common guidelines governing chemicals, pharmaceuticals and pathogens, and related technologies and equipment. AG seeks to ensure that exporting or transshipping countries do not inadvertently assist chemical and biological weapon (CBW) proliferation. Members meet annually in Paris. The Group's actions are viewed as complementary measures in support of the 1925 Geneva Protocol, the 1972 Biological and Toxins Weapons Convention and the 1993 Chemical Weapons Convention. The Group has no charter or constitution. It operates by consensus. Members voluntarily adhere to the guidelines, and share information on CBW proliferation concerns. Recently, AG has become the first regime where members have agreed to adopt catch-all controls as a means for ensuring greater government–industry partnership in controlling sensitive exports to suspect end-users. Website: <www.australiagroup.net/>.

The Missile Technology Control Regime (MTCR) is an informal agreement established in 1987. Currently, 34 states are members. MTCR members seek to prevent the proliferation of unmanned delivery systems that may be used for delivering weapons of mass destruction. It controls exports of missiles (and related technology) whose performance in terms of payload and range exceeds stated parameters. There are two categories of items controlled. Category I includes complete systems and subsystems capable of carrying a payload of 500 kg over a range of at least 300 km, and specially designed production facilities for such systems. Category II includes missile-related components such as propellants, avionics equipment and other items used for the production of Category I systems. The Group has no charter or constitution. It operates by consensus. Members voluntarily adhere to the guidelines, and share information on missile proliferation concerns. Members meet annually in Paris. Website: <www.mtcr.info/>.

The Wassenaar Arrangement (WA) is an informal agreement established in 1995. Currently, 39 states are members. WA members seek to prevent destabilizing accumulations of conventional weapons and sensitive dual-use goods and technologies. Accordingly, WA was designed to promote transparency, exchange of views and information, and greater responsibility among supplier states. The Group has no charter or constitution. It operates by consensus. Members voluntarily adhere to the guidelines, and share information on conventional weapons and dual-use proliferation concerns. The institution has no list of target countries or restricted entities, although it does (since December 2001) target 'terrorist groups and organizations, as well as individual terrorists'. There are, however, agreed lists of items: a munitions list that consists of the same basic categories of major weapons-systems as the UN Register on Conventional Weapons; and a dual-use technology list that is broken into two tiers. Tier 1, the basic list, is made up of sensitive items and technologies; and tier 2 consists of very sensitive items that are subject to more stringent monitoring. Final interpretation and implementation of these lists is left to the national discretion of participating states. There is a small secretariat located in Vienna, and there are several expert and technical working group meetings held each year in addition to the plenary in December. The Wassenaar Arrangement replaced the Cold War export control mechanism (COCOM) that sought to deny military-related articles to the Soviet Union and its allies. Website: <www.wassenaar.org/>.

Information is current as of September 2005.

There were a few common factors that formed the bases for the creation of these four regimes. Each regime arose as a response to the perceived gap in the existing formal non-proliferation treaty that regulated state behaviour with regard to a particular type of technology. Each regime sought to overcome the implementation and enforcement weaknesses in the existing arms control and non-proliferation agreements. Each defined its own practices and procedures based on the assumption of a rosy future in which the capabilities and the motivations of the target states would be contained primarily through supply-side controls and strengthening non-proliferation norms on the one hand, while on the other, the technological oligopoly of its members would continue unchallenged into the distant future. Finally, participants/members of each of these regimes shared a unity of purpose which came from a mix of shared security and commercial concerns.

Table 1.2 Basic Principles of Multilateral Export Control Regimes[8]

Principle/ Regime	NSG	AG	MTCR	WA
Prevent proliferation of WMDs	Nuclear weapons	Chemical and biological weapons	Ballistic and cruise missiles	Advanced conventional weapons and WMD-relevant dual-use technologies
Support the relevant international treaty	NPT, CTBT, IAEA	CWC and BWC		UN Arms Register, EU Code of Conduct on Conventional Weapons
Monitor and regulate exports of WMD-relevant technology	Fissile material, nuclear weapons technology, related dual-use materials and technology, nuclear power plant equipment	Chemicals, plant, animal and human pathogens, and industrial and laboratory equipment used for manufacturing these	Missiles, satellite launch vehicles, missile components, composite materials	
Not interfere in legitimate civilian trade	Export licences granted for qualified end-users, and under certain conditions	Export licences granted for qualified end-users, and under certain conditions	Export licences granted for qualified end-users, and under certain conditions	Export licences granted for qualified end-users, and under certain conditions