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Corruption in the Arms- and Defense Industry

A comparative study of the largest American and European arms dealers

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Abstract

This thesis compares American and European arms-and defense companies and their level of exposure to corruption risk. Through an empirical study, we analyze the companies' exposure to corruption risk based on their countries of operations, and the initiatives they have implemented in order to mitigate said risk. The objective of the research is to investigate whether there is a difference between the level of exposure between American and European companies.

In order to investigate this matter, two indexes are created: The Corruption Risk Index and the Transparency Index. The Corruption Risk Index measures the companies' relative exposure to corruption risk based on their countries of operation, while the Transparency Index considers the companies' transparency regarding anti-corruption programs and organizational aspects.

The findings in the Corruption Risk Index imply that there is no significant difference between the American and the European companies regarding their exposure to corruption risk. Still, the scores allocated to each group were quite low, indicating a *high exposure* to corruption risk. Furthermore, the Transparency Index revealed that the American companies disclosed more information overall compared to the European companies. High levels of transparency may indicate more ethical behavior and less secrecy. The best explanatory factor for the difference is found to be a company's attitude towards business ethics.

As the consequences of corruption in the arms- and defense industry is comprehensive, the thesis also stresses the need for a harmonized legal framework within this area, as well as the need for public awareness regarding this matter.

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Abbreviations

ASD	AeroSpace and Defense
ATT	Arms Trade Treaty
CSR	Corporate Social Responsibility
DCS	Direct Commercial Sale
DII	Defense Industry Initiative
DoJ	Department of Justice
FCPA	Foreign Corrupt Practices Act
FMS	Foreign Military Sale
IGO	Intergovernmental organization
ITAR	International Traffic in Arms Regulation
NATO	North Atlantic Treaty Organization
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
POGO	Project On Government Oversight
SEC	Securities and Exchange Commission
SFO	Serious Fraud Office
SIPRI	Stockholm International Peace Research Institution
UKBA	United Kingdom Bribery Act
UN	United Nations
UNCAC	United Nations Convention against Corruption
UNODC	United Nations Office on Drugs and Crime
WTO	World Trade Organization

1. Introduction

1.1 Background

Every country in the world is in need of a strong military defense in order to protect and defend its citizens. A business which benefits from this need is the arms-and defense industry. Each year, hundreds of billions of dollars are transferred internationally due to trade from this industry alone. The volume of world military expenditure has reached its highest level since the end of the Cold War with $1739 billion in 2017 (Tian, Fleurant, Kuimova, Wezeman, & Wezeman, 2018). The United States alone accounted for over $610 billion, remaining the largest spender in the world. The country's military budget for 2018 was further increased by $90 billion, approved by the US Senate to be $700 billion. In the period of 2013-2017, the volume of international transfers of major weapons was 10 percent higher than in 2008-2012, an upward trend beginning in the early 2000s (Tian et al., 2018).While over 60 countries have been identified by Stockholm International Peace Research Institute (hereinafter SIPRI) as exporters of major weapons, 74 percent of the total arms export between 2013 and 2017 was accounted for by only five countries; the United States of America, Russia, France, Germany and China (Wezeman, Fleurant, Kuimova, Tian, & Wezeman, 2018). The US and Russia have been by far the largest suppliers since the 1950s, and together with mostly Western-European countries, they have dominated the top ten list of major arms exporters.

The major importers of arms in the period between 2013-2017 includes India, Saudi Arabia, Egypt, the United Arab Emirates and China (Wezeman et al., 2018). Together they accounted for 35 percent of the total import of arms. The volume of import to the Middle-East increased by over 100 percent the last four years due to the many violent conflicts in the region in the period. A major increase of arms import is illustrated by Saudi Arabia with an increase of 225 percent compared with 2008-12, and an increase in orders of weapons at the end of 2017, indicating higher levels of arms transfer the next years. Other countries that have had major increases in their arms imports are Oman with 665 percent, Egypt with 215 percent and Bangladesh with 542 percent. In contrast, the number of arms imported to European countries decreased by 22 percent, Africa by 22 percent and the Americas by 29 percent (Wezeman et al., 2018).

The arms- and defense industry is surrounded by secrecy, politics, technically complex contracts and high value products, which are all factors assumed to increase the risk of corruption in an industry (Loughman & Sibery, 2012). Defense procurement is generally not conducted as openly and transparently as other types of public procurement, as a result of the sensitive nature of military and military material information. Holden et al. (2016) identifies this as a highly damaging feedback loop where "national security provides the secrecy necessary for corruption to be encouraged, while corruption increases the need for secrecy to prevent detection" (p. 124). Several arms-and defense companies have been accused of making deals that are not as clean[1] as they look at first glance, and the industry itself has been referred to by many as an industry characterized by shady deals and dirty business (Loughman & Sibery, 2012). Over the years, several of the largest arms-and defense companies have been investigated for alleged corruption and bribery.

BAE Systems was investigated for almost a decade by several institutions, including the UK Serious Fraud Office (SFO) and the US Department of Justice (DoJ), after the formation and use of Red Diamond Trading, an offshore shell-company set up in the British Virgin Islands (Holden et al., 2016). The shell-company was frequently used by BAE to enter into contracts with 'covert advisers', especially in the case of the Hawk and Gripen aircraft contracts with South-Africa[2]. The American company Lockheed Martin has also been subject to an enforcement action because of corruption. In 2015 Sandia Corporation, a fully owned subsidiary of Lockheed Martin, were charged for alleged violations of the Byrd Amendment and the False Claims Act. Sandia Corporation were believed to have used government funds illegally to lobby and/or influence top federal officials on behalf of themselves and Lockheed Martin as parent company (The United States Department of Justice, 2015)[3].

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[1] A clean deal is referred to as a deal without corruption

[2] The SFO found that roughly £115 million was paid to 'covert advisors' through Red Diamond Trading and other offshore routes related to this contract. One of these 'covert advisors' were Fana Hlongwane, who functioned as the special advisor for the minister of defense, Joe Modise. Joe Modise was one of the persons who instructed the evaluators to ignore the fact that BAEs products were more than twice as expensive as the Italian equivalent. It was later revealed that Joe Modise had secured shares in a company expected to profit from an offset obligation BAE had committed to. BAE Systems entered into plea bargaining with the DoJ and agreed to pay a fine of $450 million in return for being allowed to plead guilty to smaller charges. They also admitted having used Red Diamond for payment to 'marketing advisors' in several countries and made over 1000 payments to 'unauthorized brokers' over several decades (Holden et al., 2016).

[3] The aim was to extend a government contract without competition, from which they earned more than $100 million (Rein, 2015). In order to settle the charges, they agreed to pay $4.7 million in fines. Jay Coghlan, Director of Nuclear Watch New Mexico, stated that this was only a slap on the wrist for the company, and demanded a

Companies can be subject to investigation from several institutions and governments at the same time, and the companies are often charged with violations of anti-corruption laws with broad jurisdictional reach (Loughman & Sibery, 2012). The US Foreign Corrupt Practices Act (hereinafter FCPA) is such an extraterritorial law, which provides anti-bribery provisions and books and records and internal control provision. The UK Bribery Act is another legislation that has broad jurisdiction. The FCPA is currently used as a global benchmark regarding anti-corruption legislation by making it an offence to bribe foreign officials and extending beyond company employees to include third parties acting on behalf of the company. However, the UK Bribery Act goes further than the FCPA as it covers all bribery, both commercial and public officials; makes no exception for facilitation payments made to expedite routine governmental actions; makes it a corporate offense to fail to prevent bribery; and makes it an offence not only to give but also receive bribes (Loughman & Sibery, 2012).

The arms- and defense industry is further subject to industry specific regulations and legislation. Many countries have specific legislation covering the import of defense and aerospace goods. For instance, the Arms Trade Treaty (hereinafter ATT), adopted by the United Nations (hereinafter UN), was initiated in order to provide common international standards for transactions, peace, security and stability as well as regulating the international trade and eradicating the illicit arms trade (United Nations, 2013, Art. 1).

1.2 Research Objective and Motivation

Defense producers claim that they work with more transparency than before and in compliance with various government regulations intended to secure fair competition. In addition to countries having their own anti-corruption laws and export/import regulations, there are several laws, regulations and conventions that apply internationally. Large companies from both continents have been involved in major corruption related cases. What we do not know, is whether there exists a difference between the companies with respect to the corruption risk the companies expose themselves to and the level of information they disclose regarding anti-

criminal prosecution for the violations."... It engaged in deep and systematic corruption, including paying Congresswoman Heather Wilson $10,000 a month starting the day after she left office for so-called consulting services that had no written work requirements… Lockheed Martin should be barred from future competition for the Sandia Labs contract, expected next year. Holding the revolving gang of greedy politicians and contractors strictly accountable is essential" (Nuclear Watch, 2015, p.1).

corruption compliance. As American and Western-European companies have dominated the top ten lists of major arms exporters since the 1950's, we will focus on companies from these areas further. To our knowledge, there is little research on arms-and defense companies' risk of corruption in combination with their level of transparency. The results from this thesis may contribute to a greater understanding of the conditions such companies operate within or if the international legal framework and existing guidelines creates equal grounds for both groups. To explore this subject, we will compare companies within the arms-and defense industry headquartered in America to companies headquartered in Europe, regarding their exposure to corruption risk and their level of transparency about anti-corruption initiatives and organizational aspects that might mitigate said risk. The research question for our thesis is:

"Is there a systematic difference between American and European arms-and defense companies regarding exposure to corruption risk?"

The objective of this research is to discover whether there is a systematic difference between American arms-and defense companies and European arms-and defense companies regarding their exposure to corruption risk and their level of transparency and investigate the reason for differences identified. In order to determine a company's relative exposure to corruption risk we will explore the conditions in the companies' countries of operations as well as examine the companies' level of transparency regarding anti-corruption initiatives and organizational aspects. A combination of the scores allocated each group in each index will provide a better understanding of the total risk of corruption each group expose themselves to. The methodology will be explained in Chapter 4.

A systematic comparison will be made between the companies in the two continents in order to find support for the following hypotheses. The hypotheses are created based on the laws and regulations in Chapter 2.

Hypothesis 1: *There is no systematic difference in exposure to corruption risk between American and European arms-and defense companies.*

Hypothesis 2: *There is no systematic difference in level of transparency between American and European arms-and defense companies.*

The two hypotheses allow for the indicators to be analyzed individually using two different scores. The first hypothesis states that there is no systematic difference between the two groups of companies regarding exposure to corruption risk. The exposure to corruption risk is based on the conditions in the companies' countries of operation. The second hypothesis suggests that there is no systematic difference in level of transparency between the two groups of companies. All companies, regardless of their country of origin, are subject to similar laws and regulations. Hence, we expect that there will be no systematic difference in their level of transparency.

1.3 Clarification of Concepts

Corruption: is defined by the State Secretariat for Economic Affairs (hereinafter SECO) (2016) as "Any abuse of a position of trust in order to gain an undue advantage[4]. There are often at least two actors involved in corrupt practices: A demand as well as a supply-oriented side" (p. 5).

"It makes sense to think of corruption as a trade in decisions that should not be for sale" (Søreide, 2016, p. 13).

Exposure to corruption risk: Merriam-Webster (2018) defines 'exposure' as the condition of being subject to some effect or influence. Further, 'risk' is defined as the possibility of loss or injury (Merriam-Webster, 2018). Hence, exposure to corruption risk relates to at what level the company is subject to the possibility of loss or injury due to being involved in corruption. This involves both risk the company is exposed to through its operations in high-risk countries, as well as the risk the company is exposed to in regard to employees' and board members' attitude towards corruption.

Transparency: Refers to the companies' level of disclosure of information regarding anti-corruption initiatives and the organizational aspects. Transparency is considered a contributor to reducing corruption as corruption normally takes place in secret (Wu, 2005; Halter, Arruda, & Halter, 2009).

[4] According to Søreide (2016), bribes are not necessarily only spent for personal consumption, it may also be advantages for the company or organization (p. 153)

Anti-corruption; "refers to a whole lot of initiatives beyond the scope of criminal law, initiatives that in different ways raise the level of integrity in a society, in the sense of promoting adherence to moral and ethical codes, preventing the theft of common resources, and reducing unfair decision-making" (Søreide, 2016, p. 5).

Organizational aspects: is here referred to as indicators considered important for mitigating the corruption risk a company might expose themselves to.

Systematic difference: is in this thesis defined as a consistent variance between the two groups of companies.

American companies: refers to the ten largest arms-and defense companies headquartered in America, as defined by SIPRI (2018). Due to the limitation of ten companies, all American companies included in this thesis are headquartered in the United States. When referring to American companies in this thesis, we solely refer to the companies included in the analysis.

European companies: refers to the ten largest arms-and defense companies headquartered in Europe, excluding Russian companies, as defined by SIPRI (2018). The countries of which the companies are headquartered in are the United Kingdom, Italy, France, Germany and Sweden. One trans-European company is also included. When referring to European companies in this thesis we solely refer to the European companies that have been included in the analysis.

1.4 Structure of the Thesis

The second chapter of this thesis present relevant legal framework for corruption and anti-corruption measures. Chapter 3 includes a presentation of literature where corruption in the arms-and defense industry is explained, along with determinants of corruption in the industry. The fourth chapter explains the methodological approach used to answer the research question at hand. In Chapter 5 presents and clarifies our empirical approach, as well as the various indicators our indexes consist of. The findings of our research are reviewed in Chapter 6 and discussed in Chapter 7. Lastly, the thesis will end with a summary and normative discussion in Chapter 8.

2. Legal Framework/Regulations

Anti-corruption initiatives aim to increase the level of integrity in a society by "promoting adherence to moral and ethical codes, preventing the theft of common resources, and reducing unfair decision-making" (Søreide, 2016, p. 5). Initiatives intended to combat corruption may have different approaches, including laws and regulations, coordinated voluntary initiatives, uncoordinated voluntary initiatives and economic incentives (Søreide & Abramo, 2008). Developing an effective international legal framework to tackle corruption is hard and have been a priority in many international organizations for a long time.

2.1 Annual Reports

Companies are required to prepare and publish annual reports on the matter of both financial and non-financial achievements. Directive 2015/95/EU of the European Parliament (European Parliament, 2014) set forth a requirement for European companies that the non-financial statement should contain *"information relating to at least environmental matters, social and employee-related matters, respect for human rights, anti-corruption and bribery matters. Such statement should include a description of the policies, outcomes and risks related to those matters [… and] the due diligence processes implemented by the undertaking, also regarding, where relevant and proportionate, its supply and subcontracting chains, in order to identify, prevent and mitigate existing and potential adverse impacts"* (part 1(6)). The US Securities and Exchange Commission (hereinafter SEC) requires American companies to prepare an annual report to their shareholders as well as to file a Form 10-K (United States Securities and Exchange Commission, n.d.). The 10-Ks content and form are strictly governed by federal statutes, and the form is required to include a set of order of topics. These topics include among other things risk factors, legal proceedings, disclosure of market risk, subsidiaries and controls and procedures. All annual reports shall be made public and be published at the companies' website.

2.2 Laws and Regulations

Corruption is regulated as a crime as defined by criminal law. Cooperation between international organizations has provided an invaluable platform for enforcement and led to the development of conventions on corruption and more harmonized laws (Søreide, 2016). The most central conventions are the Organization for Economic Cooperation and Development (hereinafter OECD) Convention on Combating Bribery of Foreign Public Officials in

International Business Transactions, The Council of Europe Criminal Law Convention on Corruption, and The United Nations (hereinafter UN) Convention against Corruption (hereinafter UNCAC). Although none of these conventions define corruption, they each establish different offences that are considered as corruption. There are also some anti-corruption legislations with extraterritorial jurisdiction that is enforced in the fight against corruption, such as the United States Foreign Corrupt Practices Act (hereinafter FCPA) and the United Kingdom Bribery Act (hereinafter UKBA).

The OECD Convention.

The OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions[5] of 1997 is a result of a long-term work in the OECD to put in place a global ban on active bribery (OECD, 2011). The convention addresses the bribery of foreign public officials in international business transactions, but only covers the liability of bribers, described as active bribery. Foreign officials who receive a bribe, described as passive bribery, is thus not addressed by this Convention[6].

Included in the convention, are recommendations of regulations and requirements that the member countries should implement in their legislation in order to prevent and detect corruption effectively (OECD, 2011). The recommendations regard, among other things, internal controls, and ethics and compliance. The OECD recommends member states to encourage companies to develop and adopt compliance programs while taking into account the Good Practice Guidance on Internal Control, Ethics, and Compliance. Company management commitment is important for a well-implemented anti-corruption compliance system. The OECD recommends member states to encourage company managers to include a statement in the company's annual reports as well as publicly disclose their internal controls and compliance programs or measures for preventing and detecting corruption. Another recommendation regarding companies is to provide channels for employees to report any violations within the company as well as opportunities for employees to seek guidance and advice (OECD, 2011).

[5] The OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions is signed by all OECD countries and eight non-OECD countries

[6] Active bribery is defined by OECD (2007) as paying or promising to pay a bribe, while passive bribery is the offence committed by the officials receiving the bribe. However, in many cases, the recipient may coerce or induce the briber, and it that sense, is the active party.

The Council of Europe Criminal Law Convention on Corruption.

This Convention[7], which is a result of the European Justice Ministerial Conference in 1994 Action Plan against Corruption, entered into force in 1999. Contrary to the OECD convention, this Convention addresses both active and passive bribery, public and private bribery of public officials, as well as domestic and foreign bribery (Council of Europe, 1999). The purpose of the Convention is to strengthen international cooperation in combating corruption. It is emphasized that effective combat requires increased, fast and effective international cooperation in criminal matters.

The convention does not harmonize the legal system of the countries concerned but the parties undertake to establish effective systems to accommodate the concerns that the convention aims to safeguard (Council of Europe, 1999). This Convention does not include any recommendations regarding companies located within the member states, but rather stipulates legislatives and measures that each member state shall adopt at national level.

The United Nations Convention against Corruption.

The UN Convention against Corruption (hereinafter UNCAC)[8] entered into force in 2005, with the goal of creating a global, legally-binding instrument dealing with corruption (United Nations, 2004). This Convention is the most comprehensive international anti-corruption convention to date, as it includes both passive and active bribery of domestic and foreign public officials, obstruction of justice and embezzlement (United Nations, 2004). Its purpose is to promote and strengthen measures to prevent and combat corruption more effectively, including strengthening international cooperation.

The convention commits each state to strive to establish and promote effective practices aimed at preventing corruption (United Nations, 2004). Each state is obligated to develop, implement and maintain effective coordinated anti-corruption policies, as well as practices aimed at the prevention of corruption. The relevant legal instruments and administrative measures shall, according to this Convention, endeavor to periodically evaluation.

[7] The Council of Europe Criminal Law Convention on Corruption is signed by 48 countries

[8] The United Nation Convention against Corruption is signed by 186 countries (UNODC, 2018).

According to this Convention, each member state shall, "in accordance with the fundamental principles of its legal system, develop and implement or maintain effective, coordinated anti-corruption policies that promote the participation of society and reflect the principles of the rule of law, proper management of public affairs and public property, integrity, transparency and accountability [… and] establish and promote effective practices aimed at the prevention of corruption" (United Nations, 2004, Ch.2, art. 5 (1&2)).The convention further precise that each party, for the public sector, shall promote education and training programs for civil servants especially vulnerable to corruption to enhance their awareness of the risks of corruption inherent in the performance of their functions (United Nations, 2004, Ch. 2, art. 7 (1)). The state parties shall also adopt, maintain and strengthen systems that promote transparency and prevent conflict of interest. In regard to the private sector, the convention state that each member state shall promote the development of standards and procedures for internal controls, books and records and codes of conduct (United Nations, 2004, Ch. 2, art. 12, (1b, f), (3)). Furthermore, member states shall also promote measures on preventing conflict of interest by "imposing restrictions on the professional activities of former public officials or on the employment of public officials by the private sector after their resignation of retirement, where such activities or employment relate directly to the functions held or supervised by those public officials during their tenure"(United Nations, 2004, Ch. 2, art 12, (2e).

The United States Foreign Corrupt Practices Act.

The United States Foreign Corrupt Practices Act, enacted in 1977, has become particularly important in the fight against corruption and bribery of foreign officials. The law applies to both US citizens, domestic and foreign firms, and persons who acts on behalf of said firms (United States, 2004). The anti-bribery provisions prohibit US persons, corporations, and certain foreign issuers of securities, to make a payment to a foreign official for the purpose of obtaining or retaining business (United States, 2004). A loophole in the act provides a narrow exception for facilitation payments; payments made with the purpose to "*expedite or to secure the performance of a routine governmental action by a foreign official, political party, or party official*" (United States, 2004, § 78dd(1)(b)) is not prohibited. However, one cannot claim that everything is a facilitation payment, as transactions has to be properly documented in order not to violate the FCPA's accounting provisions.

The foundation for the FCPA's anti-bribery provision is accounting. The Act requires companies to maintain books, records, and accounts accurately and with reasonable detail. The

information shall also reflect the transaction of the issuer. 'Reasonable detail' is defined as "*such level of detail and degree of assurance as would satisfy prudent officials in the conduct of their own affairs"* (United States, 2004, §78m(b)(7)). This record-keeping provision is intended to prevent failure to record illegal transactions and the falsification of records through transparency. Internal controls must also be conducted in order to assure the integrity of the system, and to ensure that the issuers are using accepted methods of accounting. According to the FCPA, any individual or organization that *"knowingly circumvent or knowingly fail to implement a system of internal accounting controls or knowingly falsify any book, record, or account "* (United States, 2004, §78dd (1)(b)) can, and will, be held liable (United States, 2004, §78m(b)(5)).

The United Kingdom- Bribery Act.

The United Kingdom Bribery Act (hereinafter UKBA) entered into force in July 2011 and is considered one of the strictest anti-corruption legislations internationally (Latham & Watkins, 2013). The Act contains two general offences; active and passive bribery, unlike the FCPA which only targets bribe-givers. Active bribery is defined as offering, promising or giving a bribe, while passive bribery is defined as requesting, agreeing to receive or accepting a bribe. The act further targets all bribery, including in both public and private sector, and also include corporate liability for firms failing to prevent bribery. The UKBA is thus broader than FCPA, both in terms of scope and territorial reach (Latham & Watkins, 2013).

The UKBA governs all acts that take place within the UK, however, the UKBA also apply to acts committed outside the UK, if the actor has a 'close connection' to the UK. Such 'close connections' are clearly defined in the Act. The UKBA (United Kingdom, 2010) further states that *"the Secretary of State must publish guidance about procedures that relevant commercial organizations can put in place to prevent persons associated with them from bribing as mentioned in section 7(1)*" (Ch.23, art. 9 (1)). Commercial organizations, wherever it operates, are defined as a body subject to UK law, including its partnerships (United Kingdom, 2010).

2.3 Industry Specific Initiatives.

The arms-and defense industry is subject to additional regulations specific for the industry. Such regulations are set at both national and international levels. However, these regulations are primarily directed towards arms export control policies rather than regulations on anti-corruption and compliance. As such regulations does not contribute to an understanding of

which information the companies choose to disclose, the focus here is rather directed primarily towards industry-specific initiatives which promotes good governance and ethical operations.

Arms Trade Treaty.

The Arms Trade Treaty (hereinafter ATT)[9] is an initiative adopted by the UN that regulates the international trade in conventional arms, and it entered into force in December 2014. The member states of the ATT have, with the assistance of the UN, placed enforceable, standardized arms import and export regulations. Its main objective it to *"establish the highest possible common international standards for regulating or improving the regulation of the international trade in conventional arms; and prevent and eradicate the illicit trade in conventional arms and prevent their diversion"*(United Nations, 2013, Art. 1). The Treaty further requires countries to maintain records of conventional arms that are imported, as a final destination, into the country. They also have to keep records of conventional arms that are exported out of the country. Both records shall be kept for at least ten years. Under Article 15 (6) (United Nations, 2013) in the Treaty, member states are encouraged to take national measures and to cooperate with each other to prevent the transfer of conventional arms becoming subject to corrupt practices.

Aerospace and Defense.

AeroSpace and Defense (hereinafter ASD) is a trade organization representing over 3000 companies, supporting the competitive development of the aerospace and defense industry in Europe and worldwide (AeroSpace and Defence (ASD), n.d.). The organization seeks to promote international cooperation, contribute to develop effective policies at a European and global level and to promote the best interests of the industry. They are also dedicated to contributing to a market place free of corruption and commit to apply the anti-corruption rules embedded in the OECD Convention and UNCAC, as well as other applicable law. A number of European companies have founded an ASD Business Ethics Committee (BEC) who, with the help of expert institutions and organizations, have developed a Common Industry Standard for the prevention of corruption in the industry. Eight of the ten European companies included in this study are members of this organization and have thus committed to the standards. The standard (AeroSpace and Defence (ASD), 2012) states that "*The Companies, their subsidiary companies and controlled entities, their directors, officers, employees and others acting on*

[9] Arms Trade Treaty has a total of 99 State Parties and 130 Signatory States.

their behalf, are required, as a minimum standard, to comply with all applicable laws and regulations of the countries or territories in which they operate, in particular in relation with integrity matters" (p. 3). Moreover, the standards include regulations regarding gifts, political donations and contributions, training of employees and due diligence. The standards further states that all companies included in the organization take all reasonable measures within their power to avoid any corrupt activities and that sanctions shall be "*determined and applied by each company for evidenced cases of non-compliance with the Common Industry Standards"* (p.6).

The Defense Industry Initiative.

The Defense Industry Initiative (DII) is a non-profit organization, created in February 1986, as a response to the Packard Commission's report on the defense industry and the Defense Department (Defense Industry Initiative (DII), 2019). The Commission observed that "*waste, fraud, and abuse has eroded the public's confidence in the defense industry and the Defense Department"* (Defense Industry Initiative (DII), 2019, p. 1). Consequently, 18 of the United States top defense companies created the Initiative and drafted 5 core principles. According to the organization, the initiative is today comprised of representatives from nearly 80 member companies, with intent to promote and advance culture of ethical conduct in every company that provides products and services through government contracting. All of the American companies included in this study are members of the initiative, while only two of the European companies are members. Although the initiative is not a legal requirement, the companies in this initiative have committed to be accountable to the public through transparency, establish business ethics and compliance programs, and to encourage employees to report suspected misconduct as well as forbid retaliation for such reporting (Defense Industry Initiative (DII), 2010).

2.4 Corporate Liability

In many cases, crimes are committed in order to secure benefits for an organization or a corporation, rather than for personal gain. Søreide (2016, p. 153) describes how it is common to sanction organizations for crimes committed by individuals when 1) an entire organization or a group of colleagues have benefitted from a corrupt act, or 2) when it is difficult to determine who has conducted the crime. Employees are typically not held liable unless evidence for their direct involvement is available. Such sanctioning of companies is known as corporate criminal liability. The conventions included in Section 2.2 above are all designed to

hold corporations liable for corruption. Members of the OECD Convention are obligated to establish legal liability for corporations engaged in active bribery of foreign public officials (OECD, 2011). The Council of Europe (1999) calls on parties to implement "*necessary measures to ensure that a legal person can be held liable where the lack of supervision or control by a natural person referred to in paragraph 1 has made possible the commission of the criminal offences mentioned in paragraph 1 for the benefit of that legal person by a natural person under its authority*" (Ch. 2, Art. 18 (2)). Hence, a corporation may be held liable for failing to prevent corrupt behavior. In UNCAC State Parties shall adopt measures to establish corporate liability for participation in bribery (United Nations, 2004). Unlike the Council of Europe Convention, this provision does not require that the legal entity is sanctioned for failure to prevent the bribery, only for the actions committed.

Debarment is a tool used to sanction companies convicted for corruption and corruption-related acts. This type of sanctioning excludes companies from being awarded government contracts (Auriol & Søreide, 2017), which may have great implications for arms- and defense companies as they mainly engage in contracts involving a government. Across countries, debarment rules and practices are subject to a great variation. Auriol and Søreide (2017) find the US as the leading country regarding debarment, as they appear to have the most developed and predictable regime. In the EU, the EU 2014 public procurement directive set forth a debarment rules which each member state has to follow, however, the member states are left room to determine the details of their debarment rules (Auriol & Søreide, 2017). Although many countries include debarment as an alternative for sanctioning, it is more often used as a threat than it is used in practice (Rose-Ackerman and Palifka, 2016). Further, exemptions from debarment rules are possible, which may lead to a situation where the rules are applied differently based on the player's market position, and where illegal practices are condoned by the strong and most powerful companies (Auriol & Søreide, 2017). Auriol and Søreide (2017) find that debarment is most effective in terms of deterring corruption when "*the probability of corruption detection is not negligible, and the bidders place a sufficiently high value on the profits from future public procurement contracts*" (p. 45).

Søreide (2016) explains the concept of duty-based sanctions. The concept is explained as "the notion that criminal justice sanctions should depend on what the organization has done to prevent crime, report any criminal acts, and limit their harmful consequences" (Søreide, 2016, p. 157). This type of duty-based sanctions can incentivize management and owners to

implement compliance programs and systems for reporting misconduct in order to reduce penalties. Although companies may have initiated such programs, it does not necessarily mean that they are well implemented. The act of disclosing information or symbolical programs to appear more ethical without properly implementing them is known as window dressing (Christensen, 2002). Compliance programs can in such a way range from a sincere, meaningful effort as part of the organization's effort to be ethical, to a symbolic gesture in order to gain and maintain legitimacy perceptions with external stakeholders (MacLean, Litzky, & Holderness Jr., 2015; Meyer & Rowan, 1977). Furthermore, ethical programs can be implemented as a mean to satisfy the demands for "standardized, legitimating and formal structures while their activities vary in response to practical considerations" (Meyer & Rowan, 1977, p. 357).

3. Corruption in the Arms-and Defense Industry

3.1 The Arms-and Defense Industry

The arms-and defense industry differ from other industries and sectors in the way that governments are always the customers, while at the same time they play the role of regulators (Sapolsky & Gholz, 1999). This complexity may diminish the viability of some traditional methods of government oversight (King & Driessnack, 2007). Previously, the industry consisted of many companies, but at the end of the Cold War, the defense industry hit a major turning point. Defense spending fell by about a third and as a result twenty-four of the hundred largest defense companies left the industry by 1998 (PriceWaterhouseCoopers, 2005).While the defense spending fell, the US still managed to spend the same amount of money on R&D as before. In contrast, the R&D investment in Europe fell to about 40% of the previous amount. Today, the industry is characterized as a niche market where the contracts are of high value, the number of suppliers and buyers are few, and both parties have significant bargaining power (Driessnack & King, 2007). Because the number of procurement contracts are limited, each contract affects the future of the supplier, especially after the reduction of defense spending post-Cold War (Courtney, 2002). The limited number of contracts strengthens the bargaining power of the customers; however, the companies possess a unique competence and technology which may not be found anywhere else. The technological capabilities and competence within the industry also function as entry barriers, as building the necessary competence to compete with established companies may take decades (King & Nowack, 2003).

3.2 Corruption

A common definition of corruption involves the abuse of a position of trust and power in order to obtain an advantage or a private benefit[10] (State Secretariat for Economic Affairs (SECO), 2016). It can be described as "a trade in decisions that should not be for sale" (Søreide, 2016, p. 13) where one obtains benefits by departing from the rules. Corruption risk is prominent when a decision-maker has control over monetary or non-monetary values, have discretionary authority to make decisions and where one or several counterparts are willing to offer and/or

[10] According to Søreide (2016), bribes are not necessarily only spent for personal consumption, it may also be advantages for the company or organization (p. 153)

pay for a certain decision (Søreide, 2016; 2013)[11]. The more control and authority given to one person and the more counterparts willing to offer and/or pay bribes, the higher corruption risk. Andvig and Moene (1990) explains how corruption can corrupt through the multiple equilibrium idea. The idea explains how level of trust, norms in a society, probability of meeting a corrupt counterpart, moral cost and level of enforcement are all factors that are perceived to affect the level of corruption in a society. If one is part of a society where it is perceived that everyone is willing to conduct corruption, one is also more often prone to do it oneself (Andvig & Moene, 1990).

According to Gupta, de Mello and Sharan (2001), corruption in the arms-and defense industry occurs on both sides of a transaction; by the person who abuses his position as well as the person who seeks to gain an advantage by this abuse. Suppliers or companies may be willing to take an active role and resort to bribes or other inappropriate commissions[12] to win contracts. That bribery is a particular issue in the arms-and defense industry was evident in Greece, where former defense ministry official, Antonios Kantas received bribes from arms companies from Brazil, France, Germany, Russia, Sweden and the United States (Transparency International, 2014). Kantas alleged that he received a total of $20.4 million in bribes[13] over a decade. Gupta et al. (2001) further describes how limited competition in the industry brings incentives for officials to engage in unethical behavior, for example asking for kickbacks in order to accept an offer. In India, a contract for helicopters worth $753 million were cancelled, when Italian investigations revealed that an Italian company paid kickbacks of $67.6 million to Indian officials in order to secure the contract (Siddarth, 2014). Kickbacks and bribes are defined by Tagarev (2010) as one of the most common forms of corruption in the arms-and defense industry, along with awarding of non-competitive contracts.

The last decades, several large companies operating within the arms-and defense industry have been involved in corrupt activities, illustrating just how deep-rooted corruption is in the industry. Some previous cases of corruption in the industry will be presented throughout the

[11] Corruption comes in various forms; *extortive corruption* refers to situations where the power between the parties are asymmetrically allocated, and one of the parties are pressured into being involved, while *collusive corruption* occurs when two parties have a genuine agreement (Søreide, 2016)

[12] A payment that is not corrupt is referred to as commissions (Millett, 2012)

[13] According to Søreide (2016), the value of bribes can also include gifts, favors and hospitality among others, and is thus not always presented in money. The value may also be given in the form of absence from something.

thesis to illustrate the prevalence of corruption in the industry and how characteristics of the industry facilitate corruption.

3.3 Determinants of Corruption in the Arms-and Defense Industry

Some industries are more exposed to corruption risk than others, due to characteristics that may be more prominent than in other industries. Complex industries with comprehensive financial arrangements make it difficult to detect corruption. Determinants perceived to increase corruption risk in the arms- and defense industry are further introduced in the next paragraphs.

3.3.1 National security and secrecy.

A distinctive feature of the arms-and defense industry is secrecy, which Dixon, Linney, Paukovic and Watson (2018) claims opens for "opportunities for bribery, influence-peddling and development of relationships that could lead to potential or actual conflict of interest" (p. 13). Courtney (2002) along with Loughman and Sibery (2012) explains how this opaque veil hinders scrutiny and contributes to increase the corruption risk in the industry. Defense procurement is generally not conducted as openly and transparently as other types of public procurement, as a result of the sensitive nature of military and military material information. The access to information about sales, deals and contracts is highly restrained, and this secrecy and lack of transparency is often argued with national security. Courtney (2002) further inform that one has ever been able to document procurement prices more detailed than the aggregated value of national expenditure or licensing, and argues that this uncertainty reflects the complexity of the issue as well as the shortcomings of the official information available. A SIPRI study found that the secrecy was more in favor of the officials and the companies, rather than for national security reasons (Singh, 1998). Hence, greater transparency in the industry is not hindered by the need of secrecy, but by lack of political commitment (Courtney, 2002). Holden et al. (2016) criticizes the secrecy in the industry, arguing that it highly limits the opportunities for external control by the public and media, hence hindering the possibility of holding decision-makers accountable for corrupt decisions and transactions. A demonstration of the secrecy surrounding the industry is made by the Al Yamamah case, between the UK government and Saudi Arabia (In Courtney, 2002). After accusations of commissions of £600 million, an official investigation was conducted and completed in 1992. The Chairman of the Public Accounts Committee, Robert Sheldon, refused to publish the findings of the report, stating that there was "no evidence of fraud or corruption". Sheldon claimed that the report contained highly sensitive information and would not even disclose it to the other members of

the Committee. Further, the refusal of publishing was reasoned with "the Saudis would have been upset" (In Courtney, 2002).

3.3.2 Political ties and revolving doors.

Pyman, Scott, Waldron and Voika (2008) states that politics play a more prominent role in the defense industry than in other industries. This is only natural as a contract in this industry always involves one or several governments. Hence, corruption in arms sales cannot be seen in isolation as it may be the outcome of political implications (Courtney, 2002). Politicians have power and authority and is often involved in making important decisions (Holden et al., 2016). How politics may influence decisions and procurement in the defense industry can be illustrated by the South Korean purchase of F-X jets from an American company in 2002 (Courtney, 2002). The US Department of Defense was alleged to influence Korea's decision to award the American company the contract by using political pressure. While a technical evaluation of the products revealed that a company from France had better qualifications, their government did not have the same political influence. The support a company receive from their government may be viewed as a competitive advantage, forcing other companies without the same support to resort to unethical behavior in order to compete. As in the South Korean case, South Korean Air Force Colonels were charged of receiving bribes from the French company. Whether this was a manipulation by the South Korean government to justify the purchase from the American company, or a tactic of a less powerful competitor in order to compete against the power of politics, remains to be proven (Courtney, 2002). Furthermore, politicians have the power to tailor procurement criteria for private gain; A senior officer in the United States tailored the procurement criteria for US Air Force to fit the bid of Boeing, hence securing them to win the contract. Moreover, the senior officer's daughter and son-in-law was offered jobs in Boeing while the negotiations were ongoing. The senior officer herself was employed by Boeing after the negotiations finished, receiving a substantial signing-on bonus (Holden et al., 2016).

A relatively common practice in the defense industry is "the revolving door" (Holden et al., 2016).[14] If a relationship between the government official and an arms-and defense company

[14] Revolving door refers to situations where public officials are employed by companies in the private sector shortly or directly after leaving office. Former defense employers that runs for office might still have interests in their former company and use their position to secure benefits to said companies, e.g. tailoring public procurement criteria to fit a company, instead of securing best price-quality combination (Fox III, 1991).

becomes too close, conflicts of interests may arise where professional responsibility diverge from personal interest (Cain, Loewenstein, & Moore, 2005). In the case of South Africa and BAE described in Chapter 1, this is illustrated by Joe Modise, former Minister of Defense in South Africa, who shortly after leaving office became Chairman and major shareholder in a company which was given a significant stake in the offset package committed to by BAE. Further, the corruption risk related to revolving doors can be illustrated through Japan's encouragement of defense bureaucrats to retire early in order to work as 'amakudari'[15] consultants (Ikegami-Andersson, 1998). This practice has led to a number of serious scandals of corruption in Japan (Ikegami-Andersson, 1998).

The secret information a public official might have been exposed to during his official duties, may help the new private employer secure unfair advantage over its competitors (Søreide, 2016). Revolving doors between governments and companies they do business with may create an appearance that government officials favor said companies (The Project On Goverment Oversight (POGO), 2018). In most countries there are strict regulations regarding the employment of former government officials often involving a "cooling-off" period (Sapers, 2017). Research shows that in the US previous politicians are hired because of their personal contacts, rather than their expertise (Lazarus, Mckay, & Herbel, 2016; Lapira & Thomas lll, 2014), while in EU it is the information that is more appreciated (Coen & Vannoni, 2016). Research on this phenomenon in the EU is fairly limited but increasing. Still, Coen and Vannoni (2016) find that the occurrence of revolving doors in America are more frequent than in the European region.

Research by Project on Government Oversight (hereinafter POGO) shows that some of the largest companies in the arms-and defense industry employs former politicians to function as lobbyists for their company (The Project On Goverment Oversight (POGO), 2018). According to Lapira and Thomas (2014) approximately half of the lobbyist in Washington have working experience in the federal government. Though lobbying is legal, there are other ways in which a company might try to exert influence on governments and public officials, such as donations, contributions, gifts and hospitality. The intention behind these actions might be to influence

[15] Amakudari refers to retired officials working as advisors without regular responsibility (Ikegami-Andersson, 1998).

future policy making or affect the probability of winning a future high-value contract (Dixon et al., 2018).

3.3.3 Complex contracts.

Deals are often made with foreign governments, and there are primarily two types of contracts used (Loughman & Sibery, 2012); either Foreign Military Sales (hereinafter FMS) where the parties are the government as an intermediary, the arms-and defense company as supplier, and a foreign government as customer; or Direct Commercial Sale (hereinafter DCS) where the arms-and defense company negotiates directly with the foreign government. The latter one is perceived to have higher corruption risk than to FMS contracts, due to the high level of direct interaction with foreign government officials (Loughman & Sibery, 2012). Such close relations between companies in the arms-and defense industry and governments, both foreign and own, gives the arms-and defense companies an access to influence that no other industry is able to mimic.

Further, the scope of the contract may also impose a corruption risk (Loughman & Sibery, 2012). Delivery of services, as opposed to products, can be more exposed to corruption risk as services often have less defined deliverables and may include prolonged interaction with foreign government personnel. Courtney (2002) describes how the contracts are custom-fit to each buyer's needs, and that the contracts can include long-term arrangements, such as spares or training. Because the contracts are tailored to each specific case, it is hard to determine the normal price range for weapons and services. In 1989 Jordan entered into a contract for Tornados worth £35 million each (Phythian, 2000). Earlier, Germany and the British had bought the same product for about £25 million each. The Observer alleged that the difference in price was due to commissions paid to middlemen and politicians, while Sir Colin Chandler, head of Defense and Security Organisation (DESO) at the time, argued that the difference was due to additional services (Phythian, 2000). According to Courtney (2002), this illustrates how prices for the same piece of equipment may vary according to the political relationship between the parties, and how the difference in price can conceal commissions and bribes. Thus, the complexity of the contracts may prevent detection of unethical transactions.

3.3.4 Intermediaries and suppliers.

Third parties, such as brokers, consultants, agents and other intermediaries is commonly used in the arms-and defense industry in order to conduct business in foreign markets (Loughman

& Sibery, 2012). The intermediary's functions as a contact between two or more trading parties and can often provide substantial support for companies when entering new markets. For many arms-and defense companies, a large part of their business is often conducted with foreign governments as customers. In such cases, some countries may even require that the company engage local third parties in order to conduct business. Intermediaries can act as advisors and provide companies with local knowledge or even act as a local representative for the company (Loughman & Sibery, 2012). The use of third parties is constrained by anti-corruption legislations and strict regulations in much the same ways as the arms-and defense companies, however the use of intermediaries may increase the possibility of improper payments (Turk & Clark, 2010). Third parties may engage in corrupt behavior on their own and conceal this from the firm or be used to keep the bribery at distance from the briber in hopes of avoiding detection. The OECD report on foreign bribery (OECD, 2014) revealed that third parties, may it be brokers, agents or others, were involved in 76 percent of all foreign bribery cases, which shows the prevalence of intermediaries in corrupt activities.

Moreover, companies may be affected by corruption conducted by companies in their supply chain. The further the distance of the subcontractor is, the harder it is to control and monitor behavior. If the contractor does not have direct contact or contracts with the suppliers, it is challenging to have full overview of the situation; conflicts of interests, beneficial ownership, and financial transparency (Dixon et al., 2018). Further, in some cases the buyer may intervene and require the use of a certain domestic supplier in order to create jobs or to strengthen the industry in the country. This is more common in countries where the company ethics is poor and regulation is weak (Dixon et al., 2018).

3.3.5 Offsets.

Loughman and Sibery (2012) defines offsets as "an obligation in which the company performs certain services that are for the general well-being or development of the local economy as a condition of the contract with the foreign government" (p. 298). In other words, offset agreements can be seen as a procurement method which ensures that a procurement contract also brings substantial industrial benefits for the purchasing nation (Martin, 1996). The idea is that some of the public funds spent on the contract flows back to the purchasing country through a variety of activities such as the setup of co-production facilities creating job opportunities for the locals or a transfer of technology. In 2017, 21 firms headquartered in the US reported concluding 543 offset transactions with 29 countries to fulfill offset obligations (U.S.

Department of Commerce, Bureau of Industry and Security, 2019). Further, the industry reported that more than ten percent of the transactions had a multiplier greater than the one applied. The same data for European firms is typically less available compared to American data. However, a study from 2007 for the European Defense Agency (Bekkers et al., 2009) estimated that the average percentage value of offset agreements from EU member states over the period of 2000-2006 was valued at 135 percent in relation to the primary defense contract.

Offset agreement are commonly used in the arms-and defense industry by governments as a tool when engaging in procurement deals with foreign arms-and defense companies (Irwin, Jeydel, & Sylvain, 2015). Dunne and Brauer (2005) argue that offsets seems to reflect politically justifications for foreign procurement more than that they reflect any benefits for the economy, and that the overall effects of offsets are yet to be proven. Furthermore, they conclude that offsets create little sustainable employment, do not appear to contribute in any substantive way to general economic development, and with very few exceptions, result in significant technology transfers, not even within the military sector (Dunne & Brauer, 2005). The technology that has been transferred has been at a high cost and over several years and is quickly outdated due to continuous technology advances in the developed countries.

Loughman and Sibery (2012) argues that offsets are associated with a significant corruption risk, and are supported by Courtney (2002) along with Magahy, Vilhena da Cunha and Pyman (2010). The risks are related to the fulfilment of the obligations as well as demands from the local government to use specific subcontractors. Magahy et al. (2010) describes how the lack of transparency and information regarding concluding offset transactions, may lead to probable and possible abuses. Furthermore, because such arrangements rarely include penalty clauses in the case of non-fulfilment, companies are seldom incentivized to fulfill their obligations (Courtney, 2002). In addition, the local officials overseeing the obligations may be willing to reduce the obligations or even allow for the company to not conclude in exchange for personal benefits (Loughman & Sibery, 2012). Further, Courtney (2002) explains how offsets may lead to a shift of focus in the procurement process, where one diverges from finding the best quality-price combination. Problems and delays are common when dealing with offsets, because of lack of implementation and coordination (Magahy et al., 2010). Using offset agreements as selection criterion is prohibited by the World Trade Organization (WTO), however, there is left a loophole allowing countries to use offsets when they are considered "*necessary for the protection of its essential security interests relating to the procurement of arms, ammunition*

or war materials, or to procurement indispensable for national security or for national defense purposes." (World Trade Organization (WTO), 1994, Art.: XXIII, pt:1).

3.3.6 High-risk markets.

All modern societies have regulations and institutions that are intended to promote integrity in markets, for example; competition law, company law, contract law and financial regulations (Søreide, 2017) as well as industry specific regulations. These regulations create real barriers to corporate misconduct, however only if the government succeed to conduct strong enforcement. Countries with weak institutions normally lack efficient law enforcement and well-functioning legal systems and are thus considered high-risk markets (Rose-Ackerman, 1998). Non-transparent laws, complex processes and poor law enforcement is indicators perceived to increase corruption risk in a market (Habib & Zurawicki, 2002). When a foreign company operates in a country with these characteristics the exposure to corruption risk increases, as it often requires greater involvement with local officials (Hakkala, Norbäck, & Svaleryd, 2008). Lack of either regulations or efficient enforcement of such systems is more typical for developing countries, than developed countries (Søreide, 2017; Keefer & Knack, 2007). Weak institutions present a greater risk of inefficiency or unreasonable law enforcement reactions to unlawful activities, and corporations might use this as arguments in order to secure more favorable conditions in contracts if the market is poorly protected against illegal behavior (Egger & Winner, 2005). Further, with weak integrity systems the risk of getting caught and sanctioned is decreased. This may increase an individual's inclination to corruption, rather than if there is strong legal enforcement.

It has also been speculated that bribery may help foreign investors enter a market by creating efficient ways of circumventing regulations and ineffective legal systems (Hakkala et al., 2008). By exploiting legal grey areas and offering bribes, companies can obtain advantages that strengthens their position in the market. Such advantages could come in the form of better deals, favorable terms or unique opportunities, all of which are means to achieve a corporate goal.

Some companies may accept higher risks in exchange for other advantages such as profits and competitive advantage (Jiménez, de la Fuente, & Durán, 2011). Without this profit incentive there is little motivation to take risks and invest (Drabek & Payne, 2001). Corruption may allow firms to lower their productivity without loss of profits. Companies can avoid competing on

price-quality combination, which allows them to lower the quality of their products, as long as they bribe the right person (Søreide, 2017). However, corruption may also contribute to resource-wasting rent-seeking activities and decrease profit by raising the cost of doing business (Lambsdorff, 2002). Lastly, there is an additional risk related to corrupt deals, as there is no way of securing that the other party will hold its end of the deal (Søreide, Lecture 6, February 2., 2018).

3.3.7 Risk-perspective.

When making a decision under uncertainty, perceived risk is always present (Sheth, 1967). Research on how companies responds to risks are explained at both organizational level and managerial-level (Buckley, Chen, Clegg, & Voss, 2016). The organizational-level perspective focuses on the firm's capabilities, while the managerial-level address the managers risk preference and intrinsic behavioral attitude.

A firm's previous experience in risk environments can influence the decision to enter risky environments at a later stage (Delios & Henisz, 2000). Researchers attribute this behavior to the organizations learning ability[16] and an increase in informational advantage that can be transferred to similar situations (Cuervo-Cazurra & Genc, 2008). A positive experience in a risky environment at a previous stage may increase the firm's propensity to engage in high-risk activities at a later stage. A company with no experience in a specific country may thus seek to partner with a local firm or other firms with experience to augment experience capabilities (Delios & Henisz, 2000).

The managers risk-taking propensity must also be taken into account, as this can affect the strategic choices managers are willing to take. Drake and Kohlmeyer (2010) proved that managers are more affected by past performance outcomes and that negative outcomes motivate greater risk-taking than positive past outcomes. These results are in agreement with the prospect theory that posits that an individual's risk propensity depends on the way in which the individual frames the decision problem. If the way the manager has framed the problem involves gains relative to a reference point, (s)he will exhibit more risk seeking behavior than if it were to involve a loss. In other words, a manager is more likely to invest if (s)he perceives

[16] Organizational learning takes place through interaction between employees and managers

that there is a forty percent chance of winning, than a sixty percent chance of loss, even though it is the same probability (Drake & Kohlmeyer, 2010).

Multiple researchers have tried to study the relationship between a country's culture, using Hofstede's cultural dimensions, and corporate risk-taking or corruption (Mihet, 2013; Husted, 1999; Li, Griffin, Yue, & Zhao, 2013). Mihet (2013) found that corporate risk-taking is directly impacted by culture. She found that in societies with low uncertainty avoidance and high individualism, corporate risk-taking is higher. Moreover, firms take less risk in societies where power distance is high. The level of masculinity in a society does not seem to be related to corporate risk-taking. Furthermore, she found that corporate risk taking is best explained by the cultural norms of the company's country of origin. Husted (1999) researched the relationship between level of corruption and culture, using Hofstede's cultural dimensions. He found that societies with low individualism are more susceptible to corruption and argues that individuals from such societies are more likely to violate law if the laws run counter to moral codes. Husted (1999) finds that masculinity is positively related to corruption along with power distance, and uncertainty avoidance. La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997) argues that the level of trust reduces in societies with high degree of power distance, and that this further yields higher levels of corruption. Li et al. (2013) investigated the role of national culture in corporate risk-taking. They found that individualism has a positive association with corporate risk-taking, while uncertainty avoidance has the opposite effect. They further find that lager company size weakens the association of culture with corporate risk-taking. Concludingly, cultural differences play a role in corporate risk-taking and inclination to corrupt activities.

3.3.8 Summary of determinants of corruption

There are some characteristics perceived to increase the level of corruption risk that may be more prominent in the arms-and defense industry, than in many other industries. First of all, a distinctive feature in the arms-and defense industry is secrecy which is often argued by national security. This feature opens for opportunities of misconduct, as due to the minimal level of transparency. Second, the industry is characterized by political ties and revolving doors, which is a factor considered to increase the risk. Further, the contracts in the industry are often complex with regards to the scope of the contract and what is expected to be delivered; services or products. Intermediaries and third parties are commonly used in the industry in order to conduct business. Despite the legitimate function of third parties, the use of such consultant

may increase the corruption risk. Use of offset obligations is common in the defense industry in order to promote domestic growth, however the proven effect of such offsets is called for. The last determinant identified in the sections above is operations in and trading with high-risk countries. Countries with weak institutions normally lack efficient law enforcement and well-functioning legal systems and are thus considered high-risk markets (Rose-Ackerman, 1998).

3.4 Consequences of Corruption in the Arms-and Defense Industry

The direct consequences of corruption are hard to determine and measure, as corruption is such a vague phenomenon. Still, we know that corruption affects decisions negatively and creates inefficiency for society as whole (Søreide, 2013). The phenomenon is an obstacle for development (Søreide, 2016), and it is hard to prove efficiency gains for others than the parties involved. In 2004 the United Nations arranged the United Nations Convention against Corruption (United Nations, 2004), which resulted in a report where they state that "*Corruption is an insidious plague that has a wide range of corrosive effects on societies. It undermines democracy and the rule of law, leads to violations of human rights, distorts markets, erodes the quality of life and allows organized crime, terrorism and other threats to human security to flourish*" (p. iii).

The consequences of corruption can be best understood by considering how corruption distorts the allocation of benefits and/or increases costs. Type of allocation and degree of scarcity is factors that affects the degree of harm corruption may inflict (Rose-Ackerman, 1978). Political decisions may be affected by corruption in a way that might be contrary to the public interest (OECD, 2015). While many pressing socio-economic needs are put on hold due to lack of resources, extensive funds are used to procure defense equipment (Courtney, 2002). Such distortion is exemplified in Chapter 1, where South-Africa hired BAE Systems although their products was twice as expensive as the Italian equivalent. At the same time as the contract was signed, the country faced severe challenges regarding lack of resources for lifesaving HIV-medicine. Nichols (n.d.) also describes how bribery in the defense industry raises special concerns, as decisions may be based on the quality of the bribe, rather than the quality of the product. He further explains how bribes may compromise the quality of products. There are many examples of delivered products being useless or having serious malfunctions, including the heavily-lobbied-for M4 infantry rifle used by the Americans in the battle in Wanat, Afghanistan. The malfunctions led to several deaths and multiple injuries of American soldiers (DefenseTech, 2009).

Corruption in the arms-and defense industry can further have implications on regional and national stability. In regions where the situations are tense, an escalating expenditure in military procurement can provoke a response from neighboring countries to increase their expenditure as well, and often by more than double the initial increase (Collier, 2006). Aqil Shah further describers in TI's Global Corruption Report (2001) how politicians and officials may have a desire for Civil Wars to continue, as defense deals offers lucrative payoffs. Corruption has also been known to cause unrest in governments and undermine democracy as form of governance (Canache & Allison, 2003). If corruption is believed to be an inherent component of the form of governance rather than of an individual leader or institution, there is an increased risk that an alternate regime will emerge (Canache & Allison, 2003). In Spain, where political corruption has affected the democracy since the seventies, such a belief have led citizens to create new political parties and social movements in order to act against the political system (Robles-Egea & Delgado-Fernández, 2014). Even more recent news has put additional pressure on the Spanish government; a series of revelations linked Spain's governing Popular Party to alleged bribes and kickbacks (Hedgecoe, 2018). Corruption may thus damage public institutions and undermine citizens trust in the government.

The market for arms is characterized by relatively infrequent but high value contracts and intense competition between the companies (Courtney, 2002). The ability to secure contracts can thus be crucial to the future of the company. However, because the comparison of Western weapons systems reveals little differences in quality and service, contracts often rest on additional inducements. When contracts are awarded on the basis of additional inducements, rather than price and quality combination, competition in the market may be distorted (Nichols, n.d.). A producer that use all of its resources to craft such additional inducements, distorts the competitive ability of a company where resources are devoted to the quality of their products. Hence, corruption undermines fair competition and distorts the market (OECD, 2015).

3.5 Transparency and Compliance

Transparency is to make information publicly available (Lindstedt & Naurin, 2010). There are many different definitions of transparency which all includes elements of openness of information about institutions such as economic, social and political information, relevant for evaluating those institutions (Lindstedt & Naurin, 2010; Bellver & Kaufmann, 2005; Michener & Bersch, 2013). Transparency is often referred to as a key factor for reducing corruption

(Kolstad & Wiig, 2009). Complemented with greater press freedom (Brunetti & Weder, 2003), higher degree of media competition (Suphachalasai, 2005) and education (Svensson, 2005), empirical evidence suggest that transparency have the ability to impact the level of corruption. According to Tapscott and Ticoll (2003), companies must perceive disclosure of information as beneficial in order to be motivated to be more transparent. They further argue that the company can experience an increased level of trust from other stakeholders; customers, suppliers and collaborators when practicing transparency. A consequence of greater trust from customers is a higher level of loyalty, which in the end gives the company a competitive advantage relative to other corporations. Higher level of trust from suppliers and collaborators means lower transactions costs and better performance (Tapscott & Ticoll, 2003). Finally, firms with higher transparency and higher quality internal governance features tend to have lower levels of corruption risk (Krishnamurti, Pensiero, & Velayutham, 2016).

A sincere compliance program implemented to deter corruption within the organization needs to encompass the following indicators; Anti-corruption standards and procedures; training and communications; mechanism for reporting and seeking guidance; third-party due diligence; internal controls and risk assessment (Biegelman & Biegelman, 2010; Dixon et al., 2018; Baker & McKenzie, 2018). Research by Trevino, Weaver, Gibson and Toffler (1999) found that the most effective compliance program is one that is perceived by the employees to help them be aware of any legal or ethical issues, report violations, and guide them to refrain from engaging in unethical or illegal behavior. Their research revealed that compliance programs with these elements are associated with reduced illegal behavior, higher employee commitment and a belief that the program itself helped the organization make better decisions. Furthermore, according to Trevino et al. (1999), such a program will motivate employees to question possible ethical misconduct and hold the individuals responsible accountable for violations. This is supported by Keig, Brouthers and Marshall (2015) who found that proactive governance structures can reduce a company's corruption risk, including when the company is operating in high-risk markets.

On the other hand, a program perceived by the employees to only exist in order to protect the top management and created to cover for any legal mishap will have reduced effect according to Trevino et al. (1999). Moreover, MacLean and Behnam (2010) explains that a poorly implemented compliance program, or programs implemented to satisfy external demands rather than fitted for internal needs, may affect the employee's perception of legitimacy and

reduce their commitment to ethical behavior. Programs implemented to satisfy legal pressure have also been found to affect employee's behavior. Weaver, Linda and Cochran (1999) found that sanction rebates on the basis of compliance programs caused corporations to implement programs that appeared effective. Such implementations can thus act as an insurance for companies when they are faced with allegations of corporate misconduct (Jeffers, 2015). However, such programs would not be likely to have any effect on employee's behavior or increase their commitment to ethical compliance (Weaver et al., 1999; Hess, 2007). Laufer (1999) identifies this as the "paradox of compliance" problem where a company simply can adopt the appearance of a compliance program and in reality take less care to prevent misconduct.

3.5.1 Previous research.

What a company choose to disclose of information regarding compliance and financials are dependent on the company's cultural and legislative context. One research that has contributed to the understanding of this subject is Langlois and Schlegelmilch's (1990) study which compares European and American companies' usage and content of code of ethics. Their findings suggest that while there is a significant difference between Europe and the US in regard to code of ethics, there are also differences between the European countries included[17]. Langlois and Schlegelmilch (1990) points to three aspects that showed significant differences between the two continents; employee conduct, supplier and contractor relations and political interests. The difference in regard to political interests are suggested to reflect the different legal environments for European and US companies, while the two other aspects were harder to explain (Langlois & Schlegelmilch, 1990).

Hofstede's cultural dimensions[18] have also been tried as explanation for differences in perceptions of ethics across countries (Au, 1999). Au (1999) proposed that people living in societies where power distance is dominant, people will follow a company code of conduct more rigidly than in countries where power distance is low. Several studies have found that when individualism increases, unethical actions are perceived to be more acceptable (Arnold, Bernardi, Neidermeyer, & Schmee, 2007; Bernardi, Delorey, LaCross, & Waite, 2003).

[17] The countries included in the study were France, Germany and the United Kingdom.

[18] Hofstede's cultural dimensions include; Power distance, Uncertainty avoidance, Individualism/Collectivism, Masculinity/Femininity and Long/Short term orientation

Further, supported by Husted (1999), Arnold et al. (2007) concluded that the level of masculinity is associated with greater acceptance of unethical behavior, and an increased level of uncertainty avoidance is related to an increased level of ethical behavior.

Schlegelmilch & Robertson (1995) conducted a survey regarding the influence of country and industry on ethical perception in the US and Europe. Their findings suggest that US managers will place more emphasis on ethical issues related to the control of employee behavior than managers in Europe[19] (Schlegelmilch & Robertson, 1995). A study by Van Luijk (1990) concludes that Europeans are generally less optimistic about the effectiveness of corporate codes of ethics than Americans. Further, Schlegelmilch & Robertson (1995) found that US managers are significantly more likely than European managers to identify scenarios as ethical issues of concern. Palazzo (2002) explains how the US legalistic emphasis on code of conducts can be a result of the belief that rules and laws apply to all equally, regardless of circumstances and the relationship with the people involved.

Adams, Hill and Roberts (1998) have identified factors that influence corporate disclosures across six European countries[20]. The results indicated that, among other factors, company size and country of operation influence disclosure patterns. According to Adams et al. (1998), large companies are more likely to disclose all types of corporate social information, but the nature of information disclosed varies across Europe, regardless of size and industry membership. Further results indicate that German companies tend to disclose more than the other countries included in their study. Concerning ethical disclosures, both German and British companies are ranked high. Adams et al. (1998) explains that the British companies view reputation of the company as the most important role of annual reports, and that the high degree of disclosure by British companies is to advertise their social responsibility.

Crane and Matten (2004) found that American companies places more emphasis on corporate code of ethics than European companies. Mele (2008) suggest that because American companies receive reduced fines for violations, they have more incentives from the government to promote codes of conduct than European companies who do not receive such incentives.

[19] European countries included: Austria, Germany and the United Kingdom
[20] The countries included in Adams et al.'s (1998) study were France, Germany, The Netherlands, Sweden, Switzerland, andthe UK.

Furthermore, Palazzo (2002), found that German companies are less inclined to introduce codes of conduct than American companies. According to Palazzo (2002), Germans feel that "this kind of business ethics does not have much to do with ethics at all, since it 'only' aims at legal compliance. Ethical behavior goes further than legal behavior…" (p.203). Ardichvili, Jondle and Kowske (2010) found in their study that Italy scored low on ethical conduct compared to American and other European countries, indicating a greater accept for unethical behavior.

3.5.2 How transparent are the companies?

Many companies strive for sufficient due diligence to improve and/or maintain an effective compliance program. A Transparency International – UK project on transparency in the arms- and defense industry showed that 33 percent of the companies studied have improved their ethics and anti-corruption program between 2012 and 2015 (Transparency International UK, 2015). A consultancy report by Control Risk (2015) illustrates the same improvement of transparency and compliance in all sectors; 76 percent of the United States companies had compliance training for their employees in 2006, while the number was increased to 82 percent in 2015. The same development is illustrated in the United Kingdom, with an increase from 48 percent to 78 percent, and the trend is the same in Germany and France. The Control Risk Survey (2015) further reports that 74 percent of the companies have confidential channels of communication through which employees can raise concerns of report problems, as opposed to 42 percent in 2006. In comparison, Transparency International - UK (2015) reports that only 13 of the companies included in their survey had evidence of whistleblowing mechanisms based on publicly available information. OECD (2014) reports that 31 percent of all 427 cases brought to the attention of law enforcement authorities were self-reported. This indicates company's willingness to self-report if the mechanisms are in place to do so and that they will benefit from self-reporting, i.e. lead to mitigated sanctions (OECD, 2014). This also illustrates the importance of a sufficient compliance program implemented within the company to detect corruption, as the company itself is in a good position to deter criminal activities (OECD, 2014).

According to the Control Risk Survey (2015) compliance with anti-corruption laws has become a competitive advantage for many international companies. One particular finding of the survey shows that companies headquartered in countries with the toughest laws and highest levels of international enforcement show a higher willingness to take risk compared to the results in their

previous surveys. They conclude that this might be due to a feeling of confidence from their robust compliance programs that they have been forced to implement because of tougher laws. The Survey further underlines that a company needs to make sure that such an increased willingness towards risk is not based on a false sense of security. The perceived biggest point of weakness for companies operating in high-risk markets is the gap between the perceived protection that a compliance program brings and the actual mitigating effect (Control Risk, 2015).

NGOs and IGO are encouraging increased transparency and compliance by crating guidelines on how to improve. Both Transparency International, UN Global Compact and OECD have produced guidelines for companies on how to comply (Rose-Ackerman & Palifka, 2016). The OECD guidelines (OECD, UNODC, World Bank, 2013) are made by companies for companies, and both this, and other guidelines as well as the laws and regulation presented in this chapter will be used further as a base for our Transparency Index. In the next chapter we will present our two indexes, the indicators included in each index, as well as the scoring system for the companies.

4. Methodology

4.1 Research Methodology

How do one measure the corruption risk a company is exposed to, and assess the initiatives they have implemented to increase their level of integrity? Exposure to corruption risk and level of transparency is not something you typically can measure in a quantitative way. The level of exposure a company faces may be affected by many factors, including the level of corruption in the countries in which they operate. In an attempt to measure each company's exposure to corruption risk, we create two indexes; a Corruption Risk Index and a Transparency Index. The Corruption Risk Index is created in order to measure the companies' exposure to corruption risk. A company's exposure to corruption is here determined by the level of corruption in their countries of operations. The Transparency Index will assess the companies' transparency regarding compliance programs and organizational aspects. The use of indexes will make it possible to quantify the companies' exposure to corruption and their level of transparency. Hence, we can perform an uncomplicated comparison of the American and European companies based on their score in the two indexes.

The result of this comparison allows us to answer the following hypotheses;

Hypotheses 1: *There is no systematic difference in exposure to corruption risk between American and European arms- and defense companies*.

Hypotheses 2: *There is no systematic difference in level of transparency between American and European arms- and defense companies.*

The hypotheses are formulated as null hypotheses in order to secure an objective mindset throughout the study. Null hypotheses allow us to investigate whether there is a difference between the two groups, before we investigate what the difference is.

4.2 Data Selection

The companies selected for this study are chosen based on a set of criteria; 1) The companies must be headquartered in a North-American or European country[21], 2) The companies must be a parent company, and 3) they must have operations in at least ten countries. Our study includes a total of twenty companies, ten American companies and ten European companies. SIPRI Arms Industry Database identifies the top 100 arms-producing and military services companies in the world from 2002 until 2017 (SIPRI, 2018). This database includes public and private companies, but not manufacturing or maintenance units of the armed services. Further, the database is based on open sources, which includes annual reports and articles in journals and newspapers. The estimate of arms sales is made on the basis of this information. The companies are ranked in a descending order according to their arms sale, and includes information about total sales, country and the company's previous rankings. This makes it easy to identify the top ten companies from both North-America and from Europe. The companies included for further analysis is Lockheed Martin Corporation, Boeing, Raytheon, BAE Systems, Northrop Grumman Corporation, General Dynamics Corporation, Airbus Group, Thales, Leonardo, United Technologies Corporation, L-3 Communications, Huntington Ingalls Industries, Honeywell International, Rolls-Royce, Leidos, Naval Group, Rheinmetall, Babcock International Group, Safran and SAAB.

Below, Table 1 provides a list of the selected companies in de descending order according to their respective size based on arms sales in 2017 (SIPRI, 2018). The company's country of origin is also included in the table, along with their rank in the SIPRI Arms Industry Database from 2017.

[21] Russian companies are excluded in this study because a big part of the country lies in Asia and the required information is rarely presented in English.

Table 1: Overview of companies, countries and arms sales

	Company	Arms sales 2017 (million USD)	Country	Rank SIPRI 2017
1	Lockheed Martin Corporation	44,920	United States	1
2	Boeing	26,930	United States	2
3	Raytheon	23,870	United States	3
4	BAE Systems	22,940	United Kingdom	4
5	Northrop Grumman Corporation	22,370	United States	5
6	General Dynamics Corporation	19,460	United States	6
7	Airbus Group	11,290	Trans-European	7
8	Thales	9,000	France	8
9	Leonardo	8,860	Italy	9
10	United Technologies	7,780	United States	11
11	L-3 Communications	7,750	United States	12
12	Huntington Ingalls Industries	6,470	United States	13
13	Honeywell International	4,460	United States	16
14	Rolls-Royce	4,420	United Kingdom	17
16	Leidos	4,380	United States	18
15	Naval Group	4,130	France	19
17	Rheinmetall	3,420	Germany	25
18	Babcock International Group	3,230	United Kingdom	27
19	Safran	2,910	France	33
20	SAAB	2,670	Sweden	36

Note. Retrieved from SIPRI (2018)

Due to the criteria there are six Russian companies excluded from the analysis; Almaz-Antey, United Aircraft Corporation, United Shipbuilding Corporation, Tactical Missiles Corporation,

Russian Helicopters and High Precision Systems. Two Asian companies listed in the SIPRI Database are also excluded; Mitsubishi Heavy Industries and Elbit Systems. Due to the limitation of ten companies from each continent there are seven American companies not included in the study which ranks higher than some of the European companies; Textron, Booz Allen Hamilton, General Electric, Bechtel Corporation, Harris Corporation, CACI International and Science Applications International Corporation. Lastly, there are three fully-owned subsidiaries excluded; Pratt & Whitney, Sandia Corporation and MBDA.

4.3 Presentation of Literature

Chapter 3 contributes to a greater understanding of corruption and determinants of corruption in the arms- and defense industry. Further, the literature presented in Chapter 3 also contributes to the development of the Transparency Index. The literature is retrieved using search words such as "corruption", "transparency", "anti-corruption regulations and laws", "high-risk countries" and "compliance". Before concluding whether the respective research was of high enough standards to be included in the literature presentation, we had to contemplate the sources and be critical of their origins. Most frequently used sources of reference are gathered from the fields of economics and corruption, as well as legal documents.

4.4 Indexes

In order to compare the companies' exposure to corruption risk and level of transparency we will create two indexes. The first index, the Corruption Risk Index, will relate to the companies' exposure to corruption risk. We assume that the risk of corruption increases when the perceived level of corruption in an operating country is high. Thus, a company's score will be based on the perceived level of corruption in the countries they have operations. The second index, the Transparency Index, will consider the companies' level of transparency regarding anti-corruption initiatives and organizational aspects considered important for mitigating said risk. Because this evaluation is based on qualitative information disclosed, each company will receive a score based on predetermined criteria. Thus, the information is quantified, making it possible to compare their relative performance in the area. Indexes are considered to be the best way of measuring such a complex phenomenon as corruption risk and transparency combined. One cannot measure corruption directly, but the indexes will contribute with an indication of whether the two groups are subject to a systematic difference of exposure to corruption risk or not.

4.4.1 Creation of the Corruption Risk Index.

The Corruption Risk Index measures companies' exposure to corruption risk through the countries where the companies have sales and operations. However, as information concerning companies' customers and sales are highly limited, the risk exposure is based on the conditions in the countries of operations. Four international indexes measuring governance, democracy and corruption are used in order to assess the conditions of each country; The Rule of Law Index, The Corruption Perception Index, The Democracy Index and The Ease of Doing Business Index. In order to create the Corruption Risk Index, we will identify the countries the companies have operations in, as well as collect data regarding these countries from the four indexes mentioned above. For the companies to be evaluated fairly, we will identify the three most high-risk countries of operations based on The Rule of Law Index. To make sure that the data is comparable, the same three countries will be used for all four indexes. By exploring in which countries, the arm- and defense companies have foreign operations we can better comprehend the corruption risk they are exposed to. In order to compare the companies' performance, both arithmetic and geometric average will be calculated for each company and group as a representation of their exposure to corruption risk. The arithmetic average will be calculated as it is a straightforward measure to use when comparing two groups. Further, a geometric average will be used as it reduces noise caused by variance in the indexes scoring system and indicators used for measurement. Before calculating the averages, the scores from each index will be scaled to make sure that the indexes are weighted equally. Below, Figure 1, illustrates the development of the Corruption Risk Index.

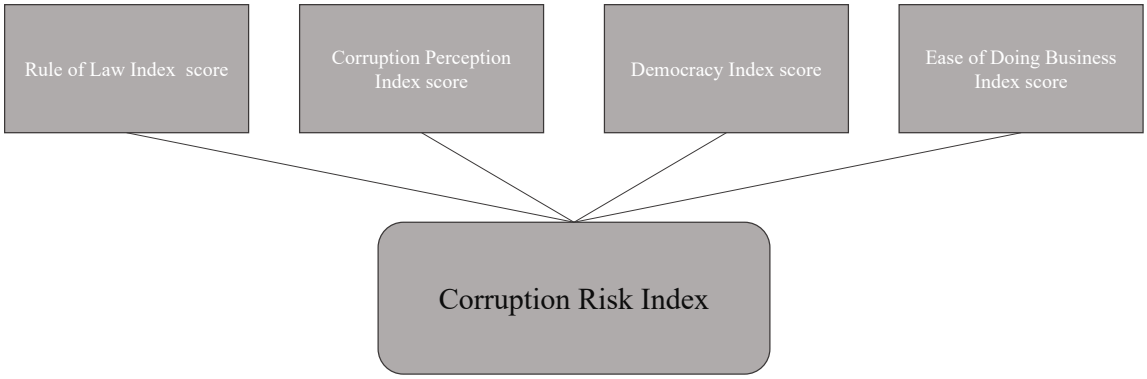


Figure 1: Illustration of Corruption Risk Index

4.4.2. Creation of the Transparency Index.

The Transparency Index indicators will be developed based on the information presented in Chapter 2 and relevant guidelines developed for companies. OECD have made publicly available a compliance handbook with aims to bring together the main internationally recognized business instruments on anti-bribery (OECD, UNODC, World Bank, 2013). The handbook is made by companies, for companies, in cooperation with OECD, UNODC, and the World Bank. When creating the indicators for our index, we have considered the different recommendations that this handbook presents for each component. In addition, we have also considered the compliance handbook for the FCPA and the UKBA. The scores allocated to each company in the Transparency Index is based on an evaluation of publicly available data on the respective company. Such publicly available data includes the companies' websites, annual reports, CSR reports or other published information. We will focus on collecting information about each company's anti-corruption program and other initiatives they have implemented in order to mitigate corruption risk or increase compliance. The arithmetic average will be calculated for each company and group to be able to compare their performance. Geometric average will not be calculated in this index due to the presence of zero values. See Figure 2 below for an illustration on how the Transparency Index is developed. The Transparency Index will be further explained in Section 4.4.

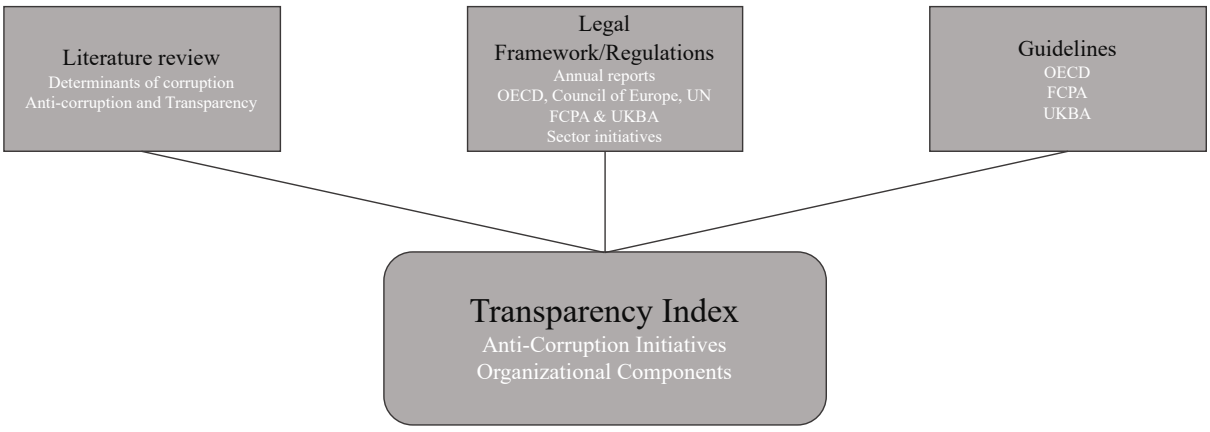


Figure 2: Illustration of Transparency Index

4.5 Data Analysis

The data collection is considered to be of a relatively small size. Consequently, the significance level and other related statistics will not be tested. The result for each group of companies will rather be compared to the other group. The results will indicate whether one group is more

exposed to corruption risk and more transparent than the other, or whether there is no difference between American and European companies.

4.6 Implications and Criticism

The use of indexes brings along some challenges regarding subjectivity and consistency. Because the scores given to each company will be based on evaluation of data, it is possible that some of the indicators are more subjective than others. Although measures will be taken to reduce subjectivity, it is unlikely that we manage to prevent all occurrence of this. To reduce the limitation of subjectivity, the information will be studied twice. Furthermore, awareness that a high degree of objectivity is preferred, helps to reduce subjectivity. Also, by evaluating the same information twice, the probability of a given score being correct is increased. Still, human error may occur when it comes to qualitative data gathering and analysis. The larger the sample, the larger the risk of errors occurring. These errors could for example be assigning the wrong score to the wrong company or evaluating the information in an improper manner.

4.6.1 Corruption Risk Index.

Some companies may indirectly conduct some of its business through subsidiaries, and thus not include the countries the subsidiaries operate in as their own country of operation. This may have implications on the score allocated to each company, as the countries of operations for the subsidiaries are not considered. Consequently, the scores allocated to such companies might give a distorted picture of their exposure to corruption compared to companies who list countries regardless of whether it is the parent company or their subsidiaries that operates there. The use of Rule of Law Index as a base for choosing the worst countries of operations caused several countries to be excluded from the research, such as Bahrain, Iraq, Oman, Qatar and Saudi-Arabia. The countries not included in the Rule of Law Index are typically countries that are less transparent about democracy, law enforcement and rule of law. Hence, because such countries are not included, our Corruption Risk index may indicate that the companies are exposed to less corruption risk than if such countries were included.

4.6.2 Transparency index.

In general, there has been an increasing focus on anti-corruption and compliance the recent decade. This has resulted in more attention from companies, but also created a demand from the public for more transparency. Due to this, anti-corruption programs developed by companies have become more detailed and tailored to the company and their industry of

operation. In order to differentiate between those who implement compliance-programs as a true effort and those who implement symbolical programs, the criteria for each indicator in the Transparency Index are quite detailed. Each component has base in legal requirements or recommendations from guidelines developed by companies for companies. Hence, each company should have implemented each component to some extent, regardless of their country of origin.

As we are unable to test the results level of significance due to a small sample size, criticism could be addressed to the sample size. Ten companies from each continent is not enough to conclude that one group are more exposed to risk of corruption than the other group, however, it should be enough for an indication. Furthermore, to be able to conclude whether there is an actual difference regarding initiatives to mitigate the risk of corruption, company cooperation would be required. Due to the timeframe of this research, it would be difficult to compile all the information required to make such a conclusion. Further, it is conceivable that companies may be hesitant to allocate the necessary resources regarding such a cooperation with two students, in contrast to a cooperation with a large organization conducting similar research. This is reflected by an initial attempt to contact some of the companies regarding some question, that has yet not been responded to.

5. Empirical approach

This chapter describes the empirical approach to our study. First, the approach to the Corruption Risk Index is presented, along with an introduction of the four international indexes. Second, the approach to the Transparency Index is described, and the indicators along with the criteria will be defined. An overview of the indexes will be provided in the Appendix.

5.1 Corruption Risk Index

The Corruption Risk Index considers the companies' exposure to corruption risk based on the conditions in the companies' countries of operations. Conditions assumed to increase a company's risk of corruption includes the level of governance, democracy and perceived corruption in a specific country. These conditions are measured in four international indexes; *The Rule of Law Index 2017-2018* (The World Justice Project), *The Corruption Perception Index 2017* (Transparency International), *The Democracy Index 2017* (The Economists Intelligence Unit) and *The Ease of Doing Business Index 2017* (The World Bank). The combination of these indexes is chosen because they are complementary to each other, and thus can help determine differences in the risk of being involved in corruption. Hence, they provide an indication of the company's exposure to corruption risk, based on the market risk they are exposed to. Although it is more likely that a company is exposed to corruption risk if it operates in countries perceived to have high levels of corruption, this does not necessarily mean that the company participate in corrupt acts. Still, we can assume that such countries present greater exposure than countries perceived to have low levels of corruption.

For the companies to be evaluated on a fair basis, only the three most high-risk countries ranked by *the Rule of Law Index 2017-2018* will be considered, rather than using their full list of locations. In addition, using the three worst ranked countries may give an indication as to how willing the company is to accept associated risk. *The Rule of Law Index* is chosen as base because this index contains fewer countries than the others. Thus, the probability that the other indexes are missing one of the countries evaluated in the Rule of Law Index is reduced, and we can evaluate the same three countries in all four indexes. Further, each country will be assigned their respective score from the other three indexes.

Each country will be given a total of four scores, one from each index. Thus, each company receives a total of 12 scores. The average score of these 12 scores will be calculated and used

as measurement for comparing the companies' exposure to corruption risk. Both arithmetic and geometric average will be calculated for each company and group. The arithmetic average will be calculated as it is a straightforward measure to use when comparing two groups. Further, a geometric average will be used as it reduces noise caused by variance in the indexes scoring system and indicators used for measurement. Before calculating the averages, the scores from each index will be scaled to make sure that the indexes are weighted equally. A low average score of these indexes indicate a higher exposure to corruption risks. However, a low average score does not necessarily mean that a company is involved in any corrupt activities, but they are more likely to be exposed to situations where corrupt activities are present.

5.1.1 The Rule of Law Index.

The Rule of Law Index, created by The World Bank, measures how the rule of law is experienced and perceived by the general public in 113 countries. It relies on more than 110 000 household and 3 000 expert surveys for measurement across eight factors; *Constraints on Government Powers, Absence of Corruption, Open Government, Fundamental Rights, Order and Security, Regulatory Enforcement, Civil Justice, and Criminal Justice*. A country receiving a high score in this index is associated with clear and stable laws where everyone, including the government, are held accountable under the law. The process of enacting, administering and enforcing laws are fair and efficient and justice is delivered by independent representatives in a timely and ethical manner. In contrast, a country receiving a low total score might be associated with lack of independence of the judiciary and the legislature, limitations in availability of official information, weak enforcement and a justice system perceived to be affected by corruption and political interference. One limitation of this index is that the numbers of countries included is limited to 113. Countries not included in this index are usually countries associated with low transparency regarding democracy, law enforcement and rule of law, and are thus also excluded from the Corruption Risk Index created in this study. Among the countries excluded are; Bahrain, Iraq, Oman, Qatar and Saudi-Arabia. Although this index does not measure corruption directly, it still adds value to the study. How well-functioning a country's governance is, may be a good indicator for the scope of corruption risk.

5.1.2 The Corruption Perception Index.

The Corruption Perception Index by Transparency International ranks 180 countries according to the perceived level of corruption in the public sector and is based on both surveys and assessment made by a variety of institutions (Søreide, 2016), such as The World Bank,

Bertelsmann Stiftung, and Freedom House Nations. Private corporations are excluded from the assessment, which might give a distorted picture of the situation as the private sector plays a significant role in corruption risks for businesses.

The best performing countries are associated with openness, democracy and free press as well as independent judiciaries. In the other end of the scoring-list are countries associated with ineffective institutions, weak democratic values, lack of political will, and few political rights (TI, CPI, 2018). Corruption is difficult to measure, and as this index only measures the perception of the phenomenon, the reality might differ. In addition, regardless of a countries rank, it is important to remember that corruption exists everywhere. For example, despite Denmark's high rank and low perceived level of corruption, Danske Bank, which is the largest private owned bank in Denmark, received great criticism after the disclosure of a serious money laundering case in Estonia (Jackson, 2018). This shows how exclusion of private companies may weaken the reliability of the index. Nonetheless, the index brings great value to this research as it gives an indication of the level of corruption risk in a country.

5.1.3 The Democracy Index.

The Democracy Index by The Economists Intelligence Unit provides information on the state of democracy for 165 countries. The Democracy Index is based on sixty indicators in five different categories: *electoral process and pluralism*; *civil liberties*; *the functioning of government*; *political participation*; and *political culture*. A high scoring-country is associated with free and fair competitive elections, political freedom, a valid system of governmental checks and balances as well as independent judiciary. A low-scoring country, or an authoritarian regime, is associated with extremely limited political pluralism, a state-owned media, and a non-independent judiciary. Elections in such countries, if they even take place, are seldom free and fair.

The scoring of each country is based on expert's assessment converted into numbers, however, criticism towards these experts have been noted. There is no mentioning of who these experts are, where they come from or what their field of expertise is. There are also no or little mentioning of the employers of these experts, whether they are employed by the Economist Intelligence Unit or another institution. Thus, it would be naive not to question the impartiality of these experts. However, the index also uses public opinion surveys to allocate scores in addition to the experts' assessments. The five interrelated categories included in the index form

a coherent conceptual whole that contributes to a greater understanding of a country's political culture and level of democracy, which again brings value to the evaluation of a company's level of risk exposure in a specific country.

5.1.4 The Ease of Doing Business Index.

The Ease of Doing Business Index by The World Bank is part of the annual report, *Doing Business*, which reports results from investigations on regulations that enhance and constrain business activity, i.e. the overall business environment. This report considers eleven areas of regulations; *Starting a business, Dealing with construction permits, Getting electricity, Registering property, Getting credit, Protecting minority investors, Paying taxes, Trading across borders, Enforcing contracts, Resolving insolvency* and *Labor market regulation* in 190 countries. A high-scoring country is associated with a regulatory environment that facilitate and help the starting and operation of a firm. A low scoring country is associated with complicated regulations and a hostile business environment.

The index has received some criticism, as policy-makers have started to design policies aimed at doing better in the ranking, rather than focusing on making a real difference to the underlying business environment of the country. The index evaluates the business environment by picking indicators that is considered to be signals of the conditions for doing business. However, as these indicators are non-observable, a business environment may be given a higher score due to window dressing, i.e. policies designed to improve ranking, rather than initiatives intended to improve the climate that caused the original bad score. Nonetheless, the index is included as it functions as an indicator for the corruption risk one is exposed to when operating in a country.

5.2 The Transparency Index

The transparency index includes indicators related to the internal factors of the company, mainly their level of transparency regarding anti-corruption initiatives and other organizational aspects. The index is thus two-parted; one sub-index related to anti-corruption initiatives and the other sub-index related to organizational aspects. A total of 13 indicators will be assessed, where eight indicators relates to anti-corruption and five relates to organizational aspects. The scoring system for the anti-corruption sub-index reaches from 0 to 2 points, and from 0 to 1 point for the organizational aspects sub-index. A higher score indicates higher level of transparency. The information used to evaluate the companies in the Transparency Index are

annual reports from 2017, corporate social responsibility (CSR) reports, code of conduct and other publicly available information about the company.

In order to differentiate between companies who publishes minimal information from those who have put efforts into their programs, our indicators are relatively comprehensive and detailed. Thus, we are convinced that the indicators included will strengthen the Transparency Index. The criteria required for each score is shortly explained in the following paragraphs, while the full indicators criteria are provided in the Appendix. When referring to an indicator as *satisfactory* it implies that all the set criteria for a score of two points are fulfilled.

5.2.1 Anti-corruption initiatives.

Indicators included in the Transparency Index regarding anti-corruption initiatives are: Anti-corruption program, Anti-corruption training, Internal control, Reporting system, Conflict of interest, Revolving door, Gift and hospitality, and Supply chain and intermediaries. The indicators are introduced in the order they appear in the index and in the appendix.

Anti-corruption program.

Implementation of a well-functioning anti-corruption program can function as a mitigating factor for a company's exposure to corruption risk. For such a program to be satisfactory, it should entail strategies for how to avoid and how to detect corruption, include a statement of a zero-tolerance policy, and specifically state that all employees are subject to the program. Companies that do not have any public information regarding an anti-corruption program regardless of the reason, or severe lack of information regarding the program, is allocated a score of 0. A score of 1 is given to companies where a program can be identified, but it is weak or lacking in some way. If a company do have such a program and it fulfills the requirements of a satisfying program, they are given a score of 2.

Anti-corruption training.

In order for employees to be able to handle challenging situations in a satisfying way, it is essential that they are given the proper tools and knowledge on how to identify corruption, and who to report to. Such training can prevent companies from taking part in any corrupt activities, and the more people that are trained to identify corruption, the more the risk of participating in such activities is mitigated. For our analysis, companies that do not publish any information regarding anti-corruption training for all employees are given a score of 0. A score of 1 is given

if they provide such a program, however the information is lacking in some way. If the company provides appropriate and tailored training for all employees, they are given a score of 2.

Internal control.

Internal controls on implemented programs and systems are crucial in order to detect deviation from procedures or unwanted activities. Such controls should include a review of the current compliance programs, and the programs should be updated based on the findings from such reviews. The score of 0 is allocated to companies that do not state that they have routines for internal controls, or if the program is not updated based on such controls. A score of 1 is given if they do conduct internal controls, however, the routines are not satisfying. A score of 2 is given if the company conducts reviews on a regularly basis and the program is updated based on these findings.

Reporting system.

This component refers to the whistleblowing options available in the company. In order for employees to report unwanted acts or incidents, it is essential that they have channels available, including knowledge on how to use them properly. They should be given the opportunity to seek advice on different situations they find challenging. For potential whistleblowers to trust such a system, it must provide safety and trust. Thus, a non-retaliation policy should be included. Companies that do not publicly state that they have such a system or do not state a clear non-retaliation policy is given a score of 0. A score of 1 is given if the company do provide a reporting system, however it is falling short in some way. A score of 2 is allocated if the company provides multiple channels for both whistleblowing and to seek advice and includes a statement of a non-retaliation policy.

Conflict of interest.

An anti-corruption program can also include a policy regarding conflicts of interest. Employees may never have thought about this issue in a corruption related context; hence it needs to be clearly defined in the anti-corruption program along with procedures on how to identify, declare and manage these conflicts. Companies that does not provide clear evidence of a policy or procedures regarding conflicts of interests are given a score of 0. A score of 1 is given if the company presents a policy or procedure, but it is lacking in some way. Lastly, a score of 2 is

allocated if they present a clear policy along with procedures and where the issue is addressed as a corruption risk.

"Revolving door".

It is quite common in the arms-and defense industry that companies employ former public officials. The former public official may use previous contacts in order to secure contracts or use their position in order to favor their new employer. This may create an appearance that these companies have secured unfair advantages, which is why it is important to have a policy addressing such procedures and prevent such a misconception. The company is given a score of 0 if there are no public evidence that they have a policy regarding employment of former public officials or people in close relations to such officials. A score of 1 is allocated if they do have a policy that addresses this issue, however it is not fully satisfying. 2 points is given when the company presents a clear policy which is satisfactory regarding routines and regulations.

Gift and hospitality.

The giving and receiving of gifts are one of many forms' corruption may take. A gift- and hospitality-specific policy may contribute to mitigate these forms of corruption. Such policies are important in order to inform employees and business partners of sound practices and raise awareness of the corruption risk related to gifts and other forms of hospitality. If the company does not state a clear gift- and hospitality policy, they are given a score of 0. 1 point is given if a policy is at place, however it is lacking in some way. The score of 2 points is given to companies where they have a clear and publicly available policy, including a statement of shared records of gifts received or given.

Supply chain and intermediaries.

A company's anti-corruption program should include standards for supplier conduct and relevant third parties. Companies can demand that suppliers must apply to their standards and requirements. Thus, companies can influence their suppliers and business partners, and such demands may function as a way of sharing and teaching good practices. Further, the company should also conduct due diligence on potential business partners and suppliers beforehand. A score of 0 points is given if; the company does not clearly require their suppliers to be subject to their anti-corruption programs, or they do not set requirements of an equally satisfying program; they do not conduct due diligence on potential partners and suppliers beforehand; or they do not include anti-corruption and ethic clauses in their contracts. 1 point is given if the

company states that suppliers and other third parties also are subject to their anti-corruption program or has to meet the requirement set to anti-corruption practices, but this is weak or lacking in some way. A score of 2 points is given if the company has clearly stated that their programs also apply to their suppliers and other third parties and includes clauses of such in the contracts, or there is evidence that they have conducted a thoroughly due diligence regarding the ethical guidelines and anti-corruption initiatives of their suppliers and other third parties.

5.2.2 Organizational aspects.

The second sub-index of the Transparency Index regarding organizational aspects includes the following indicators; *Subsidiaries, Political contributions, Offsets, High-risk markets* and *Intermediaries*. The points allocated in this sub-index range from 0 to 1. The indicators are introduced in the order they appear in the index and in the Appendix.

Subsidiaries.

Companies may be required to disclose information on material or significant subsidiaries according to various accounting standards. However, according to the OECD anti-corruption guide, companies are encouraged to disclose such information in the spirit of greater organizational transparency and accountability to stakeholders. An assumption can be made that companies with many subsidiaries or a great geographical distribution have greater opportunities to engage in corrupt activities. Thus, such information is essential in order to understand the parent company and the structure of their business. Subsidiaries is not in itself considered to be a corruption risk, but if the company chooses to withhold information about how many subsidiaries they have or where these are located, it may be reason for concern. If there is no public record of the company's subsidiaries, they receive a score of 0. If the company provides a full list with all relevant information about their subsidiaries, they receive a score of 1.

Political contributions.

Because political contributions, both direct and indirect, may be used as a way for enterprises to obtain advantages in business transactions it is important that a list of such contributions are made public by the company. If there is no available information on lobbying aims, topics or activities, lobbyist or lobbying expenditure the company receive a score of 0 points. 1 point is given if the company published details of all lobbyist and lobbyist expenditures and the

company's topics on which they lobby, including the importance to the company and shareholders. Information is updated according to the last financial year. 1 point is also given if the company explicitly states that it does not conduct in lobbying activities in the specific period.

Offsets.

Offsets is considered to be a corruption risk, as the outlining's of such contracts are often unclear or not directly related to the trade itself. In order to meet their obligations, companies may be forced to cooperate with local suppliers that are unknown to the company or does not fulfill the company's requirement of a supplier. Such demands could also mean that the specific supplier is chosen on the basis of personal relations or other ties to government officials. If the company does not publish any details regarding its offset's obligations and/or contracts, including risk-analysis or anti-corruption due diligence on the offset obligations they receive a score of 0. 1 point is given if the company provides a detailed list of offset obligations and contracts, there is evidence and information about anti-corruption due diligence, its procedure and results, or, the company addresses the corruption risks associated with offset contracting by explicitly stating that they do not engage in offset obligations and contracts.

High-risk markets and countries.

Simply doing business in some countries and markets involves greater corruption risk than operations in other countries and markets. High risk countries are usually characterized with an inefficient law enforcement and a lack of well-functioning legal systems. Furthermore, countries with complex laws and processes, and where the administrative apparatus enjoys excessive and discretionary power, are perceived to have high corruption risk (Habib & Zurawicki, 2002). For a company to be able to mitigate the risk, they must be aware of the risks they are exposed to and assess the challenges they face in each market. A score of 0 is given if the company does not address the risks they are exposed to in different markets in any way. A score of 1 is given when there is evidence that the company has conducted due diligence regarding risks and has taken measures to mitigate such risks.

Intermediaries.

Use of local distributors or other third parties can provide substantial support for a company when entering a new business market, and in some countries, you are even required to engage local third parties in order to conduct business. However, the use of intermediaries, such as

local agents or brokers, are considered a common red flag for corruption risk. If the company do not publish any information or details regarding the use of intermediaries used to conduct business, they receive a score of 0. A score of 1 is given if the company provides detailed information regarding their policy of use of intermediaries. The policy regards all subsidiaries and joint ventures. A score of 1 is also given if the company clearly states that they do not use agents/intermediaries to conduct business, due to the associated corruption risks.

6. Analysis

The analysis and discussion of this thesis is divided into two parts, accordingly to the two indexes. First, we will present and analyze the findings related to hypothesis one which considers exposure to corruption risks. The findings related to the second hypothesis, which considers the transparency follows. The implications of the findings will be discussed consecutively in light of the literature presented in Chapter 3 and relevant laws and regulations presented in Chapter 2. The two indexes in full can be found in the appendix, along with the companies' performance scores. The main subject of this study has been to examine whether there are no systematic differences between American and European arms-and defense companies related to corruption risk and transparency. The study includes companies across countries, consequently they are subject to different home-country legislation and disclosure requirements. However, there are international conventions and laws with extraterritorial jurisdiction which makes corruption a criminal offence. These international conventions and laws created the basis for the two hypotheses.

Hypothesis 1: *There is no systematic difference in exposure to corruption risk between American and European arms-and defense companies.*

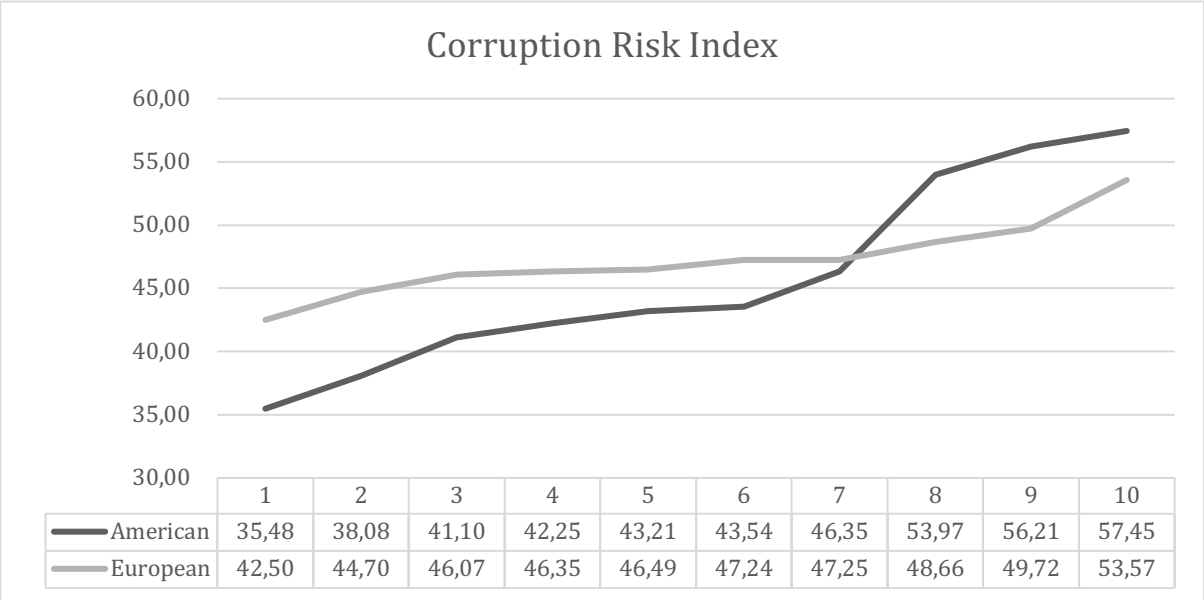
Hypothesis 2: *There is no systematic difference in level of transparency between American and European arms-and defense companies.*

6.1 Risk Exposure

Hypothesis 1: *There is no systematic difference in exposure to corruption risk between American and European arms-and defense companies.*

Hypothesis 1 aims to discover whether American and European arms-and defense companies expose themselves to a similar amount of corruption risk. This section will present the findings from the Corruption Risk index which assess the high-risk markets the companies operate in, as described in Section 4.4.1. Our Corruption Risk Index combines four international known indexes that measure governance, democracy and corruption in countries. The index is presented with the average score for each company. The highest attainable score for a company in this index is 100, and the highest attainable score for a group is thus 1000. Figure 3 below

illustrates each groups exposure to corruption risk, where the darker grey line represents the American companies and the light grey line represents the European companies. A low score in this index indicates higher exposure to corruption risks, or rather, that the company operates in countries associated with higher level of corruption risks. Thus, the lower the score, the higher corruption risk the companies expose themselves to.



	1	2	3	4	5	6	7	8	9	10
American	35,48	38,08	41,10	42,25	43,21	43,54	46,35	53,97	56,21	57,45
European	42,50	44,70	46,07	46,35	46,49	47,24	47,25	48,66	49,72	53,57

Figure 3: Corruption Risk Index

The figure demonstrates that the American companies both have the lowest and the highest score, meaning a high variation within the group of 21.97 of the geometric average as shown in Table 2 below. Still, the total score and the average score for each group show little differences. Thus, we observe that the two groups expose themselves to a similar amount of corruption risk.

Table 2: Summary of Corruption Risk Index

	American companies	**European companies**
Sum	468.13	472.56
Arithmetic average	47.79	48.34
Geometric Average	46.25	47.17
Max	57.45	53.57
Min	35.48	42.50
Median	44.95	46.87
Range of variation	21.97	11.07

Table 2 further presents a summary of all key numbers for the group totals. The average score of the American companies, 46.25, are slightly lower than the score of the European companies, 47.17.

Because the scores are based on four sub-indexes combined, we find it interesting to look at each index individually to see whether each individual index presents the same results as when they are combined.

The Rule of Law Index.

Table 3: Summary of Rule of Law Index

	American companies	**European companies**
Sum	464.67	451.33
Arithmetic average	46.47	45.13
Geometric Average	45.92	45.03
Max	57.00	51.67
Min	36.33	41.67
Median	45.83	44.67
Range of variation	20.67	10.00

Similar to our combined index, the Rule of Law Index shows no significant difference between the two groups of companies, as presented in Table 3. The scores of the two groups are almost the same as the scores in the Corruption Risk Index, however in this index the American group have a higher average score than the Europeans. The American companies still have the greatest and the lowest individual score, with a range of variation twice as high as the European companies. Compared to the Corruption Risk Index, there are no significant differences in the total scores for each of the groups. Hence, an exclusion of this index would not affect the difference between the two groups as the average scores are so similar.

Corruption Perception Index.

Table 4: Summary of Corruption Perception Index

	American companies	**European companies**
Sum	355.67	351.67
Arithmetic average	35.57	35.17
Geometric Average	35.02	35.06
Max	47.00	40.33
Min	26.33	32.67
Median	33.17	33.50
Range of variation	20.67	7.67

The Corruption Perception Index, presented in Table 4, also indicate that there is no significant difference between the groups. The greatest and lowest individual score is still received by the group of American companies, and the range of variation is almost three times as high as for the Europeans. However, it should be noted that the total score for the groups are significantly lower for the Corruption Perception Index alone, than in the Corruption Risk Index and the rest of the indexes individually. Thus, we can perceive that the Corruption Perception Index is the strictest, both relative to the other indexes separately but also in regard to our combined index. This is the only index of the four which tries to measure corruption directly, and thus may give a better indication of the risk than the other indexes. However, it measures perceived corruption and not actual occurrence or presence of corruption. The other indexes measure the countries performance on rule of law, state of democracy and regulations related to doing business. This

affects our combined index as the three other indexes (Rule of Law, Democracy Index and Ease of Doing Business) may neutralize the low score received from this index. Consequently, if this index were used individually, the two groups exposure to corruption risk would be greater, but the difference between the groups would still be the same.

Democracy Index.

Table 5: Summary of Democracy Index

	American companies	**European companies**
Sum	492.60	509.70
Arithmetic average	49.26	50.97
Geometric Average	47.81	50.71
Max	73.57	63.27
Min	33.90	42.27
Median	45.10	51.13
Range of variation	39.67	21.00

In the Democracy Index, presented in Table 5, the American companies are still allocated the highest individual score, but also the lowest. Their range of variation is almost twice as high as for the European, respectively 39.67 compared to 21.00. Compared to our Corruption Risk Index, there are no significant differences in the total scores for each of the groups. This indicates that if this index would have been excluded, the results would still show that there are no significant differences between the two groups.

Ease of Doing Business Index.

Table 6: Summary Ease of Doing Business Index

	American companies	**European companies**
Sum	598.71	621.04
Arithmetic average	59.87	62.10
Geometric Average	59.50	61.86
Max	69.92	70.89
Min	48.84	50.86
Median	60.48	62.61
Range of variation	21.08	20.03

The Ease of Doing Business Index, presented in Table 6, differs from the other indexes as there is close to no difference between the two groups range of variation. The same applies when comparing the groups maximum and minimum scores as well as averages. However, the total scores are significantly higher than for the other indexes as well as for our Corruption Risk Index. Compared to our Corruption Risk Index there is a difference in the total score of 130.58 for the American group and 148.49 for the European group. Compared to the Corruption Perception Index the difference in total scores are even greater, being 243.04 for the American group and 269.38 for the European. An explanation for this could be that the Ease of Doing Business Index only evaluate the business environment and conditions for starting and doing business, and therefore does not exclusively emphasize on the level of corruption. In addition, countries are suspected to design policies in order to improve their ranking rather than improve the climate that caused a previous bad score. Consequently, a country may have received a better score than the level of corruption indicate that they should have. Although this could function as an indicator for the corruption risk one can be exposed to, the index does not necessarily reflect the real perceived level of corruption very well.

6.1.1 Top and worst rank in Corruption Risk Index.

Below, two tables present the companies with the highest, Table 7, and lowest, Table 8, score in the Corruption Risk Index. A low average score indicates high exposure to corruption risk, while a high average score indicates low exposure to corruption risk.

The five companies presented in the Table 7 below received the highest score in the Corruption Risk Index and are thus exposed to the least amount of corruption risk of the companies included in this study. As the table shows, all the top ranked companies, except one, are headquartered in the United States.

Table 7: Top Ranked Companies, Corruption Risk Index

Rank	Company	Country	SIPRI ranking	Average score
1	L-3 Communications	United States	12	57.45
2	Northrop Grumman Corp	United States	5	56.21
3	United Technologies	United States	11	53.97
4	Babcock International	United Kingdom	27	53.57
5	Huntington Ingalls Industries	United States	13	51.60

The five companies presented in the table below (Table 8) received the lowest score in the Corruption Risk Index and are thus exposed to the greatest corruption risk of the companies included in this study. In this table, four out of five companies are also American.

Table 8: Worst Ranked Companies, Corruption Risk Index

Rank	Company	Country	SIPRI ranking, 2017	Average score
16	Leidos	United States	18	43.21
17	Rolls Royce	United Kingdom	14	42.50
18	Honeywell International	United States	13	42.25
19	Lockheed Martin	United States	1	38.08
20	Boeing	United States	2	35.48

The two tables (Table 7 and Table 8) reflects the great variation between American companies, and that European companies are more clustered.

6.1.2 Conclusion on Corruption Risk Index.

Concludingly, although the Ease of Doing Business Index contributes to a higher average score and the Corruption Perception Index contributes to a lower average score for each of the groups, none of the indexes presents higher differences between the two groups. Hence, excluding one index would not affect the difference of level of exposure between American and European companies. The analysis of the Corruption Risk index and the sub-indexes show that no conclusion can be drawn. Neither of the groups expose themselves to more corruption risk than the other, as the average score in the Corruption Risk Index only differs by 0.92 points. Thus, it seems that there are no systematic differences in the exposure to corruption risk between the two groups in regard to the countries of which they operate in. Based on the Corruption Risk Index, the first hypothesis "*There is no systematic difference in exposure to corruption risk between American and European arms-and defense companies"* should be accepted.

6.2 Transparency

Hypothesis 2: *There is no systematic difference in level of transparency between American and European arms-and defense companies.*

The second hypothesis state that "*There is no systematic difference in level of transparency between American and European arms-and defense companies".* The second hypothesis can further be divided in two subcategories; anti-corruption initiatives and organizational aspects. In the Transparency Index, the companies may receive a score between 0 and 2 points for anti-corruption initiatives and a score between 0 and 1 point for organizational aspects. A high score indicates more transparency. Anti-corruption initiatives will be analyzed before organizational aspects. A conclusion on whether or not to accept Hypothesis 2 will be presented in Section 6.2.4.

6.2.1 Anti-corruption initiatives.

The anti-corruption initiatives sub-index considers eight indicators that is considered to be of importance for mitigating corruption risk. Figure 4 illustrates the differences between the American companies and the European companies and their arithmetic average score for each component. Geometric average cannot be calculated for this index due to the presence of zero-values. The dark grey line represents the American companies, and the light grey line represent the European companies.

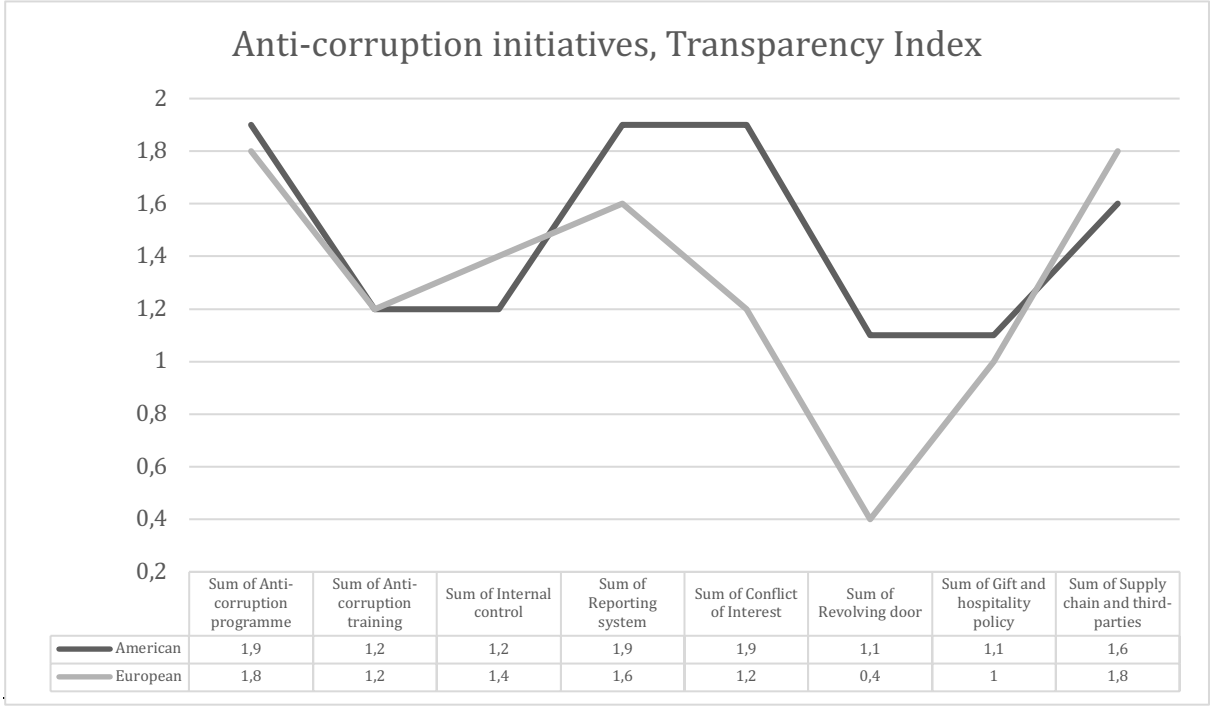


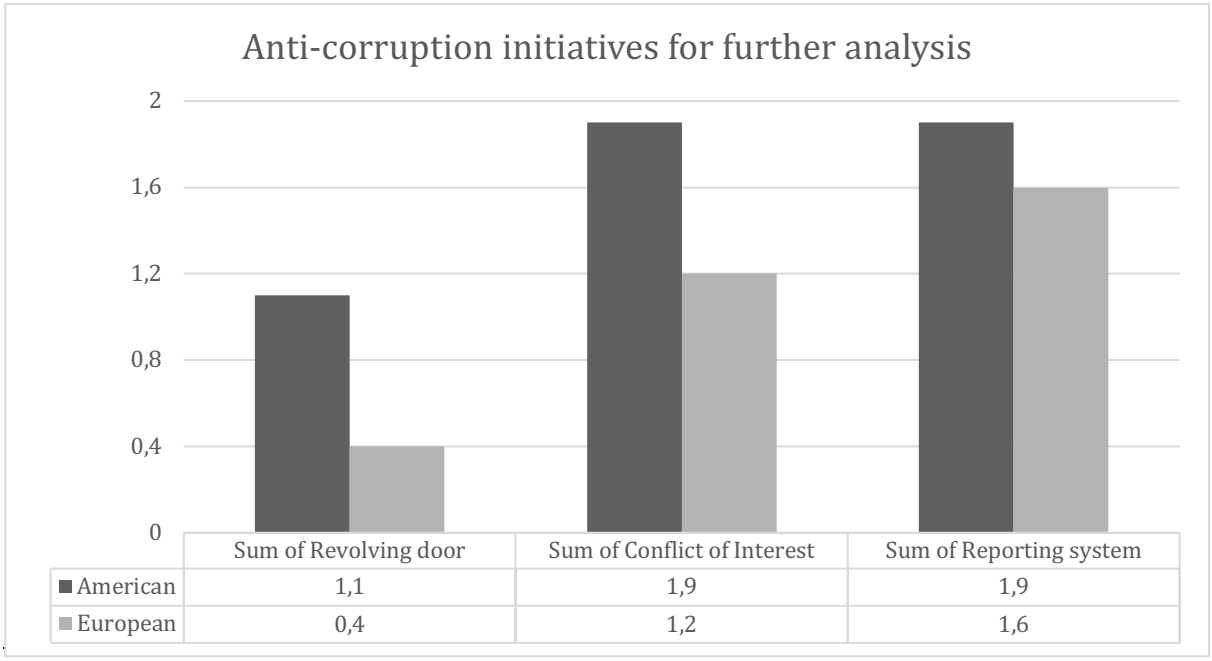
Figure 4: Anti-corruption initiatives, Transparency Index

Overall, the American companies outperform the European companies concerning disclosure and content of anti-corruption initiatives and policies with a total score of 119 compared to a score of 104 received by the European companies. Table 9 below demonstrate that the American companies also have the highest maximum score and the highest median score, while the lowest score is the same for both of the groups.

Table 9: Summary of anti-corruption initiatives, Transparency Index

	American companies	**European companies**
Sum	119	104
Arithmetic average	11.9	10.4
Max	14	13
Min	8	8
Median	12	10.5
Range of variation	6	5

Although all indicators are considered important, only the factors that presents the greatest difference between American and European companies, as illustrated by Figure 5 below, will be subject for further analysis; reporting system, conflict of interest and revolving door. Consequently, anti-corruption program, anti-corruption training, internal control, gift and hospitality policy and supply chain and third parties will not be subject to further individual analyses as the differences between the two groups are minimal. All indicators and scores can be found in the Appendix.



	Sum of Revolving door	Sum of Conflict of Interest	Sum of Reporting system
American	1,1	1,9	1,9
European	0,4	1,2	1,6

Figure 5: Anti-corruption initiatives for further analysis

Revolving door.

Performance on the Revolving door-indicator vary between American and European companies. Figure 5 above illustrates the differences between the two groups, where American companies received an average score of 1.1, while the European companies received an average score of 0.4. Only one American company received a score of 0, while seven of the European companies received this score. Thus, it seems like the American companies may have better and stricter policies regarding the hiring of previous politicians and their relatives.

Conflict of interest.

The Conflict of interest-indicator illustrates similar differences, where a higher average score is received by the American companies. The average score for the American companies is 1.9 and the average score for the European companies is 1.1, demonstrating that the American

companies, based on the information publicly available, have better policies and procedures in place to handle any actual or potential conflict of interest. In some of the European companies, a conflict of interest policy is mentioned, however, it is only directed towards high-position employees such as boards of directors and executive management.

Reporting system.

Lastly, there are some differences between the scores allocated the two groups regarding the reporting system-indicator The American companies outperform the European companies on this indicator as well, with an average score of 0.3 higher than the average score allocated the European companies. Only one European company received a score of zero where no information regarding reporting system or retaliation were available, while none of the American companies received the same score. Other differences between the scores are due to missing channels for advice-seeking and reporting systems that does not cover all jurisdictions and countries. The allocations of scores illustrates that the American companies may have more or better procedures in place for reporting unethical behavior compared to the European companies.

Top and worst rank, Anti-corruption initiatives, Transparency Index.

Below, two tables presents the companies with the highest (Table 10) and lowest (Table 11) score in the Anti-corruption initiatives sub-index of the Transparency Index. A high score indicates more transparency of anti-corruption initiatives.

The five companies presented in Table 10 are the most transparent of the companies included in this study regarding anti-corruption initiatives. As the table shows, all the top ranked companies, except two, are headquartered in the United States.

Table 10: Top Ranked Companies, Anti-Corruption Initiatives, Transparency Index

Rank	Company	Country	SIPRI ranking	Average score
1	Raytheon	US	3	1.75
2	United Technologies	US	11	1.75
3	Boeing	US	2	1.62
4	Rolls Royce	German	17	1.62
5	SAAB	Sweden	20	1.62

The companies with lowest score in the Anti-corruption sub-index of the Transparency Index are presented in Table 11 below. The table shows that these European companies have disclosed least information.

Table 11: Worst Ranked Companies, Anti-Corruption Initiatives, Transparency Index

Rank	Company	Country	SIPRI ranking	Average score
16	Rheinmetall	Germany	25	1.12
17	Safran	France	33	1.12
18	General Dynamics Corp	United States	6	1
19	Leonardo	Italy	9	1
20	Naval Group	France	19	1

As the tables illustrate, the most transparent companies in this study are American, while the least transparent companies are European.

6.2.2 Organizational aspects.

This sub-index considers five indicators; subsidiaries, political contributions, offsets, high-risk markets and intermediaries. Figure 6 illustrates the differences between the American companies and the European companies and their arithmetic average score for each indicator. Geometric average cannot be calculated for this index due to the presence of zero-values. The

American companies are represented with a dark grey line and the European companies with a light grey line. The maximum attainable score for each component is one. The higher the score, the more information were available. Consequently, a high score represents greater transparency.

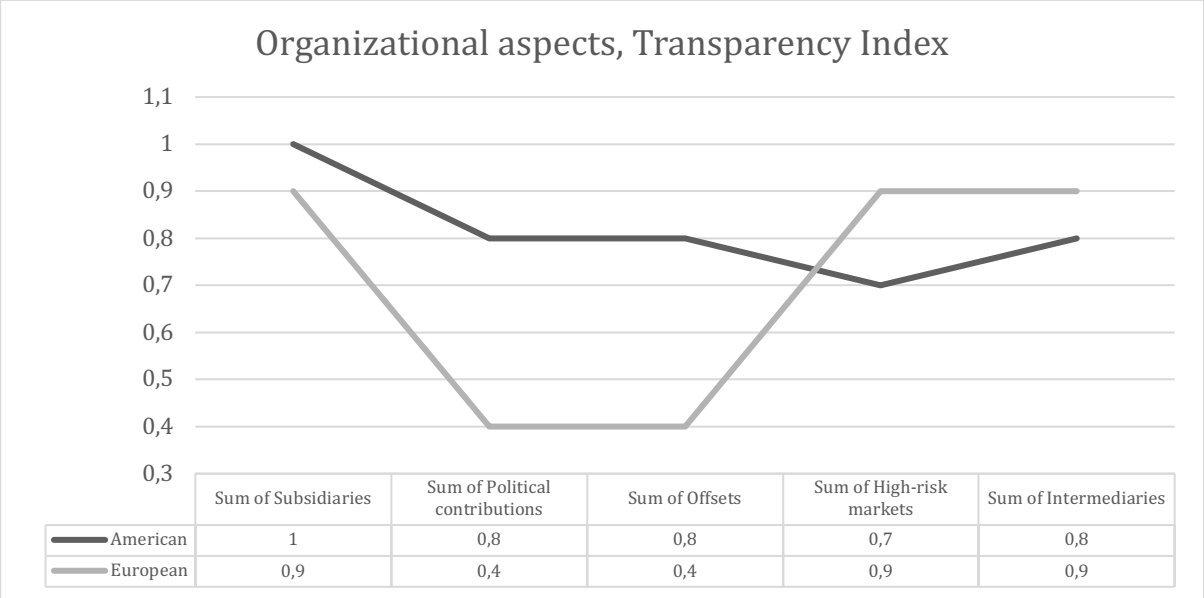


Figure 6: Organizational aspects, Transparency Index

Overall, the American companies outperform the European companies regarding transparency of organizational aspects as well, with an average score of 4.1 compared to a score of 3.5 received by the European companies. The highest total attainable score for one group is 50. Table 12 below demonstrate that the American companies have the highest minimum score and the highest median score, while the maximum score is the same for both groups.

Table 12: Summary of organizational aspects, Transparency Index

	American companies	**European companies**
Sum	41	35
Arithmetic average	4.1	3.5
Max	5	5
Min	3	2
Median	4	3.5
Range of variation	2	3

Although all indicators are considered important, only the factors that presents the greatest difference between American and European companies, as illustrated by Figure 7 below, will be subject for further analysis; Political contributions and Offsets. Consequently, Subsidiaries, High-risk markets and Intermediaries will not be subject to further individual analyses as the differences between the two groups are minimal. All indicators and scores can be found in the Appendix.

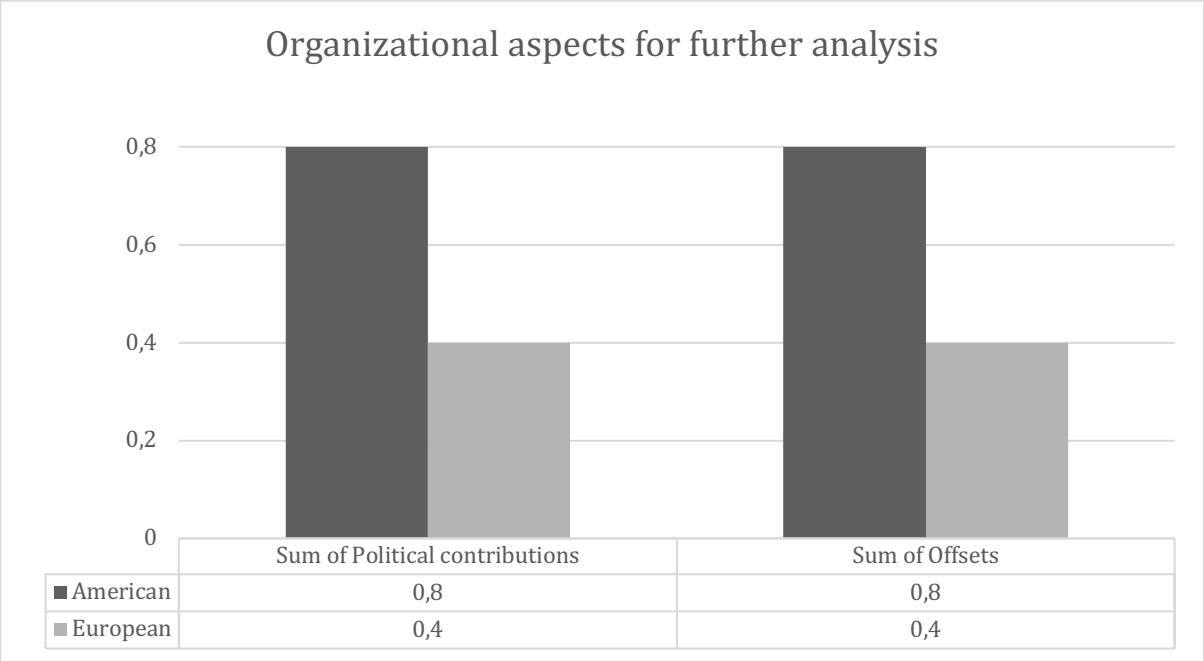


Figure 7: Organizational aspects for further analysis

Political contributions.

Performance on the political contribution component vary between the American and European companies. Figure 7 above illustrates the differences between the two groups, where American companies received an average score of 0.8, while the European companies received an average score of 0.4. Only two American companies received a score of zero, while six of the European companies received this score. Thus, the American companies disclose information regarding political contributions to a higher degree than the European companies.

While the American companies often included full reports on their political contributions or lobbying activities, the European companies seldom disclosed any information regarding these activities, reflected in their respective scores. The American companies either disclosed their own full reports or referred to governmental sites where all information could be found

regarding their political contributions, lobbying activities and their interests on political matters.

Offsets.

Performance on the offset component show yet again a higher score to the American companies. As figure 7 above illustrates, the American companies received an average score of 0.8, while the European companies received an average score of 0.4. Only two American companies received the score 0, while six of the European companies received the same score.

For this indicator, some information may have been missed or overlooked due to different wording. Several different words were used to describe offset activities by the different companies, which may have led to some companies not receiving points when they should have. In addition, we assumed that if a company did not have any offset-agreements they would explicitly state so. Thus, if we could not find any information about offset-activities in any of the public information or a statement that they did not engage in such activities, the company received a score of 0.

Top and worst rank, Organizational aspects, Transparency Index.

Below, two tables presents the companies with the highest (Table 13) and lowest (Table 14) score in the Organizational aspects sub-index of the Transparency Index. A high score indicates more transparency of organizational aspects. Thus, the companies presented in Table 13 are the most transparent of the companies included in this study regarding organizational aspects.

As shown in the table below (Table 13), the most transparent companies concerning organizational aspects are mostly American. While Lockheed Martin, Northrop Grumman Corp and Naval Group are highly transparent of their organizational aspect, they were not ranked in the top regarding anti-corruption initiatives. In fact, Naval group is ranked among the least transparent companies regarding Anti-corruption initiatives.

Table 13: Top Ranked Companies, Organizational Aspects, Transparency Index

Rank	Company	Country	SIPRI ranking	Average score
1	Lockheed Martin	United States	1	1.0
2	Raytheon	United States	3	1.0
3	Northrop Grumman Corp	United States	5	1.0
4	United Technologies	United States	11	1.0
5	Naval Group	France	19	1.0

Because several companies received the same average score in this sub-index of the Transparency Index, eight companies are listed in Table 14. One interesting finding here is that SAAB, which were ranked among the most transparent companies concerning anti-corruption initiatives, received the lowest score of all companies concerning organizational aspects.

Table 14: Worst Ranked Companies, Organizational Aspects, Transparency Index

Rank	Company	Country	SIPRI ranking	Average score
13	General Dynamics Crop	United States	6	0.6
14	L-3 Communications	United States	12	0.6
15	Huntington Ingalls Industries	Unites States	13	0.6
16	Airbus	Trans-European	7	0.6
17	Leonardo	Italy	9	0.6
18	Rheinmetall	Germany	25	0.6
19	Safran	France	33	0.6
20	SAAB	Sweden	36	0.4

As the tables illustrate, the most transparent companies in this study are American, while the least transparent companies are European. However, the tables also show that the companies

ranked as most or least transparent about Anti-corruption initiatives are not necessarily the same as the companies ranked as most or least transparent about Organizational aspects.

6.2.3 Top and worst rank, Transparency Index.

Below, two tables present the companies with the highest (Table 15) and lowest (Table 16) score in the Transparency Index. A high average score indicates high levels of transparency, while a low average score indicates low levels of transparency. Consequently, the companies with the highest scores are ranked highest in Transparency Index. Because several companies received the same average score, six companies are presented in tables.

As shown in the table below (Table 15), the most transparent companies are primarily American. Raytheon and United Technologies have been ranked highest in both sub-indexes of the Transparency Index, while the other companies are only ranked high in one of the sub-indexes.

Table 15: Top Ranked Companies, Transparency Index

Rank	Company	Country	SIPRI ranking	Average score
1	Raytheon	United States	3	1.46
2	United Technologies	United States	11	1.46
3	Lockheed Martin	United States	1	1.31
4	Boeing	United States	2	1.31
5	Northrop Grumman Corp	United States	5	1.31
6	Rolls Royce	United Kingdom	17	1.31

The least transparent companies are listed in the table below (Table 16). Except one American company, the least transparent companies are all European.

Table 16: Worst Ranked Companies, Transparency Index

Rank	Company	Country	SIPRI ranking	Average score
15	Airbus Group	Trans-European	7	1.0
16	Naval Group	France	19	1.0
17	Rheinmetall	Germany	25	0.92
18	Safran	France	33	0.92
19	General Dynamics	United States	6	0.85
20	Leonardo	Italy	9	0.85

Overall, we see that the American companies are more transparent than European companies.

6.2.4 Conclusion on Transparency Index.

The Transparency Index is two-parted and has thus been analyzed separately. However, in order to conclude on the second hypothesis, the two sub-indexes must be considered in total. In table 17 below, the total score for each group is presented. The highest attainable score for one company is 21, and the highest attainable score for one group is 210.

Table 17: Summary of Transparency Index

	American companies	European companies
Sum	160	139
Arithmetic average	16	13.9
Max	19	17
Min	11	11
Median	16.5	14
Range of variation	8	6

The Transparency Index revealed a difference in the average score of 2.1 in favor of the American companies, indicating that they are more transparent compared to the European companies. Considering that the groups may receive a maximum score of 21 points in this

index, a difference of 2.1 points is considered relatively high. The American group scores 76.2 percent of the maximum score, while the Europeans score 66.2 percent of the maximum score. Hence, the difference is considered systematic and Hypothesis 2 "*There is no systematic difference in level of transparency between American and European arms-and defense companies*" should be rejected.

7. Discussion

Chapter 6 presented the findings from both the Corruption Risk Index and the Transparency Index and concluded on whether to accept or reject the two hypotheses. Hypotheses 1 were accepted, while Hypothesis 2 were rejected;

Hypothesis 1: *There is no systematic difference in exposure to corruption risk between American and European arms-and defense companies.*

Hypothesis 2: *There is no systematic difference in level of transparency between American and European arms-and defense companies.*

This chapter will discuss the implications of the findings in light of the literature and laws and regulations.

7.1 Risk Exposure

Although there is no significant difference between the two groups, it should be noted that both groups have received a relatively low average score. Neither of the groups score above 50 on a scale that ranges from 0-100, meaning that both groups expose themselves to a high risk of corruption. The laws and regulations presented in Chapter 2 do not indicate that there should be any differences in the level of corruption risk the companies expose themselves to. This implies that there are other factors that make the companies, both American and European, inclined to operate in countries with relatively high corruption risk.

7.1.1 Political allies.

One interesting finding from the data is that Turkey appears as a country of operation for 12 out of the 20 companies included in the study, respectively five American and seven European. Turkey is ranked fairly low in the Rule of Law Index, Corruption Perception Index and The Democracy Index, while in the Ease of Doing Business Index it is ranked relatively high (see Appendix). Thus, we can characterize Turkey as a country with relatively weak rule of law, fairly weak democracy and perceived by the citizens as affected by corruption to some extent. Despite this, 60 percent of the companies included in this research choose to operate in this country. Turkey is a member of NATO, along with most of the countries where the companies are headquartered. Such organizational ties can be decisive when expanding internationally.

Further, as the literature in Section 3.4.2 explained, politics play a prominent role in the defense industries. Close political ties are one of the determinants of corruption in the arms-and defense industry, and close ties between politicians in each country might have an impact on any contracts or agreements between the company and the country of operations, regardless of the perceived level of corruption in the respective country. Depending on this relationship, the companies can experience both advantages and disadvantages. A good relationship can in some way contribute to an increased risk of corruption. The propensity to commit corruption may increase, as one may want to nurture the relationship. A close relationship between two countries may also make it more attractive for a company to operate in a specific country in the hope of more a lenient practice (Stokke, 2013). On the other hand, if the relationship has been compromised or it exists bad feelings between two governments, this could lead to the company being pressured in regard to permits or operational regulations in the country of operation.

7.1.2 Strategic aspects and obligations.

Companies may choose to operate in countries due to strategic aspects, regardless of the existing corruption risk in those countries. Strategic aspects could relate to the geographical location of the country, operational costs, or simply that it is more expedient based on the customer portfolio. Hence, as strong competition is a prominent characteristic of the arms- and defense industry, decisions to operate in a country might be entirely based on strategic reasons in the desire to gain competitive advantages. In such cases, the company is often aware of the different risks that follows and initiate precautions in order to mitigate such risk.

Offset agreements might also be an explanation for why companies choose to establish operations in a country. Such obligations may require that the company invest in the local economy, for example in order to create job opportunities for the country's inhabitants. However, as none of the companies in this study disclosed information about with whom they had offset agreements, it is hard to determine whether this could be a reason for the localization. Only one the companies included in the study, Naval Group, provided an example of an offset obligation including identifying the counterpart of the agreement.

7.1.3 Exploiting grey areas.

One may assume that companies find it tempting to operate in high-risk countries because of weak enforcement. Weak institutions present a greater risk of inefficiency or unreasonable law enforcement reactions to unlawful activities, and corporations might use this as an opportunity to secure more favorable conditions in contracts if the market is poorly protected against illegal behavior. By exploiting legal grey areas and offering bribes, companies can obtain advantages that strengthens their position in the market. Such advantages could come in the form of better deals, favorable terms or unique opportunities. Some companies may accept higher risks in exchange for other advantages such as profits and competitive advantage (Jiménez et al., 2011). Hence, companies may see such countries as an opportunity to secure competitive advantages through exploiting legal grey areas. Larger companies might not have this need, but for all we know, their market position could be a result of previously dishonest practices.

One might also be more prone to conduct corrupt activities in societies where such behavior is perceived to be the norm. If a company primarily is willing to conduct corrupt activities, it may be beneficial to operate in countries where control and authority are allocated between few people, i.e. the level of democracy is low. Further, with weak integrity systems the risk of getting caught and sanctioned is decreased. Debarment has been introduced as a type of sanction in procurement industries. However, in the arms- and defense industry where contracts are made with governments, the authority to debar a company lies with the same people who the companies conspire to be corrupt with. Procurement agencies may themselves be involved in the corrupt deals and be inclined to deviate from the debarment rules as defense deals offers lucrative payoffs. Hence, weak enforcement and integrity systems may increase organizations' inclination to act corrupt, rather than if there is strong legal enforcement.

7.1.4 Risk dependent on business culture.

The risk a company faces in a foreign country is not only dependent on the conditions in that country. Other factors may increase or decrease the company's risk of corruption, including their risk perceptions and previous experiences. A positive experience in a risky environment at a previous stage may increase the firm's propensity to engage in high-risk activities at a later stage. Thus, the experience from operating in countries where corruption risk is prominent, may give them a sense for security that they are better equipped to deal with challenges that may arise in other countries. Companies without such experience may seek to partner with local firms in order handle such challenges. However, such a partnership may itself bring about

different types of risks. Multiple researchers have tried to study the relationship between a country's culture, using Hofstede's cultural dimensions, and corporate risk-taking (Mihet, 2013; Li et al.,2013). Below, Table 18 presents the categorization of the countries according to Hofstede's cultural dimensions[22].

Table 18: Categorization of countries according to Hofstede's cultural dimensions

	High	**Middle**	**Low**
Masculinity	Germany, Italy, United Kingdom	France, United States	Sweden
Uncertainty avoidance	France, Germany, Italy	United Kingdom, United States	Sweden
Individualism	France, Germany, Italy, Sweden, United Kingdom, United States		
Power distance	France	Germany, Italy, United Kingdom, United States,	Sweden

Note. Retrieved from (Hofstede Insights, 2019)

The research by Mihet (2013) and Li et al. (2013) presented in Chapter 3 found that societies with high individualism are associated with more risk-taking, while Husted (1999) found that societies with low individualism are associated with more corruption. All the companies included in this study are headquartered in countries perceived to have high degree of individualism. Thus, the companies may accept more risk, which may be reflected in their willingness to operate in high-risk countries. However, as Husted (1999) argued, societies with lower levels of individualism are more susceptible to corruption than societies with high levels, hence, a higher willingness to take risk does not necessarily mean that they are more likely to violate laws. While Sweden differs from the other countries in terms of cultural dimensions, this is not reflected by the Swedish company, SAAB, in our Corruption Risk Index. They are

[22] A country with a score between 0 and 33 is categorized as low, while a score between 66 and 100 is categorized as high. A score between 34-65 indicates a medium degree of any of the dimensions.

ranked relatively mediocre as they received the seventh lowest score, where a low score indicates higher exposure to corruption risk.

The companies exposed to the highest risk of corruption as well as the lowest, are almost all American. The variation on the score between each American company may be reflected in their culture attitude; America are neither categorized as high nor low on masculinity, uncertainty avoidance and power distance. Although America is categorized with a medium degree of these three dimensions, this does not necessarily reflect the variation within the country's states. Hence, this may explain the variation between the American companies in the Corruption Risk Index. Furthermore, as argued by Li et al. (2013), larger company size weakens the association of culture with corporate risk-taking, indicating that the cultural attitude of the American companies may not affect their attitude towards risk-taking. We find both large and smaller companies from America in our best and worst ranked tables (Table 7 and table 8). Although previous research has focused on the cultural attitude of a country, each company may have a cultural attitude that differs from the country, which has not been taken into account in this discussion.

7.2 Transparency

Transparency is often used as a measure to mitigate corruption risk. Because of this, one can assume that companies who are exposed to higher levels of corruption risk also disclose more information and implement more initiatives to mitigate said risk. However, our Corruption Risk Index did not reveal any differences regarding exposure to corruption risk between the American and European arms- and defense companies. Consequently, this cannot be used to explain why the Americans are more transparent than the Europeans. This implies that there are other factors that may explain the differences revealed in the Transparency Index.

7.2.1 Laws, regulations and incentives for compliance.

What a company choose to disclose of information regarding compliance and financials are dependent on the company's cultural and legislative context. In Chapter 2, we included a selection of the most important international anti-corruption conventions and legislative framework. The OECD Convention, the UNCAC, the Council of Europe Convention against Corruption, the FCPA and the UKBA all apply internationally or have extraterritorial jurisdiction. Although one could expect no difference between the countries in regard to enforcement of these legislative frameworks, challenges have occurred. For example, vague

words and phrases used in the conventions opens for interpretation. Imprecisely defined terms cause each country to implement the laws slightly different from each other and may thus affect the compliance and transparency requirements each company faces.

The European Parliament and the SEC set requirements for European and American companies respectively regarding disclosure of both financial and non-financial achievements. While Directive 2015/95/EU from the European Parliament requires companies to be transparent about anti-corruption measures and policies, the SEC requires a 10-K Form where financial and organizational aspects should be disclosed. That Americans have a greater focus on sharing information on organizational aspects is reflected in Table 13: *Top Ranked Companies - Organizational Aspects*, where American companies throne at the top with four out of five companies. Furthermore, American companies are also ranked as top three companies in our *Top Ranked Companies - Anti-corruption Initiatives*, shown in Table 10. Our results are consistent with what Crane and Matten (2004) found in their study; that American companies place more emphasis on corporate code of ethics than European companies. Mele (2008) suggest that because American companies receive reduced fines for violations, they have more incentives from the government to promote codes of conduct than European companies who do not receive such incentives. This indicates that it is not necessarily legislative requirements that is the most decisive for a company's transparency.

7.2.2 Defense initiatives.

As described in Section 2.3, the companies in the arms-and defense industry are subject to additional initiatives; ATT, ASD and DII. ATT is an international initiative, while ASD is mainly composed of European companies and DII is mainly composed of American companies. BAE and Leonardo, two European companies, are members of both initiatives, while Babcock International and Rheinmetall, also European, are not members of either initiatives. Both ASD and DII have established some core principles that the member companies have agreed to follow, however, the published principles from ASD are more detailed and comprehensive. Based on the publicly available information on the two initiatives, one would expect the European companies to rank higher than the American companies in regard to transparency. However, our Transparency Index reveal the opposite. Table 15 includes the top ranked companies of the Transparency Index, which includes five American companies, and only one European. Concurrently, Table 16, showing the worst ranked companies, includes five European companies, and only one American. The Transparency

Index also indicates that the number of initiatives a company has committed to are not of significance. The mediocre rankings of BAE and Leonardo, who have committed to both initiatives, illustrates this. Furthermore, the initiatives do not seem to have a significant effect on how transparent a company is, considering that the rank of Babcock International and Rheinmetall does not stand out compared to the other companies. Although our Transparency Index indicate that such initiatives are of little importance, the principles promoted by these initiatives may be so well-established in the industry that they nevertheless contribute to more transparency.

7.2.3. Attitude towards business ethics.

The perception of what constitute as ethical or unethical behavior is also known to affect the level of compliance (Ardichvili et al., 2010). In the following discussion, we reserve the right to conclude that a company's willingness to be transparent, coincides with one's level of compliance. Langlois and Schlegelmilch's (1990) findings suggest that there is a significant difference between Europe and the United States in regard to code of ethics. Although this study was conducted several years ago, the results are consistent with our Transparency Index. Van Lujik (1990) found that Europeans are generally less optimistic about the effectiveness of corporate codes of ethics than Americans, which may explain why the level of transparency for American companies were higher compared to the European companies in our Transparency Index. Also, in line with our Transparency Index, illustrated by a low rank of the German company, Palazzo (2002) found that German companies are less inclined to introduce codes of conduct than American companies. Langlois and Schlegelmilch's (1990) further concluded in their study that there are differences between the European countries. Ardichvili et al. (2010) argues that differences in regard to business ethics between European countries are a result of cultural conditions, regardless of continental belonging. Specifically, they pointed to how Italy scored lower on ethical conduct compared to other European countries. This is also illustrated in our Transparency Index, where the lowest ranked company is Italian. According to Enriques and Volpin (Enriques & Volpin, 2007)(2007), the governance structure in Italy is heavily influenced by family ownership, which is associated with breaches of ethical business behavior in many cases (Negrelli & Pulligáno, 2008). Conduct other European countries would typically classify as nepotism, are often considered to be well within the ethical standards in Italy. As their main concern is to make profit (Gond, Palazzo, & Basu, 2009), other factors, such as ethical behavior, may come secondary. This, along with a heavily family-

influenced business environment might explain why Leonardo received the lowest score in the Transparency Index.

Several studies (Au, 1991; Arnold et al., 2007; Bernardi et al., 2003; Husted, 1999) have used Hofstede' cultural dimensions as explanation for differences in perceptions of ethics across countries (see Table 18 for the cultural categorization of the countries). Some studies (Arnold et al., 2007; Bernardi et al., 2003) have found that when individualism increases, unethical actions are perceived to be more acceptable. This was also found for high level of masculinity (Husted, 1999). High levels of uncertainty avoidance, however, are associated with higher levels of ethical behavior. Thus, we can assume that companies from individualistic or masculine countries disclose less information than companies from countries with high levels of uncertainty avoidance. These results are not consistent with our findings. Thus, Hofstede's cultural dimensions does not help to explain the differences found in our Transparency Index.

Lastly, Adams et al. (1998) found that larger companies in Europe are more likely to disclose all types of corporate social information. These findings can easily be generalized, and thus be applicable to companies outside Europe as well. That larger companies disclose more information are consistent with our findings. As illustrated by Table 15 and Table 16 the highest-ranking companies tends to be the largest companies, while the lowest ranked companies also tend to be the smaller companies.

7.2.4 Window dressing.

The results from our Transparency Index reveals that the companies have a relatively high degree of transparency. Still, we cannot conclude as to whether these results are properly implemented or if the information is disclosed in an act of window dressing. Without the opportunity to observe the business culture or conduct in-depth interviews with employees of the firm, it is impossible to say if the anti-corruption initiatives, training and other measures are implemented properly. While a sincere compliance program may help reduce corruption risk, even for companies operating in high-risk countries (Keig et al., 2015) a poorly implemented program may reduce employees' commitment to ethical behavior and can thus have a counteractive effect. Such programs can be a result of external pressure, for instance a demand for a more effective compliance program after misconduct or a desire to seem legitimate to the public. Furthermore, programs implemented as an insurance to reduce the risk

of corporate liability will not necessarily have an effect on the employee's behavior unless it is fitted to the corporation, their areas of risk and their internal needs.

Conclusively, both greater transparency and the disclosure of anti-corruption programs may present as a legitimate purpose of acting ethical or be the result of window dressing. Hence, a conclusion that the American companies acts more ethical or have implemented better procedures to reduce the exposure to corruption risk would be ignorant, as one cannot conclude that disclosing more information is the same as implementing better procedures. Furthermore, being more transparent and disclosing more information does not deter corruption if the initiatives and policies are not properly implemented.

7.3 Conclusion on Research Question

> *"Is there a systematic difference between American and European arms- and defense companies regarding exposure to corruption risk?"*

The findings in the Corruption Risk Index imply that there is no significant difference between the American and the European companies regarding their exposure to corruption risk. Still, the scores allocated to each group were quite low, indicating a relatively high exposure to corruption risk. Some would argue that a high exposure to corruption risk increases the likelihood of a company to be involved in or participate in corruption. However, one cannot conclude that companies participate in corrupt acts based on the level of corruption risk they are exposed to, only that they have a greater probability of encountering corruption related challenges.

Furthermore, the Transparency Index revealed that the American companies disclosed more information overall compared to the European companies. High levels of transparency may indicate more ethical behavior and less secrecy. Also, researchers have found that companies who are willing to disclose more information and who have higher quality internal governance features tend to have lower levels of corruption risk (Krishnamurti et al., 2016). Even though transparency is known to mitigate corruption risk, it is outside the scope of this thesis to conclude whether the companies make an effort to properly implement the initiatives and programs they have disclosed, or whether the initiatives are symbolical programs adopted in order to appear more transparent and legitimate.

Primarily, there is no systematic difference regarding exposure to corruption risk between American and European arms- and defense companies when considering the markets' they operate in. However, because the American companies disclose more information and are more transparent than the European companies' we can conclude that there is a, albeit small, systematic difference regarding overall exposure to corruption risk between the two groups. With basis in the laws and regulations presented in Chapter 2, the literature in Chapter 3, we identify several factors that might explain the difference. Attitude towards business ethics seems to be the best explanatory factor for why there is a difference. We recognize that the observable differences may also be explained by factors not included in this thesis.

8. Conclusion

This chapter presents a short summary of the thesis, along with a normative discussion where our own thoughts on corruption in the arms- and defense industry is presented. Lastly, suggestions for further research are included.

8.1 Summary

Each year hundreds of billions of dollars are transferred internationally due to trade from the arms- and defense industry (Tian et al., 2018). The US and Russia have been by far the largest suppliers since the 1950s, and together with mostly Western-European countries, they have dominated the top ten list of major arms exporters. The arms- and defense industry is surrounded by secrecy, politics, technically complex contracts and high value products, which is all factors perceived to increase the level of corruption risk in an industry (Loughman & Sibery, 2012). Over the years, several of the largest arms- and defense companies have been investigated for being involved in major corruption related cases.

The objective of this research has been to explore American and European arms- and defense companies' exposure to corruption risk across continents, as well as their willingness to publicly disclose relevant information. The literature contributed with a framework for the thesis, including clarifying what corruption is, the determinants of corruption in the arms- and defense industry and the legislation and regulations at place to hinder such acts. Further, two indexes were created in order to perform an uncomplicated comparison of American and European companies; a Corruption Risk Index and a Transparency Index. The top ten companies from each continent were chosen from SIPRI's Arms Industry Database 2017.

The Corruption Risk Index measured the companies' exposure to corruption risk based on their countries of operations. Four international indexes measuring governance, democracy and corruption were combined in order to comprehend the corruption risk they are exposed to. The four indexes included were The Rule of Law Index, The Corruption Perception Index, The Democracy Index and The Ease of Doing Business Index. The Transparency Index measured the companies' willingness to disclose information regarding their anti-corruption initiatives and organizational aspects. The indicators included in the Transparency Index are identified in the literature as factors important for mitigating corruption risk as well as creating legitimacy

and trust. The companies were scored on the basis of information disclosed publicly, including annual reports, financial reports, policies, and initiatives.

The findings in the Corruption Risk Index imply that there is no significant difference between the American and the European companies regarding their exposure to corruption risk. Still, the scores allocated to each group were quite low, indicating a relatively high exposure to corruption risk. Furthermore, the Transparency Index revealed that the American companies disclosed more information overall compared to the European companies. High levels of transparency may indicate more ethical behavior and less secrecy. Even though transparency is known to mitigate corruption risk, it is outside the scope of this thesis to conclude whether the companies make an effort to properly implement the initiatives and programs they have disclosed, or whether the initiatives are symbolical programs adopted in order to appear more transparent and legitimate.

8.2 Normative Discussion

As a part of our concluding remarks, we put forward some thoughts that we believe are important for combating corruption in the arms-and defense industry. We are fully aware that several of these challenges are not easily to overcome, and that they will require patience and persistence.

In Chapter 2 we presented legal framework, regulations and initiatives perceived as important for tackling corruption on both a general basis, but also within the arms- and defense industry. The legal framework for anti-corruption is already harmonized to a large extent internationally, however there is a lack of regulations which addresses this industry specifically. As of today, getting an overview of which laws and regulations that is applicable for this industry, and where they apply, is not easy. Thus, it exists a need to coordinate and harmonize these regulations across borders and organizations.

Another challenge within this industry is that a lot of secrecy is argued with national security. We recognize that there are genuine national security concerns that require secrecy in the industry, but we also believe that this argument often is used as a cover for illegal payments and other corrupt activities. Hence, there should exist a clearer distinction of what is necessary to be kept secret due to national security and what is not. As an example, defense procurement is generally not conducted as openly and transparently as other types of public procurement as

a result of the sensitive nature of military and military material information. However, the result of the process should be required to be publicly available when possible, to increase transparency as to why one contractor was chosen above another and who made the decision. We believe that more transparency within this industry could break the loop Holden et al. referred to where "national security provides the secrecy necessary for corruption to be encouraged, while corruption increases the need for secrecy to prevent detection" (Holden et al., 2016, p. 124).

More transparency in the industry and more regulations will in our opinion not have the desired effect unless paired with a change in attitude in the companies. The senior management of the companies in the industry needs to lead by a good example regarding ethical standards and values and inspire other employees to commit to the same values and behavior. If employees are witnesses to or involved in unethical behavior by a senior manager, he or she will probably be more inclined to behave in similar ways. The companies should develop a corporate culture where this inclination is reduced and implement compliance programs which supports and promote ethical behavior. Employees should further be exposed to situations were challenges may appear and receive adequate training on how to handle such situations without resorting to unethical behavior. Employees should be encouraged to question and report unethical behavior. Important decisions should be made in a bureaucratic manner, in order to distribute power and give more people the opportunity to doubt or criticize possible unethical behavior. Moreover, companies must assure all employees that such questioning is safe and without consequences. Reporting systems should hence be available to all employees in all jurisdictions. Such a reporting system should also be available for the public, as individuals outside the companies might also have information to report regarding activities conducted on behalf of the company.

Lastly, we believe that more awareness of corruption and the consequences of such behavior should be enhanced in the public. More awareness in the public may put additional pressure on the companies because the public pays more attention to what the companies do, demands more disclosure of information regarding their operations, and expect them to behave according to set regulations. Such pressure has proven to be extremely effective in other situations. An example of this is the civil society movement regarding environmental consciousness and sustainability, which has led several companies to redesign their business models in order to adapt to their customers' demands.

We believe these measures can prove effective in the fight against corruption, and lead way towards a more trustworthy and open industry.

8.3 Further Research

We would like to propose some suggestions for further research regarding the subject of corruption in the arms- and defense industry. There exists a great need for more empirical work on this issue. One thing that would have been interesting to explore, is whether there is a connection between which companies who have been convicted of corrupt acts and which companies who have a higher degree of transparency. Further, it would have been interesting to investigate the historical level of transparency in the industry. An example of a question here could be whether there is a difference between the companies' level of disclosure of information now and ten years ago. Furthermore, research can be done to understand how much structure that is needed regarding international laws and conventions for an initiative to have pleasing results. Our research was limited to ten companies in two continents. It would be possible to conduct the same research for a larger sample size or include companies from several continents.

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Appendix

Transparency Index – Anti-corruption Initiatives

Transparency Index - Anti-corruption initiatives			
Indicators		**Points**	**Criteria**
1.	Anti-corruption program	0	The company has no publicly available information regarding an anti-corruption program. Or, no mention of whom it applies to or any evidence of commitment to anti-corruption initiatives/standards by senior figures.
		1	An anti-corruption program is published. However, it is weak or lacking in some way, for example; • Does not apply to all groups of employees (employees, staff, leadership, board members, non-executive directors of both parent-and daughter companies); • Missing a zero-tolerance policy / information on the company's stance against corruption; • Not authorized/supported by a senior figure (i.e. CEO, President and Chairman).
		2	The anti-corruption program is publicly available in full describing the company's commitment to anti-corruption. It presents examples of corruption, such as bribery, payments to public officials, commercial bribery and/or facilitation payments. It explicitly states that it applies to all employees.
2.	Anti-corruption training	0	The company has little, or no, publicly available information regarding anti-corruption training for all categories of employees (i.e. employees in high risk positions, board members, middle management and others)
		1	The company provides a training module which outlines the basic principles of the anti-corruption program. However, it is lacking in some way. For example; • It is not differentiated between high-risk positions and low-risk position; • It is unclear how often it is updated.
		2	The company provides anti-corruption training to all categories of employees. The training is fitting for all divisions and positions, differentiated based on risk-positions, and available in appropriate languages. Specifically states how often training is refreshed.

3.	Internal control	0	There is no evidence or not explicitly stated that the company reviews its anti-corruption program, or how often reviews are conducted.
		1	There is evidence that the company conducts reviews on its anti-corruption program. However, it is lacking in some way. For example; • There is no evidence that the program is updated based on these findings; • It is unclear how often these reviews are conducted; • It is unclear whether the board/relevant committee is updated or informed on the findings.
		2	There is evidence that the company conducts reviews on its anti-corruption program and updates the procedure on the basis of these results. The company commits to conducting these reviews on a regularly basis and present the results to the board/relevant committee.
4	Reporting system	0	The company does not have a publicly available policy of whistleblower options that applies company-wide.
		1	The company has some whistleblowing and reporting channels, but they fall short in some way. For example; • Confidential reporting not possible; • Whistleblower channel, but no channels for advice-seeking; • The channels are not explicitly available to all employees in all jurisdictions, or in multiple languages; • No clear non-retaliation policy.
		2	The company provides multiple channels for reporting and whistleblowing and promotes a clear non-retaliation policy against both whistleblowers and/or employees that report any incidents of corruption. They also provide channels for employees to seek advice on the anti-corruption program. The channels allow for confidential and when possible, anonymous reporting, and are available and accessible for all employees in all jurisdictions where the company operates.
5.	Conflict of interest	0	No evidence of a clear conflict of interest policy as part of the anti-corruption program or evidence of procedures to manage conflict of interest.
		1	The company presents a policy that addresses conflicts of interest; however, it is lacking in some way. For example; • There is lacking a clear definitions and guidelines on how to identify situation; • There is lacking a procedure on how to manage such situations; • The policy does not address the corruption risks related to conflict of interest.
		2	The company has a clear policy that defines conflicts of interests, and presents procedures on how to identify, declare and manage actual, potential and perceived conflicts of interest and addresses this issue as a corruption risk.

6.	"Revolving door"	0	There is little, or no, public evidence of a company policy regarding the employment of current or former public officials, or people in close relations to such officials.
		1	The company has a policy that addresses the risks associated with the employment of public officials. However, the policy is lacking in some way. For example; • The policy does not include any specific control to assess and regulate the employment of current or former public officials. • The policy does not assess any relations of such public officials (i.e. daughter, son, nephew etc).
		2	The company presents a clear policy regarding employment of current or recent public officials, which includes a thoroughly definition of situations that could result in a potential conflict of interest and routines for assessing and regulating such employments.
7.	Gift and hospitality policy	0	There is no public evidence of a gift and hospitality policy.
		1	The company has a publicly available gift and hospitality policy; however, it is lacking in some way. For example; • The policy does not address the risks associated with giving/receiving gifts; • The company does not mention a gift register; • Do not specify a financial threshold.
		2	The company has a clear and publicly available gift and hospitality policy and mentions a gift register. The policy also specifies risks associated with gifts and hospitality, either received or given, including a financial threshold.
8.	Supply chain and third parties	0	There is no evidence that the company programs also apply to suppliers and other third parties, or the company does not set any requirements to their suppliers and third parties regarding anti-corruption and ethical guidelines.
		1	The company states that suppliers and other third parties also are subject of their anti-corruption program or has to meet the requirement set to anti-corruption practices, but this is weak or lacking in some way. For example: • It is unclear how the company does this in practice; • Due diligence is only conducted on some of the suppliers/third parties or not repeated.
		2	The company has clearly stated that their programs also apply to their suppliers and other third parties, and there is evidence that they have conducted a thoroughly due diligence regarding the ethical guidelines and anti-corruption initiatives of their suppliers and other third parties. There is evidence of anti-corruption clauses in contracts with suppliers or other third parties.

Transparency Index – Organizational aspects

Transparency Index - Organizational aspects			
Indicators		**Points**	**Criteria**
1.	Subsidiaries	0	There is no, or little, public record of the company's subsidiaries.
		1	The company provides a full list of all required information regarding their subsidiaries. For example, the list might include which countries the subsidiaries are incorporated.
2.	Political contributions	0	No, or little information on lobbying aims, topics or activities, lobbyist or lobbying expenditure
		1	The company publishes details of all lobbyist and lobbyist expenditures and the company's topics on which they lobby, including the importance/relevance to the company and shareholders. Information is updated according to the last financial year. Or, the company explicitly states that it does not conduct in lobbying activities in the specific period.
3.	Offsets	0	No, or little, information regarding its offset's obligations and/or contracts, including risk-analysis or anti-corruption due diligence on the offset obligations on its website or in the annual report.
		1	The company provides a detailed list of its offset obligations and contracts. There is evidence and information about anti-corruption due diligence, its procedure and results. Or, the company addresses the corruption risks associated with offset contracting by explicitly stating that they do not engage in offset obligations and contracts.

4.	High risk markets	0	The company does not address the corruption risks they are exposed to in different markets in any way.
		1	There is evidence that the company has conducted due diligence regarding corruption risks and has taken measures to mitigate such risks.
5.	Intermediaries	0	The company does not publish any details regarding the use of agents or other third parties used to conduct business
		1	The company provides detailed information regarding their policy of use of intermediaries. The policy regards all subsidiaries and joint ventures. Or, the company clearly states that they do not use agents/intermediaries to conduct business, due to the associated corruption risks.

Corruption Risk Index Results

	Companies	Countries	Adjusted RoL	Adjusted CPI	Adjusted DI	Adjusted WB DB	Arithmetic avg.	Geometric avg.
American								
1	**Lockheed Martin**	Afghanistan, Egypt & Turkey	37,33	29,00	35,97	53,98	39,07	38,08
2	**Boeing**	Afghanistan, Egypt & Pakistan	36,33	26,33	33,90	48,84	36,35	35,48
3	**Raytheon**	Egypt, Lebanon & Turkey	41,67	33,33	43,20	59,91	44,53	43,54
4	**Northrop Grumman Corp**	India, Italy & Turkey	53,00	43,33	66,97	64,90	57,05	56,21
5	**General Dynamics Corp**	China, Mexico & Russia	47,33	33,00	42,27	69,92	48,13	46,35
6	**L-3 Communications**	Brazil, India & Italy	57,00	42,33	73,57	61,35	58,56	57,45
7	**United Technologies**	China, Poland & Turkey	53,00	47,00	48,83	69,76	54,65	53,97
8	**Huntington Ingalls industries**	Afghanistan, South Korea & Trinidad and Tobago	54,00	36,67	58,63	61,05	52,59	51,60
9	**Honeywell International**	Egypt, Nigeria & Turkey	40,67	33,00	42,27	56,15	43,02	42,25
10	**Leidos**	Afghanistan, Greece & Pakistan	44,33	31,67	47,00	52,85	43,96	43,21
European								
1	**BAE Systems**	Egypt, India & Turkey	43,33	37,33	51,57	59,70	47,98	47,24
2	**Airbus Group**	El Salvador, Nigeria & Turkey	44,67	33,33	52,50	57,61	47,03	46,07
3	**Leonardo**	China, India & Turkey	48,00	40,33	50,70	62,25	50,32	49,72
4	**Thales**	Mexico, Pakistan & Turkey	42,00	33,67	51,83	63,75	47,81	46,49
5	**Rolls Royce**	Bangladesh, Myanmar & Turkey	41,67	32,67	47,13	50,86	43,08	42,50
6	**Naval Group**	Colombia, Egypt & Indonesia	46,00	35,33	54,73	63,03	49,77	48,66
7	**Rheinmetall**	Mexico, Russia & Turkey	44,67	32,67	48,20	70,89	49,11	47,25
8	**Babcock International**	Brazil, South Africa & Zambia	51,67	40,00	63,27	62,97	54,48	53,57
9	**Safran**	China, Mexico & Russia	47,33	33,00	42,27	69,92	48,13	46,35
10	**SAAB**	Kenya, Pakistan & Turkey	42,00	33,33	47,50	60,06	45,72	44,70

Transparency Index Results– Anti-Corruption Initiatives

	Companies	Anti-corruption programme	Anti-corruption training	Internal control	Reporting system	Conflict of Interest	Revolving door	Gift and hospitality policy	Supply chain and third-parties	TOTAL	AVERAGE
American											
1	**Lockheed Martin**	2	2	1	1	2	1	1	2	**12**	**1,50**
2	**Boeing**	2	2	2	2	2	1	1	1	**13**	**1,63**
3	**Raytheon**	2	2	2	2	2	1	1	2	**14**	**1,75**
4	**Northrop Grumman Corp**	2	1	1	2	2	1	1	2	**12**	**1,50**
5	**General Dynamics Corp**	1	1	0	2	2	0	1	1	**8**	**1,00**
6	**United Technologies**	2	2	1	2	2	2	1	2	**14**	**1,75**
7	**L-3 Communications**	2	0	1	2	2	1	1	2	**11**	**1,38**
8	**Huntington Ingalls industri**	2	1	2	2	1	1	1	1	**11**	**1,38**
9	**Honeywell International**	2	0	0	2	2	2	2	2	**12**	**1,50**
10	**Leidos**	2	1	2	2	2	1	1	1	**12**	**1,50**
European											
1	**BAE Systems**	2	2	1	2	2	0	1	2	**12**	**1,50**
2	**Airbus Group**	2	1	1	2	1	1	1	1	**10**	**1,25**
3	**Leonardo**	1	1	1	1	1	0	1	2	**8**	**1,00**
4	**Thales**	2	1	2	1	2	0	1	2	**11**	**1,38**
5	**Rolls Royce**	2	0	1	2	2	2	2	2	**13**	**1,63**
6	**Naval group**	2	1	1	2	0	0	1	1	**8**	**1,00**
7	**Rheinmetall**	1	2	1	2	1	0	0	2	**9**	**1,13**
8	**Babcock International Grou**	2	1	2	2	1	0	1	2	**11**	**1,38**
9	**Safran**	2	1	2	0	1	0	1	2	**9**	**1,13**
10	**SAAB**	2	2	2	2	1	1	1	2	**13**	**1,63**

Transparency Index Results- Organizational Aspects

	Companies	Subsidiaries	Political contributions	Offsets	High-risk markets	Intermediaries	SUM	Average
American								
1	**Lockheed Martin**	1	1	1	1	1	**5**	**1**
2	**Boeing**	1	1	0	1	1	**4**	**0,8**
3	**Raytheon**	1	1	1	1	1	**5**	**1**
4	**Northrop Grumman Corp**	1	1	1	1	1	**5**	**1**
5	**General Dynamics Corp**	1	1	1	0	0	**3**	**0,6**
6	**United Technologies**	1	1	1	1	1	**5**	**1**
7	**L-3 Communications**	1	0	1	0	1	**3**	**0,6**
8	**Huntington Ingalls industries**	1	0	1	0	1	**3**	**0,6**
9	**Honeywell International**	1	1	0	1	1	**4**	**0,8**
10	**Leidos**	1	1	1	1	0	**4**	**0,8**
European								
1	**BAE Systems**	1	0	1	1	1	**4**	**0,8**
2	**Airbus Group**	1	0	0	1	1	**3**	**0,6**
3	**Leonardo**	1	0	0	1	1	**3**	**0,6**
4	**Thales**	1	0	1	1	1	**4**	**0,8**
5	**Rolls Royce**	1	1	0	1	1	**4**	**0,8**
6	**Naval group (Previously DCNS)**	1	1	1	1	1	**5**	**1**
7	**Rheinmetall**	1	0	0	1	1	**3**	**0,6**
8	**Babcock International Group**	1	1	0	1	1	**4**	**0,8**
9	**Safran**	1	1	1	0	0	**3**	**0,6**
10	**SAAB**	0	0	0	1	1	**2**	**0,4**