

Chapter 3

Export Control Regimes—Present-Day Challenges and Opportunities



Esmée de Bruin

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Abstract The system of export control regimes is an important instrument to prevent the proliferation of both weapons of mass destruction and conventional weapons. However, this system faces several structural and recent challenges. The regimes are informal, and consequently, their measures are non-binding upon states. Second, the regimes consist of a selective group of countries, excluding some dominant arms exporters. New technology is rapidly changing the military field, and it is difficult for the export control regimes to keep up with these developments. Further, most of the regimes were designed when states were the most important international actors while currently legitimate and illegitimate non-state actors play an ever-increasing role for export controls. In addition, it is unclear how the regimes will advance with the multipolar world order of the twenty-first century. All new developments could lead to the proliferation of weapons, making efforts to prevent proliferation more relevant than ever. There are several opportunities to reform and strengthen the export control regimes. Cooperation could help the regimes to remain relevant. The sharing

E. de Bruin (✉)

Faculty of Military Sciences, Netherlands Defence Academy, PO Box 90002, 4800 PA Breda, The Netherlands

e-mail: jkae.d.bruin@mindef.nl

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of good practices can help the regimes to find the least disruptive and effective non-proliferation measures. Setting up a paradigm-based regime instead of a weapon-based regime may be more suitable for the future. In addition, a revision of the decision-making process would help the regimes to respond swiftly to developments in the field.

Keywords Export controls · export control regimes · weapons of mass destruction · non-proliferation · disarmament · arms trade · dual-use · Nuclear Suppliers Group · Australia Group · Missile Technology Control Regime · Wassenaar Arrangement

3.1 Introduction

Unrestricted trade of arms and dual-use products may lead to security threats and human rights violations. For that reason, states have come up with export controls. In a world with non-restricted trade, all products and services can move freely between countries. However, this would mean that dangerous goods, such as machine guns, chemical products, and nuclear weapons may be purchased by anyone. Also, this would mean that sensitive technology, such as cyber-surveillance technology, biotechnology, and weapon systems could fall in the wrong hands. Thus, states balance the benefits of free trade with their security objectives. As a result, the trade in military products and technology is restricted by treaties, counter-proliferation measures, and export control regimes.¹

The system of export control regimes is an important instrument to prevent the proliferation of both weapons of mass destruction, conventional weapons, and to control dual-use products. There are four important regimes, the Nuclear Suppliers Group, the Australia Group, the Missile Technology Control Regime, and the Wassenaar Arrangement. The regimes are informal arrangements between a selective group of countries, often consisting of suppliers only. The activities of the regimes build on an international treaty. For example, the Nuclear Suppliers Group coordinates sensitive international trade in line with the Treaty on the Non-Proliferation of Nuclear Weapons.²

Several structural drawbacks of these regimes can be identified in existing literature. First, most countries are unwilling to give up some of their sovereignty by engaging in binding agreements on this matter. As a result, the regimes are informal, and their measures are non-legally binding upon states.³ The regimes have no official organs or enforcement mechanisms. They have, thus, hardly any power to act if countries choose to ignore the guidelines set by the regimes. Second, the regimes consist of a selective group of countries, with this excluding some dominant arm exporting countries. On the one hand, a lower number of participating countries

¹ Achilleas 2017, p. 3.

² Achilleas 2017, pp. 5–6.

³ Beck and Gahlaut 2003, p. 5.

eases the consensus-based decision-making. On the other hand, the non-universal character hampers the effectiveness of the regimes because only a restricted number of countries act by the principles established by the regimes.⁴

While the aforementioned challenges of the international export control regimes remain, this century raises new challenges for arms export control that are scarcely addressed in the literature. Since the beginning of this millennium, arms transfers have been increasing.⁵ New technology is rapidly changing the military field; 3D-printing makes it possible to produce weapons from a distance; artificial intelligence is increasingly used in weapon systems; and advancing biotechnology creates possibilities for biological weapons.⁶ Further, most of the regimes were designed in times when states were the most important international actors. Many regime measurements are aimed at states instead of individuals.⁷ Currently, other actors, such as terrorist organizations, play an ever-growing role in the international field.⁸ Another factor that raises a new challenge is the emergence of several densely populated countries, such as China and India, resulting in a slow shift in the world order.⁹ The United States has often taken the lead since the establishment of the regimes.¹⁰ It is unclear how the regimes will advance with the multipolar world order of the twenty-first century. All new developments could lead to the proliferation of weapons, making efforts to prevent proliferation more relevant than ever.

In this chapter, the challenges and opportunities that the regimes are currently facing are analysed. The chapter is structured as follows. First, the different export control regimes and their goal are explained to give a background on the regimes. Second, both structural challenges as well as contemporary developments in the field of arms trade and their implications on export controls are elaborated on. In addition, the opportunities for the regimes are discussed in the same section. The final section is used to conclude.

⁴ Beck and Jones 2019, pp. 56–57.

⁵ Wezeman et al. 2019, p. 1.

⁶ Brockmann 2018, p. 8.

⁷ Beck and Jones 2019, p. 58.

⁸ Bailes 2013, p. 17.

⁹ De Graaff and van Apeldoorn 2018, p. 113.

¹⁰ Bailes 2013, p. 24.

3.2 Export Control Regimes

3.2.1 *The Coordinating Committee for the Multilateral Export Controls*

The first arms export control regime, the Coordinating Committee for the Multilateral Export Controls (CoCom), was established during the Cold War.¹¹ The Cold War was characterized by the (nuclear) arms race between the Eastern and the Western Bloc. Both sides were building their arms capacity to counter the threat from their opponent. At some point, the Western countries wanted to impede the flow of sensitive products and technology to the Eastern countries, and thus created the informal export control regime, the CoCom, to pursue this goal.¹²

In the remainder of the Cold War, it became clear that more cooperation was needed to prevent the proliferation of Weapons of Mass Destruction (WMD). For that reason, countries established several other regimes similar to the CoCom.¹³ The majority of the multilateral export control regimes, the Nuclear Suppliers Group, the Australia Group, and the Missile Technology Control Regime saw the light during this period. The Wassenaar Arrangement was set up after the Cold War, but is seen as a direct successor of the CoCom. As a consequence, the Cold War perspective has influenced the export control regimes, and the literature on them.¹⁴

3.2.2 *Regimes and Treaties*

There are four major arms export regimes that have a different non-proliferation focus. Although the guidelines created by the regimes are non-binding, the regimes support legal binding instruments. Most regimes were established because states experienced a lacuna in the legal framework. However, usually the legal instruments have more member states than the regimes. As a result, it is possible for the regimes to have more specific provisions to fill the gap.¹⁵

The Nuclear Suppliers Group was one of the first regimes to be established after the CoCom. The Nuclear Supplier Group was formed by states that supply nuclear technology. Together, the 48 supplier states create two sets of informal guidelines to regulate and monitor nuclear trade, as well as to prevent dual-use items and technology from being used for nuclear proliferation. These guidelines do not stand by themselves; they are in line with the Treaty on the Non-Proliferation of Nuclear

¹¹ Gahlaut 2006, p. 8.

¹² Beck and Jones 2019, p. 59.

¹³ Beck and Jones 2019, p. 61.

¹⁴ Bailes 2013, p. 16.

¹⁵ Gahlaut 2006, p. 10.

Weapons and similar regional legal instruments.¹⁶ Also, the regime supports the efforts of the International Atomic Energy Agency.

Before the Nuclear Suppliers Group came into existence, the Zangger Committee was active in the field of nuclear non-proliferation. Similarly, it developed guidelines to prevent nuclear weapons from spreading. However, contrary to the Nuclear Suppliers Group, the Zangger Committee could only act ‘within the mandate’ of the Nuclear Non-proliferation Treaty. The work of the Nuclear Suppliers Group goes beyond that of the Zangger Committee. As of today, the Zangger Committee did not disappear completely. It is still active in the field, and it is an observer to the Nuclear Suppliers Group.¹⁷

The Australia Group focuses on two different types of WMD: chemical and biological weapons. Again, the regime is an informal group of 43 countries that controls the trade in items and technology related to chemical and biological weapons. Some civil-used chemical or biological materials can also be used to make weapons, hence the regime encourages responsible trade of these dual-use items. The Australia Group complements the Chemical Weapons Convention and the Biological Weapons Convention.¹⁸

The third regime, the Missile Technology Control Regime, is also focused on the non-proliferation of WMD. With the inclusion of India in 2016, the regime has 35 partner countries.¹⁹ The regime is set up to coordinate the ‘unmanned delivery systems of WMD’.²⁰ Non-binding guidelines, the listing of sensitive items and the sharing of information are used to control the trade in missiles.²¹ In 2002, the Hague Code of Conduct against Ballistic Missile Proliferation (HCOC) entered into force. The HCOC is intended to complement the regime, but its binding provisions are less specific.²² Currently, 143 countries have become members of HCOC.²³

The fourth and last multilateral export control regime is the Wassenaar Arrangement. In contrast to the other regimes, the Wassenaar Arrangement is not focused on WMD, but on conventional weapons such as small arms and rockets. As of today, the regime includes 42 partner countries.²⁴ The main goal of the regime is to advocate responsible trade in conventional weapons and related dual-use items.²⁵ Another goal of the Wassenaar Arrangement is to make sure that arms producing businesses do not move to the country with the most favourable law on the topic.²⁶ For these

¹⁶ Achilleas 2017, p.6; Beck and Gahlaut 2003, p. 5.

¹⁷ Gahlaut 2006, p. 8.

¹⁸ Beck and Gahlaut 2003, p. 5.

¹⁹ Missile Technology Control Regime 2016.

²⁰ Beck and Gahlaut 2003, p. 5.

²¹ Missile Technology Control Regime 2020.

²² Mistry 2003, p. 120.

²³ The Hague Code of Conduct 2020.

²⁴ The Wassenaar Arrangement 2020.

²⁵ Gahlaut 2006, p. 9.

²⁶ Herr 2016, p. 1.

reasons, the exchange of information and transparency between the partner countries are encouraged.²⁷

3.2.3 *Characteristics Regimes*

These four export control regimes coordinate the trade in WMD and conventional weapons. WMD are weapons that are capable of doing grave harm, and kill a large number of people, such as nuclear, chemical, and biological weapons.²⁸ A chemical weapon consists of a chemical that could harm or kill people, animals, or plants. The effect of a biological weapon is comparable, however; biological weapons contain substances made from living organisms. Viruses and bacteria also fall under biological weapons.²⁹ All regimes try to prevent the proliferation of these WMD. Conventional weapons are all other weapons that are, in principle, legal for a country to produce and purchase.³⁰ Nevertheless, conventional weapons are often used for the wrong purposes. For example, over the last years, most wars in developing countries with a high number of casualties were fought with the use of small and light arms.³¹ For that reason, there are also export controls in place to regulate the trade in conventional weapons. Here, the trade is not impeded per se, but the end-use of an item or technology plays a big role.

Often, the situation is not as clear as described above; most WMD are developed with the use of dual-use items.³² For example, chlorine is used to kill bacteria in drinking water, but it was also used as a chemical weapon during the First World War,³³ and, more recently, in Syria.³⁴ The trade of dual-use products and services could also lead to human right breaches. For instance, cyber surveillance technology can be used to prevent terrorism, but can also lead to privacy infringement. The nature of dual-use products makes it difficult to prohibit all trade because this means that civil usage would be hindered as well. For that reason, trade is not prohibited, but the export control regimes are also applicable to the trade in dual-use products and services.³⁵

The four regimes share three main characteristics. First, they are informal political arrangements that make non-binding decisions. Thus, there are no enforcement mechanisms in place and countries enjoy some freedom in the implementation of the guidelines. Second, the regimes make decisions based on consensus. As a result,

²⁷ Gahlaut 2006, p. 9.

²⁸ Beck and Gahlaut 2003, p. 1; Tamada and Achilleas 2017, p. 5.

²⁹ Joyner 2009, pp. 79-80.

³⁰ Tamada and Achilleas 2017, p. 7.

³¹ Greene and Marsh 2011, p. 3.

³² Beck and Gahlaut 2003, p. 2.

³³ Joyner 2009, p. 80.

³⁴ United Nations General Assembly 2017.

³⁵ Bohnenberger 2017, p. 82; Joyner 2009, p. 30.

decisions often take time because they are only made when all countries assent to a proposal. Third, all regimes consist of a limited number of participants, most of which are suppliers of the items and technology of concerns.³⁶ Hence, contrary to the legal instruments they support, the regimes do not have universal support.

The regimes' norms are set out in guidelines and control lists. The participating countries have created broad guidelines that set out the purpose of the regimes as well as the commitments of the participating countries.³⁷ In addition, the guidelines inform on export procedures such as how non-proliferation measures should be applied. Further, it sets out the structure of the more detailed control lists. When the regimes decide that a product, service or technology should be subject to export controls in accordance with the guidelines, these items are listed in more detail. The Nuclear Suppliers Group, the Missile Technology Control Regime and the Wassenaar Arrangement work with two sets of lists. The two different lists give an indication of the sensitivity of the items and technologies. When there is a higher chance that a transfer will contribute to proliferation, there are stricter export controls applicable.³⁸ Also, the country of destination plays a role. For example, trade in sensitive products between two regime participants is more likely to take place than trade between a regime participant and North Korea or Iran.³⁹ However, this is different for the Wassenaar Arrangement because the regime is explicitly not 'directed against any state or group of states'.⁴⁰ The lists are regularly updated in accordance with the current developments.

The focus of export controls has shifted slightly over the years. Previously, the focus was on preventing the proliferation of WMD and conventional weapons falling into the hands of enemy states.⁴¹ After 9/11, rival countries were no longer considered to be the only possible danger. Export controls started to be targeted at terrorism prevention.⁴² Over the past years, the protection of human rights became a more important goal for export controls.⁴³ For example, the protection of human rights plays an important role in the Arms Trade Treaty.⁴⁴ As of 2013, the Wassenaar Arrangement also focuses more on the prevention of human rights violations when it comes to the trade in cyber-surveillance technologies.⁴⁵

³⁶ Beck and Gahlaut 2003, p.6; Gahlaut 2006, pp. 11–15.

³⁷ Achilleas 2017, p. 11.

³⁸ Gahlaut 2006, p. 9.

³⁹ Bailes 2013, p. 22.

⁴⁰ The Wassenaar Arrangement 2020.

⁴¹ Gahlaut 2006, p. 8.

⁴² Beck and Gahlaut 2003, p. 13.

⁴³ Bromley et al 2012, p. 1042.

⁴⁴ Coppen 2016, p. 365.

⁴⁵ Bohnenberger 2017, p. 83.

3.2.4 National Implementation and United Nations Security Council Resolution 1540

The regimes act on voluntary and informal basis, and as a result, its guidelines and lists do not bind the countries. Hence, for the export controls to have legal effect they need to be nationally implemented by the participating countries. The interpretation of the guidelines and lists varies between countries, and also there is some disagreement about what should be considered a sensitive destination.⁴⁶ As a result, different export controls can be applied in similar situations.

Nevertheless, this so-called ‘national discretion’⁴⁷ of countries does not stretch too far: it is set out in United Nations Security Council Resolution 1540 that every country should have national law in place to prevent the proliferation of nuclear, chemical and biological weapons. The resolution was meant to impede non-state actors with terroristic purposes to obtain weapons of this kind. Contrary to the informal regimes, United Nations Security Council resolutions are binding upon countries.⁴⁸ Thus, when a participating country incorporates the guidelines from the regimes into national law, it shows its efforts to comply with the resolution. As a result, a considerable group of influential countries has implemented comparable national law on this matter.

3.3 Challenges and Opportunities

3.3.1 Structural Challenges

As previously explained, the export regimes have an informal nature, and often mainly consist of supplier states. In addition, they make decisions based on consensus, and states have national discretion. As a result, the regimes are facing multiple structural challenges.

3.3.1.1 Non-universal Character

Over the last years, the number of regime participants has increased, thereby putting pressure on the system of consensus-based decisions. Originally, the regimes consisted of like-minded supplier states.⁴⁹ As of today, however, numerous non-supplier states have joined the regimes. For instance, Denmark, Portugal and Luxembourg became MTCR participants while they had no related missile programs in

⁴⁶ Beck and Gahlaut 2003, pp. 8–13.

⁴⁷ Beck and Gahlaut 2003, p. 6.

⁴⁸ Gahlaut 2019, pp. 54–57.

⁴⁹ Beck and Jones 2019, p. 65.

place.⁵⁰ Consequently, the group of participating countries has become more heterogeneous with respect to security and trade interests.⁵¹ Especially suppliers and non-suppliers may have divergent interests.⁵²

The regimes balance their aspiration to establish universal norms, with their wish for uniformity between the participating states.⁵³ On the one hand, if more countries are part of the regimes, more countries act in accordance with the principles established by the regimes. At the moment, several countries with the capability to develop nuclear weapons, such as Israel, are not part of the Nuclear Suppliers Group.⁵⁴ Hence, these potential supplier countries have not committed themselves to adhering to the guidelines. On the other hand, adding these countries of strategic concern to the number of participating states might lead to a dilution of the norms and uniformity of the regimes. The increase in participating states has led to more internal disagreement. One important topic of discussion concerns what countries and products should be perceived as a threat by the regimes. For example, the United States and EU countries have controlled the dual-use trade with their fellow regime participant Russia.⁵⁵

3.3.1.2 Consensus-Based Decisions

Especially because decisions are made based on consensus, decreasing homogeneity hinders the process of decision-making. A single country with divergent views is able to block the decisions of an entire regime. Regularly, a small group of countries is blocking advancements to the guidelines, or to the effectiveness of the regimes. As a result, the regimes struggle to make rapid decisions concerning new technologies, hereby failing to respond to possible proliferation risks.⁵⁶ Also, if decisions are made, they are more likely to be attenuated to conform to the wishes of every participant.

This raises questions about the efficacy of the regimes in their current form. In the past, the objectives of the participating countries were more aligned. However, this is no longer the case. The set-up of the regimes, characterized by consensus-based decisions and informal nature, was designed for a small group of countries with similar interests.⁵⁷ At the time of initiation, this indeed increased the efficiency of the regimes. Nevertheless, currently, the opposite holds.

⁵⁰ Gahlaut and Zaborsky 2004, p. 76.

⁵¹ Beck and Jones 2019, p. 70.

⁵² Gahlaut and Zaborsky 2004, p. 79.

⁵³ Gahlaut and Zaborsky 2004, p. 83.

⁵⁴ Joyner 2009, p. 68.

⁵⁵ Beck and Jones 2019, p. 71.

⁵⁶ Beck and Jones 2019, p. 67.

⁵⁷ Beck and Jones 2019, p. 69.

3.3.1.3 Informal Nature

The enforcement of the guidelines is problematic as well because the guidelines are non-binding. Most states are unwilling to give up some of their sovereignty by entering into binding agreements on this matter. This has two reasons; states want to remain in control of their own foreign security policy as well as to remain flexible to act in accordance with their economic interest.⁵⁸ As a result, the regimes have no official organs or enforcement mechanisms. They have, thus, hardly any power to act if countries choose to ignore the guidelines set by the regimes. Other participating countries cannot hold a non-adherent country accountable as there exist no rules on violations of the regimes.⁵⁹ Officially, non-adherence to the regime guidelines is not even named a violation or non-compliance,⁶⁰ but ‘export behavior inconsistent with the spirit of the arrangement’.⁶¹ The only way to put pressure on a non-adherent participant is by diplomatic measures.⁶²

3.3.1.4 National Discretion

For this reason, participants enjoy extensive national discretion in applying the regime guidelines. Some of the guidelines are somewhat indistinct, which means that countries have freedom for national implementation.⁶³ Consequently, countries can interpret the guidelines the way that they are most favourable to their own businesses. As a result, it is possible to have divergent interpretations. Gahlaut suggests that the regimes need to create enforceable common norms to meet this challenge.⁶⁴

However, given the current international environment, it is unlikely that this will happen in the foreseeable future. The participating countries become more divergent, and as a result, it is probable that they are unwilling to adhere to binding norms that remove their room to manoeuvre. In addition, over the past years, there has been a tendency to move towards more informal approaches to prevent the proliferation of WMD.⁶⁵ An example of this development is the Proliferation Security Initiative. This informal understanding between countries encourages them to actively avert the overseas transport of WMD with the use of current international law.⁶⁶

⁵⁸ Pryor 2018, p. 46.

⁵⁹ Beck and Gahlaut 2003, p. 7.

⁶⁰ Beck and Jones 2019, p. 66.

⁶¹ Gahlaut and Zaborsky 2004, p. 84.

⁶² Gahlaut 2006, p. 18.

⁶³ Beck and Jones 2019, p. 66.

⁶⁴ Gahlaut 2006, p. 17.

⁶⁵ Daase 2013, p. 69.

⁶⁶ Black-Branch 2017, p. 204.

3.3.2 *Recent Challenges*

Next to the structural challenges, several present-day developments have caused new challenges for the regimes. Over the last twenty years, five developments that have an impact on the arms export control systems can be identified. Non-state threats and producers have emerged, there are suppliers operating outside the regimes, technology is rapidly evolving, the world order is slowly changing, and the UK decided to leave the EU.

3.3.2.1 **Non-state Threats**

Previously, states were the largest proliferators, currently, however, non-state actors have emerged as proliferators as well. When the regimes were established, states were the major actors in international law. During the Cold War, conflict was between states, and thus, states were seen as the most important proliferation threat.⁶⁷ In addition, the technology to develop WMD on a large scale had been out of reach for non-state actors. As of today, the international field has changed rapidly. Other actors such as international organizations, non-state actors, and sub-state actors play a substantial role. Non-state actors such as terrorist groups are increasingly interested in WMD.⁶⁸ Similarly, these groups have proven to be capable of breaching the principles of the export control regimes.⁶⁹

The regimes have responded to the changed threat. After 9/11, the prevention of terrorism became an important goal for many countries.⁷⁰ States with different values and politics such as China, Russia and the United States started working together to pursue this common goal. At the same time, the export control regimes put more emphasis on non-proliferation measures targeting terrorist groups.⁷¹ As of 2004, UN Security Council Resolution 1540 made these measures more substantial because it introduced an obligation for all UN members to have appropriate legal instruments in place to prevent proliferation of this kind.

Nevertheless, the threat from non-state actors demands additional efforts from the regimes for several reasons. First, the regime control lists are not primarily aimed at controlling out-dated products or technologies, while hostile non-state groups often prefer these as a means of attack. Many of such products are widely used by civilians, which makes them easier to acquire. Instead, the regimes are more focused on modern technologies used by the states. As a result, a substantial part of the control list is not useful in impeding this type of proliferation.⁷² Second, countries are often focused on the detection of military quantities of a controlled item. For example, the Common

⁶⁷ Bailes 2013, p. 6.

⁶⁸ Black-Branch 2017, p. 202.

⁶⁹ Bailes 2013, p. 21.

⁷⁰ Anthony 2002b, p. 756.

⁷¹ Bailes 2013, pp. 22–24.

⁷² Beck and Jones 2019, p. 56.

Control List from the Australia Group lists precisely the quantity that is needed for an item to be controlled.⁷³ However, non-state actors with malicious intent might settle for smaller numbers.

Next to non-state groups that form a threat, other recent non-state security threats can be identified.⁷⁴ Climate change, for example, is one of the most important security issues the world is currently facing.⁷⁵ Also, pandemics pose a significant threat for states. As a result of these cross-border issues, states have become more interdependent. Therefore, multilateral solutions to security issues have become more important.⁷⁶

3.3.2.2 Non-state Producers and Facilitators

Non-state parties play a more prominent role in the export-controlled trade. Beck and Jones point out that non-state parties are increasingly used to facilitate this type of trade, thereby increasing the need for timely transparency from regime participants.⁷⁷ In addition, research and development of weapons and dual-use products and technology is increasingly conducted by non-state actors. Previously, most sensitive discoveries were done by governmental agencies. From there, these inventions eventually found their way to the private sector. For example, nuclear technology was developed by states instead of private businesses.⁷⁸ As of today, however, a lot of discoveries or new technologies are (further) developed by the private sector. From there, they are implemented by defence organizations. Artificial intelligence, for instance, is produced in the private sector, but now has wide military application ranging from ‘threat evaluation’ to ‘underwater mine warfare’.⁷⁹ The Wassenaar Arrangement participants have responded to these developments by, for example, including malware in control lists.⁸⁰

While states make the norms by participating in the regimes, businesses have to comply with these norms. High technology industries perform in economies of scale, meaning that the businesses often have the incentive to grow beyond national borders. As a result, the interests of the industries, as well as the economic interests of a country, diverge from the security interests of a country.⁸¹ Sometimes the states use the export controls to pursue their economic interest and not necessarily their security interests.

⁷³ The Australia Group 2020.

⁷⁴ Ikenberry 2011, p. 65.

⁷⁵ Mobjörk et al. 2020, p. 1.

⁷⁶ Ikenberry 2011, p. 65.

⁷⁷ Beck and Jones 2019, p. 56.

⁷⁸ Sagan 1997, p. 54.

⁷⁹ Svenmarck et al. 2018, p. 1.

⁸⁰ Herr 2016, p. 2.

⁸¹ Gahlaut 2006, p. 16.

3.3.2.3 Emerging Suppliers

New supplier countries have emerged that are willing to operate outside the guidelines of the export control regimes. Most export control regimes are effective because they provide suppliers of sensitive items and technology with guidelines to prevent proliferation. Now there are several countries with the ability to supply such items that are not part of the export control regimes. As a result, these new suppliers often conduct an export that was previously rejected by regime participants, hereby putting pressure on the export control system.⁸² For example, China and Israel are the number five and number eight exporters of major arms respectively,⁸³ while both countries are not part of the Wassenaar Arrangement.⁸⁴ In addition, the Democratic People's Republic of Korea (DPRK) has conducted several nuclear tests, and there are worries that the DPRK is willing to export nuclear material.⁸⁵ Not only is the DPRK operating outside the Nuclear Suppliers Group, the country also (unofficially) stepped out of the NPT.⁸⁶ Hence, there are no international legal obligations that are preventing the country from trading in nuclear materials. Nevertheless, actions from the DPRK are impeded because of the numerous sanctions that are enacted against the country. There are also countries with sensitive (nuclear) military industries, such as Pakistan and India, that want to join the export control regimes but are not allowed access as a result of the veto power of current participants.⁸⁷

3.3.2.4 New Technology

Evolving military and dual-use technology is challenging the export control regimes in several ways. First, the swiftness of the technology change pressures the regimes to change their control lists with a corresponding speed. Recent advances include 3D-printing that makes it possible to produce weapons from a distance, artificial intelligence that is increasingly used in weapon systems and advancing biotechnology that creates possibilities for biological weapons.⁸⁸ In addition, cyber surveillance can be used to commit human rights violations.⁸⁹ Most regimes publish control lists in which sensitive export products and services are enumerated. When technology changes, the lists have to be adjusted in accordance. The decreasing uniformity between the participating countries causes countries to hinder rapid decisions.⁹⁰

⁸² Beck and Jones 2019, p. 56.

⁸³ SIPRI 2020, p. 13.

⁸⁴ The Wassenaar Arrangement 2020.

⁸⁵ Chestnut 2007, p. 80.

⁸⁶ Black-Branch 2017, p. 207.

⁸⁷ NTI 2020.

⁸⁸ Brockmann 2018, p. 8.

⁸⁹ Bohnenberger 2017, p. 82.

⁹⁰ Beck and Jones 2019, p. 67.

Thus, when technology evolves rapidly, it is difficult for the regimes to keep up with the pace.⁹¹

However, the informality of the international regimes could also be seen as an opportunity. Contrary to hard law instruments, the soft law nature of the regimes enables them to be more resilient to new proliferation threats because new lists are easier to establish than new international law instruments.⁹² In addition, to account for the rigidity of the control lists, countries such as the United States, have a separate export control classification series that temporary lists emerging technologies. Nevertheless, when this is done unilaterally this could harm the international market.⁹³

Second, various new technologies erase the need for physical trade, hereby changing the idea of trade. Software, such as cyber surveillance software, can be transferred electronically without the need for trading partners to meet in person. 3D printing can be used in future to print components of nuclear weapons.⁹⁴ However, as stressed by Bromley and Maletta, the proliferation risk is moderate for WMD because merely the transfer of technology is insufficient to develop that type of weapon.⁹⁵ The authors explain that additional education or training often is necessary to have appropriate knowledge to develop such weapons. For instance, in order to create a nuclear device, as well as a biological or chemical weapon, advanced knowledge is required.

Third, new developments cause separate technologies to become more intertwined. At the moment, every regime is focused on a different type of weapon: the NSG is focused on nuclear weapons, the AG is focused on biological and chemical weapons, the MTCR is focused on delivery systems, and the WA is focused on conventional weapons. Not only separately developed new technologies are integrated now, but existing technology is also combined with recent developments.⁹⁶ Artificial intelligence is combined with emerging biotechnology⁹⁷ as well as existing nuclear technology.⁹⁸ As a result, the functions of the various regimes become more overlapping.

3.3.2.5 Multipolar World Order

After the fall of the Soviet Union, the United States enjoyed hegemony over world affairs.⁹⁹ However, currently other populous countries such as China and India are

⁹¹ Brockmann 2018, p. 10.

⁹² Gahlaut and Zaborsky 2004, p. 84.

⁹³ Brockmann 2018, p. 20.

⁹⁴ Kroenig and Volpe 2015, p. 8.

⁹⁵ Bromley and Maletta 2018, p. 7.

⁹⁶ Bauer 2020.

⁹⁷ Brockmann et al. 2019, p. 12.

⁹⁸ Bauer 2020.

⁹⁹ Ikenberry 2011, p. 60.

becoming more influential in world politics. This can have several implications for the export control regimes. First, unlike India, that recently joined the AG, the MTCR, and the WA, China only participates in the NSG. Meaning that the number five main exporter of major weapons operates outside the export control regime applicable.¹⁰⁰ As explained by Ikenberry, the international system has been ‘open and rules-based’. He expects the system to become more centred around ‘exclusive blocs, spheres of influence, and mercantilist networks’.¹⁰¹ Although the informal regimes do not perfectly fit in the rules-based international order, the exclusion of upcoming countries could result in an alternative market in which different export controls are applied based on capital and relationships between countries.

Second, the rising powers of mostly non-western states adds to the feeling of dissimilarity between countries. Western countries used to be in the lead when international norms were formed and the formation of the export control regimes was not an exception. This may other when countries become more influential. Countries such as China and India might perceive certain technologies to be more might see different countries as a threat than the current regime members. This makes it more difficult to form a common international export control system.

3.3.2.6 Brexit

On 24 December 2020, the UK and the EU reached an agreement on the cooperation between the two parties after Brexit.¹⁰² Besides the four main export control regimes, the EU has set up its own EU-wide export control regimes, such as the regime governing dual-use items that finds its origin in Regulation 428/2009. Although Brexit has no influence on the participation of the UK in the export control regimes discussed in this chapter, Brexit could affect the field of export control in several ways. First, the Brexit may reduce the willingness of EU countries to cooperate in this field and slow down advancements to the EU export control regimes. As a result, the EU countries, as well as the UK, become more dependent on the four main export control regimes.¹⁰³ For the UK itself it has a similar effect because the country will no longer be basing its national regulations on the EU norms, but directly on the guidelines established by the export control regimes.¹⁰⁴ Thus, it could be said that Brexit increases the importance of the export control regimes. Second, the EU loses several means to influence global export control efforts. Not only its access to the Commonwealth is complicated, in addition, the EU loses one of its permanent Security Council members, hereby making it more difficult for the EU to influence international export control norms.¹⁰⁵

¹⁰⁰ SIPRI 2020, p. 13.

¹⁰¹ Ikenberry 2011, p. 56.

¹⁰² European Commission 2020.

¹⁰³ Bromley 2016.

¹⁰⁴ Osborne 2018.

¹⁰⁵ Bromley 2016.

3.3.3 *Opportunities*

While the regimes face several challenges, there are also opportunities for the regimes to improve and keep up with contemporary developments. First, they could improve by strengthening dialogue and cooperation. Second, the regimes could be reformed so that a diverge from the regimes' norms has more consequences for states such as introducing an enforcement mechanism. Third, the regimes can be more paradigm based, and the catch-all mechanisms may remain. Further, the decision-making process could be revised.

3.3.3.1 **Dialogue and Cooperation**

The export control regimes have a common goal: prevent proliferation by establishing control lists, encourage transparency and gather best practices.¹⁰⁶ Now every regime separately lists sensitive products and technologies.¹⁰⁷ Increased dialogue and cooperation between the export control regimes would help them to respond adequately to technology changes,¹⁰⁸ and changed threats.¹⁰⁹ Some authors go one step further and suggest that the regimes could be combined, or at least could have a combined assembly to improve efficiency and encourage cooperation. Nevertheless, a merger is unlikely because the regimes have different participants. Some countries are excluded from one of the regimes because of political reasons, while other countries do not feel comfortable in joining one of the regimes. Hence, combining them would cause difficulties. Instead, Beck and Jones suggest that the regimes can have their annual meetings during a shared assembly. As a result, the different plenaries with representatives and experts would be held at a single location to enable cross-pollination. The authors add that the combined assembly could be a breeding ground for new regimes to form in accordance with new developments.¹¹⁰ This can help the international community to keep up with the rapid (technological) developments in this field.

In addition to increased cooperation between the regimes, increased information sharing between other parties involved can help the regimes face the aforementioned challenges.¹¹¹ Cooperation of regime participants with countries outside the regimes, exporting businesses, facilitators, as well as academia would help the regimes to signal threats at an earlier stage and create awareness.¹¹² Also, their input may help

¹⁰⁶ Beck and Jones 2019, p. 65.

¹⁰⁷ Achilleas 2017, p. 11.

¹⁰⁸ Brockmann 2018, p. 23.

¹⁰⁹ Horowitz and Narang 2014.

¹¹⁰ Beck and Jones 2019, p. 75.

¹¹¹ Black-Branch 2017, p. 230 notes that at the moment cooperation concerning nuclear matters is lacking.

¹¹² Brockmann 2018, p. 7.

improve the enforcement mechanism and compliance instruments of the regimes.¹¹³ Black-Branch recommends increased cooperation to discourage nuclear terrorism. Further, cooperation between regime participants themselves is important.¹¹⁴ The regimes have a ‘no-undercut’ obligation which means that states have to inform other participants what exports they have denied.¹¹⁵ This decreases the national discretion of participating states.

3.3.3.2 Binding Instruments or Enforcement Mechanism

The informal nature of the export control regimes causes challenges. However, it is unlikely that the regimes’ norms will become hard law instead of soft law in the foreseeable future. The control lists and guidelines are not binding upon participating countries. The regimes lack an enforcement mechanism, and as a result, a diverge from regime norms has no consequence for a state except for when a country unilaterally decides to enact sanctions.¹¹⁶ There have been some international attempts to establish binding non-proliferation instruments, such as the International Code of Conduct against Ballistic Missile Proliferation. Hence, states recognize the added value of an international legal system in this case.¹¹⁷ States often do not want to give up their sovereignty by joining a binding international instrument when it concerns sensitive matters like security. Hence, one of the most feasible ways to set up an enforcement mechanism would not be by reforming the export control regimes, but rather by strengthening the Arms Trade Treaty that is already a binding instrument. In the case of the ATT states already gave up some sovereignty to reduce the proliferation of conventional weapons, and thus, there is a probability that they are willing to go one step further.¹¹⁸

Other measures might be more suitable than reforming the regimes to binding instruments. Although the regimes are not binding, participating states mostly comply with the guidelines and control lists. Thus, it could be said that the regimes are effective without an enforcement mechanism.¹¹⁹ In addition, Byers points out that it is probable that states contributing to proliferation of WMD are unwilling to join an international system in which there is enforcement.¹²⁰ Hence, a binding system with enforcement likely only includes countries with no purpose of wrong-doing, and the remaining countries operate outside this system. Thus, a better alternative would be that the regimes strengthen the sharing of good practices. This encourages states to

¹¹³ Bauer 2020.

¹¹⁴ Black-Branch 2017, p. 216.

¹¹⁵ Anthony 2002a, p. 473.

¹¹⁶ Gahlaut 2006, p. 18.

¹¹⁷ Anthony 2002b, p. 749.

¹¹⁸ Lustgarten 2015.

¹¹⁹ Anthony 2002a, p. 475.

¹²⁰ Byers 2004, p. 526.

respond swiftly to technology advances and find effective export control measurements that are least disruptive for the industries involved.¹²¹ Another alternative outside the structure of the regimes would be a UN Security Council Resolution compelling states to make national export control law beyond UN Security Council Resolution 1540.¹²²

3.3.3.3 Paradigm-Based Regimes and Catch-All Mechanisms

Bauer suggests that new regimes can be focused on a ‘common paradigm’ instead of a weapon type. These new regimes can establish guidelines in order to prevent, for example, human rights violations, or focus on the protection of civilians.¹²³ Another example of this is the definition of a chemical weapon found in Article II(1) of the Chemical Weapons Convention that focuses on the intended purpose of a chemical instead of the chemical itself. Shifting to a system based on a common paradigm could contribute to the prevention of illegitimate activity of non-state actors. This would reduce the risk of terrorist groups resorting to outdated, or dual-use substances to develop a weapon, because their intentions matter instead of their means. In addition, this would help the international community to keep up with developments in the field as this would erase the need to revise the lists parallel to technology developments.

Again, establishing a new regime would take a substantial amount of effort, hence other options might be more feasible. ‘Catch-all mechanisms’ can serve as a solution.¹²⁴ These mechanisms allow participating states to control items and technologies that are not specifically named on the control lists. Instead, they are controlled based on the suspicion that its end-use will contribute to proliferation. Thus, with the use of catch-all mechanisms any sensitive trade can be controlled to a destination that is, for instance, subject to an arms embargo.¹²⁵ Also, a solution could be to construct the control lists in such a way that they are prepared for expected (technology) developments. In this way, states do not have to debate the control lists as often, hereby risking that a single country can block a decision.¹²⁶

3.3.3.4 Revise Decision-Making Process

In the current regimes, the regime participants are not as like-minded as before. This divergence of interests in combination with the consensus-based decision-making process causes the regimes to respond slowly to changes. When the regimes still consisted of a small group of like-minded countries, the decision-making process

¹²¹ Brockmann 2018, p. 23.

¹²² Black-Branch 2017, p. 230.

¹²³ Bauer 2020.

¹²⁴ Bauer 2020.

¹²⁵ Aoki 2017, p. 142.

¹²⁶ Brockmann 2018, p. 17.

was more suitable. Although it is unlikely that states will easily agree to a different decision-making process because means that they can be bound to a decision that they did not agree on, the change in composition demands critical thinking about the current process. For example, it would advance the export control regimes if they stepped away from consensus-based decisions. Gahlaut and Zaborsky point out that a ‘contract-like agreement’ is more appropriate for a large group of states that have various concerns such as is currently the case. This type of agreement would enable bargaining between different countries. In this way, countries can negotiate on terms so they can pursue their own security interests.¹²⁷

3.4 Discussion and Conclusion

This chapter discussed the four main export control regimes: the Nuclear Suppliers Group, the Australia Group, the Missile Technology Control Regime, and the Wassenaar Arrangement. The regimes face several challenges. First, the regimes are informal, have a non-universal character and make their decisions based on consensus. As a result, states have national discretion in implementing national law. Second, this century raises new challenges for arms export control. New technologies emerge that are harder to control, non-state actors become increasingly important in the international field, and the United States has to share its leading position with countries such as China and India.

There are several opportunities to reform and strengthen the export control regimes. Cooperation could help the regimes to remain relevant. The regimes have similar characteristics, and cooperation between the regimes could thus improve the efficiency of their non-proliferation efforts. Further, a shared enforcement mechanism could give the export control regimes more power to act if countries choose to ignore the guidelines set by the regimes. However, this is probably difficult to accomplish because arms export controls became more informal over the last years. The sharing of good practices helps the regimes to find the least-disruptive, and effective non-proliferation measures. Setting up a paradigm-based regime instead of a weapon-based regime may be more suitable for the future. In addition, a revision of the decision-making process would help the regimes to respond swiftly to developments in the field.

In this chapter, non-proliferation was seen as the main purpose of the regimes. However, it is possible that the regimes are decreasingly equipped to prevent proliferation, but increasingly serve a different goal: the protection of domestic markets. For example, without consultation of the regimes, the United States sometimes temporarily controls the trade in some new technologies. Although this type of measures serves a security motive, it also protects companies in the US developing that new technology.

¹²⁷ Gahlaut and Zaborsky 2004, p. 83.

The chapter focused on export control regimes. To develop a full overview of the contemporary challenges and opportunities of arms export control, further research into different arms export control instruments such as sanctions is needed. Also, additional studies on the most recent export control measures such as the Arms Trade Treaty and the Proliferation Security Initiative would provide a better understanding of the current field of arms export control.

As discussed, this century raises new challenges and opportunities for non-proliferation measures. Unrestricted trade of arms and dual-use products could lead to security threats and human rights violations. From the Cold War until today, the system of export control regimes has been an important instrument to prevent the proliferation of both WMD and conventional weapons. Only time will tell whether the export control regimes are able to keep up with the rapidly changing world or whether new instruments are needed to prevent proliferation.

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Esmée de Bruin is PhD candidate and lecturer at the Faculty of Military Sciences, Netherlands Defence Academy. Her research interests include economics of the international arms trade, arms export controls and non-proliferation, military trade and conflict occurrence, and the Arms Trade Treaty.

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