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The Defense Industry; Controversial but Profitable

A bachelor's thesis on the returns and institutional investors' view of
the defense industry

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Abstract

The defense industry is seen as a highly controversial but profitable business sector. However, with investors and scholars increasing awareness of social and ethical responsibility, part of the industry is often excluded from investment portfolios and CSR studies. To investigate the profitability of the industry we conducted a financial analysis and several interviews with major Swedish investors. For the financial analysis we constructed a defense portfolio, consisting of twenty major defense companies, and compared its return over a fifteen-year period with a neutral manufacturing and an ethically screened portfolio. Our result presents the much in demand *alpha* with a strong significance for the defense portfolio as well as a higher return and Sharpe ratio compared to the other portfolios. Furthermore we found that Swedish financial institutions see many troublesome aspects when assessing the defense industry's ethical profile but above all it is the nature of its products that result in the sector's partial exclusion.

Keywords

Responsible investment, unethical investment, ethical guidelines, defense industry.

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” This conjunction of an immense military establishment and a large arms industry is new in the American experience. The total influence — economic, political, even spiritual — is felt in every city, every statehouse, every office of the federal government. We must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military–industrial complex. The potential for the disastrous rise of misplaced power exists, and will persist. We must never let the weight of this combination endanger our liberties or democratic processes.”

- President Dwight D Eisenhower in his farewell address, January 16, 1961.

1. Introduction and Background

1.1 Introduction

War profiteering and the influence of the military industrial complex has been a continuing ethical discussion over the last decades, more so than ever now in light of the ongoing *Saudi Crisis* in Swedish politics. The reluctance of the Swedish government towards prolonging the military cooperation with their Saudi counterpart once again sparked a heated debate concerning the relationship between ethics and profits. Major investors and business leaders of large corporations in Sweden saw it as a possibly costly mistake for Swedish exports, with 31 CEOs from the absolute top layer of the Swedish business sector signing a petition in an attempt to sway the decision towards a prolonging. Claiming that a failure to honor the agreement would jeopardize Sweden’s credibility as a trade partner (Dagens Nyheter , 2015). Human rights activists on the other hand saw it as a victory for peace, democracy and humanitarianism (Svenska Freds, 2015).

Companies and investors are being increasingly assessed by their ethical and social standpoint. The corporate social responsibility, particularly among big businesses, plays a major role in the way customers and investors perceive the businesses they consider

investing in (Jutterström and Norberg, 2013). This should especially be of concern for the defense industry where there are plenty of ethical questions posed in regards to their production and sales.

New investment policies like *the Social Responsible Investing* (SRI) method, which take ethical guidelines and social norms into consideration, accounts today for over ten percent of all investments in the United States (Chamberlain, 2013). Recent studies shows that all forms of SRI are gaining in popularity in Europe as well, for example seven out of ten Swedish citizens would like their pension funds to be invested in a socially responsible manner (Söderberg and Partners, 2015).

1.2 Background

Hong and Kacperczyk (2009) define an investment in the alcohol, tobacco or gambling sector as an unethical investment. They define every investment outside these sectors as an ethical investment. Their study argues that big institutions like banks, universities, insurance companies and pension funds are less likely to invest in these unethical sectors due to the public scrutiny and supervision these institutions are under. These institutions place a higher emphasis on certain ethical guidelines and social norms instead of just prioritizing maximal profits.

Private investors are not under the same scrutiny as the financial institutions and therefore can invest in these sectors without having to publicly announce or justify it. The study shows that the average company has approximately 28 percent of equity held by institutional investors, while unethical companies have an average of 23 percent of their stocks held by institutions. That strengthens the theory that the individual investor is not assessed in the same way and therefore more likely to invest in unethical industries (Hong and Kacperczyk, 2009).

As large part of the society avoids investing in unethical companies their stocks are undervalued, as a result of this Hong and Kacperczyk (2009) argues that from a corporate

view, all unethical companies should finance through debt instead of equity. The reason for this is that the debt market is much more transparent compared to the equity market, therefore unethical companies generally have a higher debt ratio than other companies. Their conclusion of the study is that unethical stocks give an excess return because of the social norms that prevents big institutions from investing in these sectors.

An earlier study made by **Merton (1987)** drew the same conclusion later made by Hong and Kacperczyk (2009) but have some further explanations for the excess return of unethical stocks. The social norms in society make unethical stocks less attractive according to Merton (1987), which makes them undervalued and therefore delivers an excess return. Furthermore, the high risk of legal prosecution and lawsuits in these unethical sectors leads to a higher risk and therefore investors expect to get compensated with a higher return.

Fabozzi (2008) also defines the pornography, biotech and weapon industry as unethical as well as those previously mentioned by Hong and Kacperczyk (2009). Fabozzi (2008) argues that the world is deeply divided in its view of what is unethical and he also support the conclusion put forward by Hong and Kacperczyk that unethical companies get a lower valuation compared to businesses with ethical investments.

Fabozzi (2008) also discusses the upsides and downsides of operating in an unethical sector. There is a certain headline risk, where a news story can affect the company in a negative way. For example when an arms company are found to have delivered weapons to a government deemed illegitimate by the UN or whenever research reveals new dangers of alcohol and tobacco thus creating major headlines. There is also an upside with being an unethical company, in the sense that monetary barriers to enter these sectors are often so high that it is often a monopoly or oligopoly business.

While Merton (1987) and Fabozzi (2008), Hong & Kacperczyk (2009), all agree on the excess return of unethical stocks, the research by **Kempf & Osthoff (2007)** draw the

conclusion that an ethical investment, defined as a SRI is more profitable, therefore contradicting the ideas put forward by previously mentioned studies.

SRI got a momentum in the seventies, during the Vietnam War, as a response to the controversy around the armed conflict (Cooper, Lott, Lorwy 2001). Many investors boycotted arms manufacturers and other businesses related to the defense industry. For example, the shareholders of Dow Chemicals, at the time the largest manufacturer of napalm, rapidly dropped from 95 000 to 90 000 as a demonstration against the US war effort (Brandt, E.N 1997).

Kempf & Osthoff (2007) examines the different investment techniques used by investors in relation to SRI.

Negative Screening is when the investor exclude certain stocks from its portfolio because the stock is not ethical justifiable according to the SRI framework.

Positive screening is when the investor actively chooses to invest in stocks that satisfy the social responsibility criteria such as community, diversity, employee relations, environment and human rights. There is also a technique called *best in class* that combines the positive screening with a diversified portfolio both geographically and in line of business.

These investment methods will help the investor to get a maximum return while still taking an ethically and socially responsible approach in its investments. Both the *positive screening* and *best in class screening* get an excess return but not the *negative screening* method according to Kempf & Osthoff (2007).

1.3 Problem Discussion

The defense industry, labeled by many Swedish investors as unethical (Söderberg & Partners 2015) also has certain characteristics that make it an attractive investment from a financial standpoint. According to an article by **L. Thompson (2012)**, the defense industry is assumed not to rise and fall in accordance with the commercial business cycle. There are patterns of a counter-cyclical behavior, as events that put pressure on the regular market tend to stimulate the defense industry, this combined with the perk of being “a long-cycle business in which the full impact of government decisions often takes the better part of a decade to play out” (L. Thompson, 2012), make defense companies a solid risk reducer in an investment portfolio. Forward transparency in form of the way that federal budgeting processes work, as governments in general and the US government in particular is essentially the actors that make up the entire market, is another attraction for the risk evasive investor (L. Thompson, 2012).

When considering American defense companies, part of the world’s by far largest domestic arms sector, the comfortableness of political protection can be added to the list of benefits. The Pentagon is relatively insensitive to price fluctuations and always tries to protect jobs within the sector, add to this the security concerns and cultural barriers in place that effectively keeps most foreign competition away from the market and you find an industry that “is insulated from market forces in a way that few other industries can ever hope to be” (L. Thompson 2012)

In 2007 a student from the Paris-Dauphine University published his study “*Sin stock returns over the Business Cycle*”, that investigate how recession proof unethical stocks in the alcohol, tobacco and gambling sectors have performed historically. The study showed that the alcohol and tobacco industry is much more recession proof compared to neutral business sectors while their were no distinct pattern in the gambling industry and therefore perceived as not being recession proof (Salaber, 2007).

With reference to the earlier studies made about the undervaluation and excess return of unethical stocks, we would like to find out in this thesis if the defense industry delivers an excess returns for its investors, and if we can strengthen the perception of investing in the defense industry being an recession proof investment.

We will construct a portfolio of twenty defense companies that will represent the defense industry. We will also compare it with a neutral portfolio and an ethically screened portfolio using positive and best in class screening. To find more interesting and reliable conclusions we will conduct several interviews with representatives from major Swedish financial institutions in order to pinpoint their view on excluding versus investing in the defense industry.

How has defense industry stocks performed versus its neutral manufacturing and ethical counterpart during the last fifteen years?

What are the potential reasons behind the results, and in that case can our economic models explain the differences?

1.4 Aim

The aim of this study is to determine if the defense industry offers higher returns for its investors than ethically neutral businesses and to what factors this difference can be attributed.

1.5 Limitations

We limited our research to Swedish investors and tried to conclude what they regard as ethical acceptable. This national limitation is due to our perception of that what is ethical in one country can differ widely from another. A perfect example is the way some Muslim countries regard the lending of money with interest as unethical while it is fully acceptable in the western world (Institute of Islamic Banking and Insurance, 2014).

The financial analysis was conducted on the global scene as we did not want to exclude the major European actors on the market and could not exclude the American actors due to their sheer dominance in sales. The time period (2000-2015) was chosen to see the impact of major events that occurred during this period, for example the War on Terror and the Financial Crisis of 2008.

1.6 Target Audience

This study is mainly addressed for academics, businesses and individuals with an interest in the relationship between portfolio investments and social responsibility. Our ambition is that institutional, professional and private investors will find this study useful and thoughtful.

2. Current state of the defense industry

It is well known that the spending in the defense industry is vast, for example the top 100 Aerospace & Defense companies had revenues of US\$719 billion during 2013, a year described as slow (PWC, 2014). To put this in perspective Sweden's GDP for the same period was US\$558 billion (Tradingeconomics, 2015). The military-industrial-complex is also considered to have substantial influence over the main democracies' social, economic and environmental policies as well as being a motivating force in foreign policy (Hopkins, 2007).

The Stockholm International Peace Research Institute, SIPRI (2011) is a renowned think thank group that presents annual reports regarding the defense industry. Their studies suggest that the corruption within the international arms trade account for somewhere around forty percent of the corruption within global trade transactions. The corruption diverts funds from areas where it would be better needed, as well as undermining democratic institutions (SIPRI 2011). But what is to be defined as corruption is not entirely clear, even key international agreements and institutions sometimes fail to give an exact definition.

Regardless of its exact definition, there are a number of traits within the arms trade that enables corruption. Bribes and covert commissions to brokers have traditionally been a part of international arms deals in order to facilitate and lubricate proceedings; two of these traits are extra prolific. Firstly, a big part of what goes on in these transactions are handled with high levels of discretion due to its relation to national security. Therefore there is a lack transparency for the public eye. Secondly, its often highly technological and advanced nature makes for only a small number of people capable of being involved. This creates a closed group of brokers, dealers and government officials that are involved in securing these types of transactions. There is concern over these close relationships between security-cleared personnel resulting in vague boundaries between state and

industry and as a result surpassing legal concerns to the background in favor of profits (SIPRI 2011).

Kytömäki (2014) states that the industry is now at a point where every major deal seems to be plagued by rumors and media speculations regarding irregularities in its business conduct. Despite hard work being put into creating national, regional and international bodies, like ATT (Appendix), to oversee the arms trade, defense products of all categories still end up in the wrong hands. Products that are meant to protect national sovereignty end up in regions where they “fuel insecurity, armed violence and conflict or for the purposes of internal suppression, inhuman and degrading treatment, torture and other major violations of human rights and fundamental freedoms.”(Kytömäki 2014 p. 2)

2.1 The Arms Trade and Sweden

According to a 2014 survey by IPSOS, on account of Amnesty International (2015), the public opinion in Sweden is quite clear:

- A majority is opposed to Sweden exporting weapons to other countries.
- More than of four out of five are opposed to weapons export to countries where serious and/or widespread violations of human rights occur.
- Four out of five claim to be in favor of a ban of defense-related exports to countries that can be labeled as dictatorships.
- Three out of four do not think that Sweden should engage in arms trade with countries currently engaged in military conflicts.

Still the Swedish arms export tallied a worth of nearly two billion USD in 2013 according to the Swedish Agency for Non-Proliferation and Export Controls (ISP 2015). According to numbers first published by AFP, Sweden in 2013 exported weapons and defense materials to 55 countries. Among these 55 were China, Saudi Arabia, UAE, Pakistan and Thailand, countries whose status on human rights and democracy could be described as

dissatisfactory (Business Insider 2014). Sweden currently resides at 11th place of the world's largest weapons exporters listed by Stockholm International Peace Research Institute (SIPRI, 2015). If the same list is examined per capita Sweden can be found at third place.

2.2 Major Swedish Investors view of the defense industry

Our research show that all of the major financial investors in Sweden included in our research have guidelines and investment policies that prevent them from investing in certain aspects of the defense industry. All of the institutions would be prohibited from investing in our defense portfolio since many of the companies included in our portfolio are blacklisted due to their dissatisfactory ethical profile.

Involvement in production of nuclear weapons and the manufacturing of controversial munitions are the two major concerns for Swedish investors', due to the weapons indiscriminating nature and incapability of distinguishing civilian from military targets. Therefore all investors exclude companies in these sectors, even if only a small percentage of the companies' total revenue and production is derived from these products. Among the institutions in our study that publicly presented their exclusion lists in their general guidelines, between nine and twelve of the twenty companies in our defense portfolio were excluded due to involvement in production or development of controversial and nuclear weapons. Out of the businesses normally labeled as unethical we find the defense industry to be the consistently most excluded sector from major Swedish institutions investments.

If the investors represent more restrictive clients with higher claims of social responsibility many of the major Swedish investors provides certain ethical funds. These funds are even more careful in their selection of investments and thereby exclude the defense industry to an even greater extent.

The Swedish Church is the only investor in our research that essentially excludes all investment in military equipment in their general investment guidelines. They only allow investment in companies with less than one percent of its revenue from weapon manufacturing and that one percent cannot be coupled with aggressive products further down the supplier line. The Church also has very elaborate restrictions and detailed policies regarding other unethical products than those from the defense industry.

A problem for the investors is to draw a line between what it is ethically acceptable and what is not in the defense industry. The investors, and in many cases not even the producers, cannot know the full reach of the product, to what purpose it will be used or where it might end up. Eva Brandt Director CSR Stakeholder Management at Volvo AB, who themselves have part of their revenue (<1%) from the business area Governmental Sales, underlines this. Volvo Group Governmental Sales is responsible for the Group's sales to government authorities and organizations. Despite Volvo's extensive guidelines and adherence to national and international export-treaties their products may in the end be found in the wrong hands, mainly because trucks, much like weapons, have great longevity and to control the post-market is extremely difficult.

Some products may also be used for other purposes than their original one, for example truck or boat engines could also be used in military equipment, which is also hard to control for the investor. SEB therefore, in accordance with current ISP-guidelines (Appendix), accept investments in products that fall under the dual-usage category as long as the primary area of usage is non-military (Anette Andersson 2015).

Another dilemma for the investors is the complexity of certain armed conflicts. SEB adheres to several international treaties and recognizes each nation's right to defend their sovereignty, but it is sometimes difficult to draw a hard line between defending and attacking (Anette Andersson, 2015). Aggressive, attacking military actions is not accepted by international framework and institutions.

One further issue for investors regarding the defense industry is the bad publicity it can bring to the company. The major headlines created; in for example the current Saudi Crisis is not only harmful to the contracted exporters but could also be harmful to the investor's brand. The Swedish population is in general reluctant to arms export and in favor of responsible investing. Brand management is very vital for the financial institutions, and if the brand value does not interact with their client's opinions they will lose business (Karin Reuterskiöld, 2015).

The corruption in the defense industry is widely known and condemned by the major investors, but the foremost reason for not investing in the industry is the controversial products it produces, even if the other ethical shortcomings in the sector seem to be well known. It is easier to exclude a firm due to their product being unethical than to prove the faults in their business conduct.

Our study finds that Swedish financial institutions find it preferable to influence and support positive change through dialogue and active ownership in favor of simply divesting. By helping firms in their portfolio increasing their profitability with a more sustainable business plan the investors' profitability can also increase. Excluding on the other hand makes it easier to communicate that certain fields are not eligible for investments and thereby staying clear of potential criticism but at the same time the chance to impose a positive change is more or less lost. Investing in the most controversial weapons (cluster bombs, land mines, biological, chemical and nuclear weapons), will however never be accepted. (Anette Andersson, 2015).

3. Method

3.1 Portfolio Selection

In all three portfolios we used the stocks' closing price at the end of each month during the time period January 2000 – December 2014, adjusted for dividends and splits, resulting in 180 observations per stock. The portfolios were not optimized for profit; hence all stocks in the portfolios are equally weighted. The historical data for each stock were gathered from *Yahoo Finance* and *Reuters*. The companies in the portfolios are presented in the appendix.

3.1.1 The Defense Industry Portfolio

We used information and statistics from the *Stockholm International Peace Research Institute* (SIPRI, 2015) to select the stocks in our Defense Portfolio. We constructed the Defense Industry portfolio based on a number of criteria.

To be included in the portfolio the company had to have an average of at least 50 percent of its total revenue generated from its Aerospace & Defense sector over a ten-year period. Boeing for example, despite being the second largest arms manufacturer in the world did not meet the qualifications for the portfolio since only an average of 35 percent of its revenue is derived from arms sales (SIPRI, 2015).

For the stocks to be included in the portfolio a further requirement was reliable stock information, and preferably existent for the entire time period of fifteen years. A few exceptions were however made as a few major actors on the market were introduced to the stock market in the early years of the new millennium. Some Russian and Chinese manufacturers, despite impressive numbers in terms of revenue, were excluded from the portfolio because their data were not sufficiently reliable or completely accessible.

We used SIPRI's annual report over the 100 largest defense manufacturers in the world, and then formed a portfolio consisting of the twenty largest in terms of its revenue that fulfilled our previously mentioned criteria. The portfolio consists of stocks from all over the world. The US defense industry however dominates the list of largest arms industry companies (SIPRI, 2015), and the portfolio is a good representation of the overall market share. Thirteen of the stocks in our portfolio consist of American owned companies listed on the NYSE stock market.

3.1.2 Ethical portfolio

In order to find relevant companies for the ethical portfolio, our selection was based upon Ethisphere's ranking over the most ethical companies in the world. *Ethisphere institute* is a consulting firm that each year nominates the *World's Most Ethical Companies* award. In order to be included in our ethical portfolio the companies need to have been honored by Ethisphere at least twice since the awards started in 2007, as well as being in a closely related industry to the Aerospace & Defense sector. Therefore our ethical portfolio consists of companies from the industrial manufacturing, automotive and information technology sectors, among others. This portfolio is just like the defense Portfolio geographically well diversified but with a majority of American stocks.

Like many investors we exclude defense and aerospace companies from this portfolio, even if Ethisphere had praised a few companies in that sector for their ethical performances. This decision was foremost to separate the industries and thereby getting a more accurate comparison between the portfolios.

3.1.3 Manufacturing portfolio

In order to better compare the other portfolio returns we have created a portfolio of the 20 largest manufacturing companies listed on the Fortune Global 500 (Fortune, 2015). This portfolio works as a neutral counterpart to our defense and ethical portfolios.

3.2 Evaluating the Portfolios

3.2.1 Index Comparison

Since our portfolios consist of stocks from all over the world, we have used a global index, which serves as a representation of the market, to compare it with the portfolios. The MSCI World ACWI index is a capitalization-weighted index consisting of stocks from 23 developed countries and 23 emerging countries (MSCI, 2015). We compare the overall return of the portfolios with the MSCI ACWI index during the years 2000-2014.

3.2.2 Regression Analysis using CAPM

The Capital asset pricing model is one of the most used economic models to calculate the risk and return of a financial asset. William Sharpe presented the CAPM model in 1964 (Sharpe, 1964), as a tool to compare different investments and portfolios. The purpose of the model was to show how much of an asset's price was related to risk and what was related to other factors. The model suggests that a higher risk should be compensated with a higher expected rate of return for its investors. Therefore if the asset is not affected by changes in the economy, it will only yield the risk free rate.

$$r = R_f + \beta_m (R_m - R_f) + \alpha$$

r = Return of the portfolio

R_f = Risk free rate of return

R_m = Rate of return for the market

β_m = Market Beta

α = Alpha, the abnormal excess return

Our CAPM regression analysis was made in Excel based on 180 monthly observations of the return of our portfolios during the period 2000-2014. We compared it with the MSCI ACWI

world index for the same period. The return that cannot be explained with the CAPM formula is the much sought after *Alpha*.

William Sharpe was rewarded with the Nobel Prize for the CAPM formula in 1990. Despite that the model is flawed, it is still being used for its simplicity but many analysts chose newer and more developed models that give a more detailed understanding of the asset's true value.

3.2.4 Regression analysis using Fama French

The Fama-French three-factor model was developed by Eugene Fama and Kenneth French to further explain the return of a stock or portfolio. Fama-French has replaced the CAPM as the most frequently used model to explain a portfolio's return (Armstrong F, 2013). The CAPM formula only took the market risk into consideration, while the Fama French model adds size (SMB) and value (HML) factors as well (Fama & French, 1993). The SMB factor measures the excess returns of small caps over big caps, and the HML factor explains the difference in excess return between companies with high Book to Market value and low Book to Market value (Fama EF & French KR, 1997).

$$r = R_f + \beta_m (R_m - R_f) + \beta_2(SMB) + \beta_3(HML) + \alpha$$

$$\beta_2 = SMB \text{ Beta}$$

$$\beta_3 = HML \text{ Beta}$$

$$\alpha = \text{Alpha, the abnormal excess return}$$

$$SMB = (\text{Avg. return of three small cap portfolios}) \\ - (\text{Avg. return of three large cap portfolios})$$

$$HML = (\text{Avg. return of two value firms portfolios}) \\ - (\text{Avg. return of two growth firms portfolios})$$

To complement the CAPM we make a more thorough regression analysis with Fama French Three factor model. The regression analysis is based on 180 monthly observations in the portfolios and later compared with the three factors included in the Fama French model. Our figures for the SMB and HML factors were gathered from Kenneth French's Website (French, 2015).

3.2.5 Sharpe ratio

William Sharpe, the founder of the CAPM also produced the Sharp ratio formula, a measurement to calculate the risk adjusted return of the asset. Portfolios with higher Sharpe ratio have a better return in relationship to the risk of the portfolio (Elton et al. 2010).

$$\text{Sharpe ratio} = \frac{R_p - R_f}{\sigma_p}$$

R_p = Return of the portfolio

R_f = Risk free rate of return

σ_p = Standard deviation of the portfolio

The formula will tell us which risk adjusted return our portfolios got.

3.3 Swedish Financial Institutions' View on the Defense Industry

In order to understand Swedish institutional investors' view of the defense industry we have studied the ethical guidelines in connection to responsible investment policies of eight major Swedish financial institutions (Appendix). The four major banks were chosen due to their sheer size on the asset management market, the remainder of the financial

institutions in our study were suggested by Karin Reuterskiöld, senior client executive at Danske Bank, because of their active asset management and extensive CSR framework.

We also conducted interviews with employees from major Swedish financial institutions and MNC's with questions surrounding ethical and unethical investments in general, and the defense industry in particular. The persons we interviewed all worked with CSR or investment related activities and we discussed the risks with investing in the defense industry and the reasons for excluding certain companies. The results of the interviews are presented in the chapter *2.2 Major Swedish Investors view of the defense industry* and serves as a foundation for our analysis and conclusion.

3.4 Credibility of our study:

Critic has been directed towards the CAPM formula for being a one-factor model that excludes other independent variables. In this study we therefore also use the Fama French three-factor model that is more extensive. The Fama French model explains over 90 percent of the diversified portfolio returns, compared to 70 percent given by the CAPM formula (Fama EF & French, 1997).

The most suitable regression model would be if one of the variables demonstrated the effect of social norms on investment decisions for example. Affective Variables, like Social Norms, are very hard to put in numbers though and are therefore avoided.

In constructing our portfolios a great emphasis was placed on attaining as dependable information as possible. Only renowned websites like Yahoo Finance and Reuters were used for data collection of stock performances. To find reliable information for our ethical portfolio we used Ethisphere Institute's website and their ranking of the world most ethical companies. Eva Lindebäck-Brandt, Director CSR Stakeholder at AB Volvo, supported our choice of ethical index because Ethisphere is more oriented towards the ethical aspect of sustainability. *Dow Jones Sustainability Index* for example is more extensive and covers all

aspects of sustainability.. We are aware of the fact though that the defense and manufacturing portfolios are more homogenous in terms of business sectors than the ethical portfolio, and could somewhat bias our result. Since we have confirmed that opinions concerning ethics can vary between countries we could also have limited our profitability research to one market.

We chose our market index because of the wide range of countries included in our study and it serves as the best representation of our portfolios. The MSCI world global index covers both the developed countries in our study, for example the United States and the United Kingdom, as well as developing countries with companies also included in our portfolio like India and Taiwan.

Adhering to our chosen portfolio selection criteria, two companies were selected for both the Neutral and Ethical portfolio. We did not deem it necessary to substitute these companies since the comparison with the Defense portfolio is our main focus.

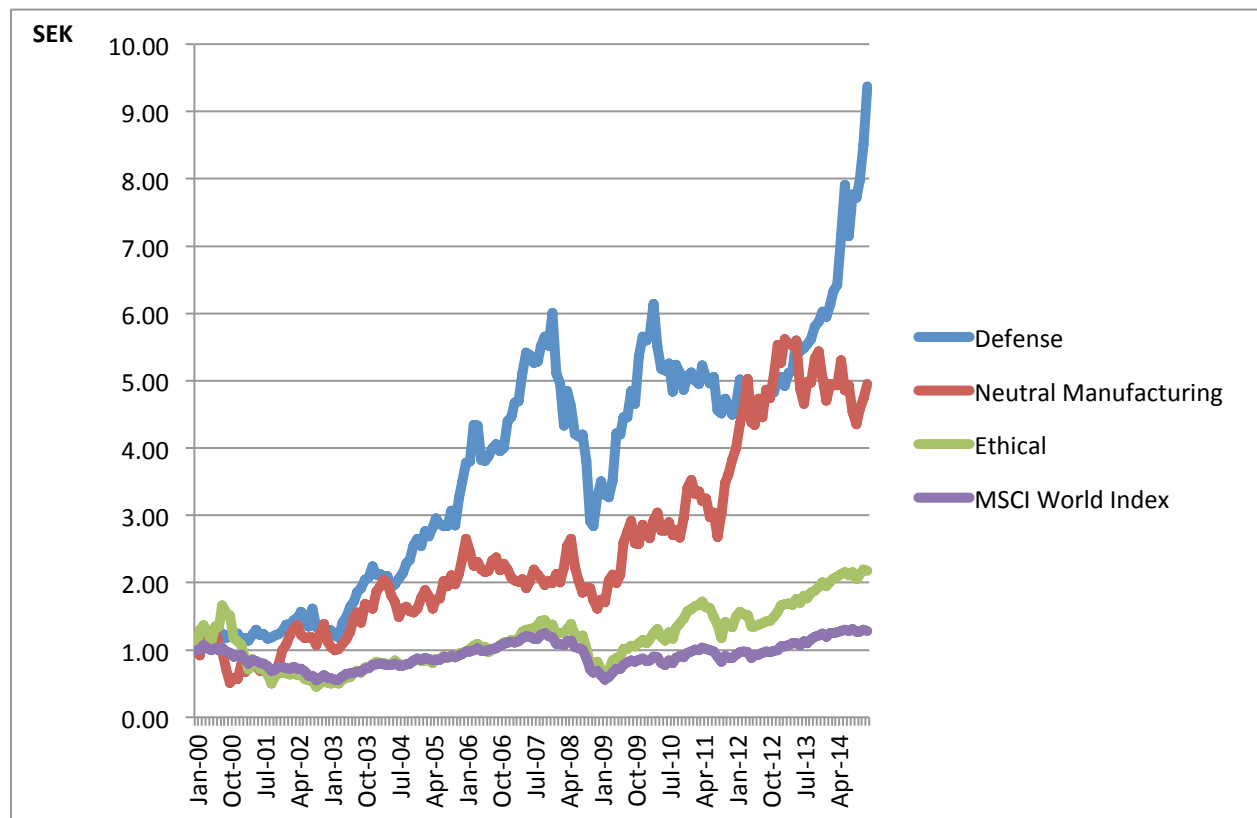
4. Results and analysis

4.1 Results Defense vs Ethical vs Neutral Manufacturing

In order to illustrate the differences between the three portfolios we compared the return of the portfolios with the market. Our study shows that the defense portfolio clearly outperforms the other portfolios. The yearly average return of the defense industry is 16.09%, compared to 11.25% by the manufacturing portfolio and 5.31% for the ethical portfolio. All of the portfolios outperform the Global WSCI index, which has an average yearly return of 1,65 %.

The result in the graph below tells us that if you in January 2000 invested 1 SEK in the defense portfolio it would be worth 9.37 SEK in December 2014. The manufacturing and ethical portfolio would be worth 4.95 SEK and 2.17 SEK respectively.

Graph 1



4.2 CAPM Defense vs Ethical vs Neutral Manufacturing

The defense portfolio shows us the much sought after alpha with a strong statistical significance, therefore the portfolio have an excess return that cannot be explained with the CAPM regression. The market beta for the defense Industry shows a very strong significance beta coefficient of 0.74. This beta tells us that the defense industry moves 0.74 percent when the market moves 1.00 percent; therefore it is closely linked to the overall trends on the market but with less volatility.

The ethical portfolio shows no statistical significance for alpha in our CAPM regression. The ethical portfolio shows the highest market beta of the three different portfolios, with a beta coefficient of 1.25. It tells us the effect the market have on the return of the ethical portfolio, if the market goes up with 1.00 percent the ethical portfolio therefore moves up with 1.25 percent.

In performing the regression analysis on the neutral manufacturing portfolio we find no statistically guaranteed alpha. There is a significant market beta of 0.87 though, close to the beta of the defense portfolio, therefore market fluctuations have an effect on the manufacturing portfolio as well.

Table 1

	Defense Portfolio		Ethical Portfolio		Neutral Manufacturing Portfolio	
	Intercept	Significance	Intercept	Significance	Intercept	Significance
Alpha	0,011	***	-0,052	NS	0,009	NS
Market beta	0,742	***	1,255	***	0,877	***

- P Value less than 0,1%; Three star Significance, very strong support for an alternative hypotheses.
- P Value less than 1%; Two star significance, strong support for an alternative hypotheses.
- P-value less than 5%; One star significance
- P-value bigger than 5%; Not statistically significant, the null hypothesis accepted. We call it NS in our study, *not significant*.

4.3 Fama French Defense vs Ethical vs Neutral Manufacturing

The coefficients in the Fama French regression explain how much of the excess return that can be related to each factor of the model, in relation to the risk free rate.

The defense portfolio is the only one showing an alpha, but all the portfolios have market beta significance under 0.10 percent. The Fama French regression show just like the CAPM regression that the market beta between the defense and manufacturing portfolios is very alike, while the saint portfolio have a higher volatility with a beta coefficient of 1.20.

The SMB and HML beta for all portfolios, except the HML beta for the defense portfolio, show no significance, therefore it cannot be demonstrated that these two factors leads to any variation in the return of the different portfolios.

Table 2

	Defense Portfolio		Ethical Portfolio		Neu. Manu Portfolio	
	Intercept	Significance	Intercept	Significance	Intercept	Significance
Alpha	0,01	*	-0,005	NS	0,0099	NS
Market Beta	0,812	***	1,2	***	0,83	***
Beta SMB	-0,211	NS	0,19	NS	0,12	NS
Beta HML	0,263	*	0,1	NS	-0,2	NS

- P Value less than 0,1%; Three star Significance, very strong support for an alternative hypotheses.
- P Value less than 1%; Two star significance, strong support for an alternative hypotheses.
- P-value less than 5%; One star significance
- P-value bigger than 5%; Not statistically significant, the null hypothesis accepted. We call it NS in our study, *not significant*.

4.4 Sharpe ratio

The Sharpe ratio for the defense portfolio is 0.204, which is considerably higher than the Sharpe ratio of the manufacturing portfolios at 0.124.

The ethical portfolio has an investment return lower than the risk free rate, therefore a negative excess return and Sharpe ratio as well.

Table 3

	Average Excess Return	Standard Deviation	Sharpe Ratio
Defense	0,013165	0,064635	0,203682
Neutral Manufacturing	0,012401	0,100133	0,123849
Ethical	-0,000689	0,071513	-0,009634

4.5 The Defense Portfolio analysis

The defense portfolio demonstrate an alpha with significance in both the CAPM and Fama French regression analysis, it shows that there is an excess return that the regression model cannot explain and confirms the theory that the unethical business sector gives an excess return.

The excess return delivered by the defense industry compared to the two corresponding portfolios and the market index are not all necessary down to the higher risk, there are arguably other factors that explain the higher return. The significant HML beta in the Fama French regression analysis of defense portfolio tells us that the defense industry probably has a high concentration of companies with a high Book to Market value. Companies with a high Book to Market value (value stocks) usually give a higher excess return then

companies with a low Book to Market value (growth stocks).

As previous studies explained and our research show there are certain social norms and moral values that lead to lower demand and underestimated values in unethical businesses, therefore they deliver a higher return, and this seems to be the case with the defense portfolio as well.

The high Sharpe ratio tells us that the defense portfolio gives us better value in regards to the calculated risk and return than the other portfolios. Despite the risk taken when investing in unethical businesses, the defense portfolio is still a far more profitable investment than its neutral and ethical counterpart in terms of risk.

Even though the defense portfolio correlates well with the market it clearly outperforms it. The return of the defense portfolio has increased impressively as seen in graph 1, especially between the September 11 attacks in 2001 and the financial crisis. This period saw a doubling of the US defense budget (United States Government Publishing Office, 2015) as a reaction to the Global war on Terror and the portfolio increased its value with almost 600 percent. There is a remarkable drop in the portfolio during the financial crisis though, which conflicts with the assessment that the defense industry is recession proof and driven more by geopolitical factors than economical ones (Plumer, 2013) as well as counter cyclical (L.Thompson, 2012). This drop in the stock performance could be explained by the relatively high percentage of the defense companies' sales that are derived from other sectors, areas that are more affected by the general economic decline than the defense industry. Almost 30 percent in average of the revenue in our defense portfolio is generated from other sectors than the defense related (SIPRI, 2015).

There has been a significant rise in returns from the summer of 2012 and onwards, despite that the US defense budget decreased during this period (United States Government Publishing Office, 2015). The increasing unrest in the Middle East and Ukraine along with

the increasing defense budgets of Russia and China could possibly explain the strong performance of the portfolio during the last couple of years.

4.6 Ethical Portfolio Analysis

The Ethical portfolio gives us no significant alpha in either the CAPM or Fama French regression analysis, but graph 1 shows us that it still beats the market. We used positive screening to construct our ethical portfolio, choosing *the best in class* companies in close related industries to the defense sector. This well diversified and screened portfolio results in a lower return than the defense industry and the portfolio only correlates with the Market beta.

Despite using the positive screening model to construct our portfolio we find no excess return in our regression analysis. This contradicts the earlier study made by Kempf & Osthoff (2007), who states that *positive screening* and *best in class screening* gives an excess return. Our portfolio consists only of prominent companies in terms of ethical responsibility, and we have put no weight on the firms overall financial performance. There are many highly profitable ethical funds that use positive screening, but with a more actively managed approach and more advanced selection-process of companies than our best in class portfolio, for example Kame's Ethical Equity Fund (R. Jones 2013). Because of the negative excess return we have a negative Sharpe ratio as well.

4.7 Manufacturing Portfolio Analysis

The manufacturing portfolio is closely related to the defense portfolio in its beta and market fluctuations, but without the defense portfolio's excess return. Since the defense companies often have a big percentage of its production in other manufacturing then

defense, it is easy to understand the comparable beta between the two portfolios. The manufacturing portfolio clearly outperforms the ethical portfolio and the market index, to no surprise when you consider the significant size of the selected manufacturing companies included in our study. The Sharpe ratio of 0,124 gives us less risk-adjusted return than the defense portfolio.

5. Conclusion

Our study through in-depth research and interviews strengthen the earlier theories that unethical businesses are undervalued because of the social norms preventing financial institutions from investing in them. All of the major financial institutions in Sweden excluded certain aspects of the defense industry in their investments through their commitment to social responsible investing.

We provide results in our financial analysis that suggest the higher profitability of investing in the defense industry compared to its ethical and neutral counterpart. The defense portfolio showed a significant alpha in our regression analysis that supports the theory that unethical businesses give an excess return. The defense portfolio also presents a Sharpe ratio that is more favorable for investors than the other portfolios. The portfolio performs impressively during times of increasing defense budgets and major armed conflicts. We are however unsure of the counter cyclical characteristic of the industry due to its performance during the financial crisis of 2008.

We find that Swedish investor sees the defense industry as the most controversial of the unethical sectors, mainly due to the nature of its products.

5.1 Future of the defense industry and its investor relations

The profitability of the defense industry is good and we see no major obstacle to why it should not continue to perform well in the near future. As long as there is unrest and conflicts in the world, the defense industry will continue to receive orders from governments in need of weapons and technology.

The present unstable political situation is beginning to resemble that of the cold war, and with the rising conflicts around the world there are huge profits to be made according to Bank of America analyst Ronald Epstein (Fortune, 2015). He cites for example the current civil war in Ukraine with the increased tensions between Russia and its neighboring NATO states, the ongoing US involvement in the Middle East and the increasing hostility between China and Japan in the South China Sea as conflicts that from an unsentimental investor's point of view are favorable (Fortune, 2015).

Regarding responsible investments, we firmly believe that the future holds even greater commitment among investors, fueled by millennial investors' commitment to ethics (Morgan Stanley, 2015), to actively choose the companies that operate in the most sustainable manner for the majority of their portfolios. This should lead to a rising concern among companies to improve their sustainability profile. According to Annette Andersson (2015) and Lina Sandström (2015) this is the direction in which the whole business is moving. It is steadily moving away from simple exclusions towards positive reinforcement through a more best in class kind of viewpoint, pinpointing firms that are the most sustainable. That is the business approach that adds the most value.

We do however also believe that financial institutions that wish to make a difference and change the behavior of, as of now; excluded businesses need to adapt a different viewpoint. A viewpoint similar to the one presented by Halpern and Snider (2012), where a company

is judged on the basis of their production's CSR-profile rather than what they are producing. This would allow controversial businesses to be included in CSR discussions and research to a further extent, thereby enabling the change from within via dialogue that is so vibrantly advocated in current investment policies. Because we have to believe that a sustainable firm is more profitable in the long term, and as such why should not all firms, when embracing this notion, wish to improve their commitment to sustainability.

The integration of CSR profiling with the guidelines of lending and financing is another occurrence that might escalate during the coming decade. If having an unfavorable approach to sustainability would increase the financing costs of a company this could act as an incentive for improvement in that area. According to Karin Reuterskiöld; fund and asset management have made further progress with integrating sustainability in its processes, but financing is just as important when it comes to applying ethics and sustainability.

In summary, it would be naïve to think that the arms trade will decline in the foreseeable future, given the current political climate. Even though we are highly critical of certain aspects of the defense industry it needs to be integrated into overall investment relations as well as CSR studies. We agree with the opinion put forward by PM Nilsson (DI, 2015) in regard to the Saudi Crisis, where he suggest that Sweden gives up the opportunity to improve Saudi Arabia's view on human rights if we turn our backs towards them and cancel the trade agreement. The US embargo of Cuba for example, have reduced the trade with Cuba but achieved very little in changing the country's domestic policies. We see lesser chances of improving the industry's overall profile if it is to continue to be excluded due to the controversial nature of its products. If the industry were to be included and actively pressured on key issues by vital cooperation partners there could be a change from within which might be easier to accomplish than forcing a change from the outside.

5.2 Further studies

Our study strengthens the theory that institutions' reluctance towards investing in the defense industry leads to a higher return than its more neutral and ethical related businesses. It would be interesting to investigate the public opinions correlation to the return of the defense industry through a longer period of time. Highly debatable military conflicts like the US involvement in Vietnam and invasion of Iraq have resulted in public outcry and large protests. Have negative opinions about war and the defense industry during such periods made investors even more reluctant to invest in the industry and further distance themselves from the controversy? This behavior could lead to even more undervaluation of defense industry stocks and even larger returns for its shareholders.

Our study provides some critic to the assumption that the defense industry is counter cyclical, since it was very affected by the financial crisis in 2008. We explained part of the downfall in its performance due to its percentage of revenue that was derived from other sectors than the defense industry. To further strengthen or discredit the counter cyclical theory it would be interesting to see how the defense industry has performed during earlier recessions, or is the industry more affected by decreasing defense budgets and armed conflicts?

We would also find it interesting to investigate the return of a portfolio consisting of defense companies that are acceptable in relation to Swedish investors guidelines and exclusion lists, to see if the industry still gives an excess return without its most controversial companies included.

6. Bibliography

6.1 Electronic Sources

Alecta (2015)

<https://www.alecta.se/Om-Alecta/Hallbarhet-start/Ansvarsfulla-investeringar/>
(2015-05-18)

AMF(2015)

<https://www.amf.se/om-amf/amfs-hallbarhetsarbete/ansvarsfulla-investeringar/>
(2015-05-18)

Amnesty (2015)

http://www.amnesty.se/vad-gor-vi/vapenhandel/svensk-vapenexport/?gclid=CjwKEAjwvPepBRCoqo37teOD1XsSJAC7v6WQ1g0ZWYMeab-yMJ-w7kigStFcEjzkinOU7tR6llKuNhoCoQjw_wcB
(2015-04-26)

Armstrong, F. (2013). *Fama French Three Factor Model*. Forbes.

<http://www.forbes.com/sites/frankarmstrong/2013/05/23/fama-french-three-factor-model/>
(2015-04-14)

BBC (2010), *Thales and France fined \$830m for Taiwan navy deal*

<http://news.bbc.co.uk/2/hi/asia-pacific/8658789.stm>
(2015-05-28)

The Business Insider (2014) *Sweden's Dirty Secret: It Arms Dictators*

<http://www.businessinsider.com/swedens-dirty-secret-they-arm-dictators-2014-5?IR=T>
(2015-04-26)

Dagens Nyheter (2015)

<http://www.dn.se/ekonomi/31-naringslivstoppar-bryt-inte-avtalet-med-saudiarabien/>
(2015-05-18)

Ekman Duse, A. Feldt, K-O. Sveriges Radio, P3 Dokumentär: *Granaten Excalibur- och den svenska vapenexporten* (2012)

Available: <http://sverigesradio.se/sida/avsnitt/43776?programid=2519>
(2015-04-12)

Fabozzi, F. Ma, K. Oliphant B. (2008) *Sin Stock Returns*

http://gyanresearch.wdfiles.com/local--files/alpha/JPM_FA_08_FABOZZI.pdf
(2015-04-16)

- French, K.R. (2015) Kenneth French website
http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html
(2015-04-14)
- Fortune, (2015), Global Fortune 500 -2015
<http://fortune.com/global500/>
(2015-05-05)
- Halpern, B. Snider, K. (2012) *Products That Kill and Corporate Social Responsibility: The Case of U.S. Defense Firms*
<https://www.law.upenn.edu/live/files/4213-halpern-b-snider-k-products-that-kill-and>
(2015-04-18)
- Handelsbanken (2015)
https://www.handelsbanken.se/shb/INeT/IStartSv.nsf/FrameSet?OpenView&iddef=&navid=A_Fonder&sa=/shb/INeT/ICentSv.nsf/Default/qB71BC16280D3B443C12577AD00334889
(2015-05-17)
- Hong H., Kacperczyk, M. (2009). *The price of sin: The effects of social norms on markets.* Journal of financial economics volume 93, 15-36
http://pages.stern.nyu.edu/~sternfin/mkacperc/public_html/sin.pdf
(2015-04-28)
- Hopkins, M. *CSR and the Death Trade* (2007)
<http://mhcinternational.com/monthly-features/articles/147-csr-and-the-death-trade>
(2015-05-21)
- Institute of Islamic banking and Insurance (2014): *Prohibition of interest.*
http://www.islamic-banking.com/prohibition_of_interest.aspx
(2015-04-28)
- Jones, R. (2013) *What are the best ethical funds?* The Guardian
<http://www.theguardian.com/money/2013/oct/12/what-best-ethical-funds>
(2015-05-20)
- Kempf A. & Osthoff, P. (2007) *The Effect of Socially Responsible Investing on Portfolio Performance.* European Financial Management
<http://onlinelibrary.wiley.com/doi/10.1111/j.1468-036X.2007.00402.x/epdf>
(2015-05-01)
-

Kytömäki, E. (2014) *The Defence Industry, Investors and the Arms Trade Treaty*. 2, 11
http://www.chathamhouse.org/sites/files/chathamhouse/field/field_document/20141215DefenceIndustryArmsTradeTreatyKytomaki.pdf
(2015-04-28)

Merton R.C. (1987). *A simple model of Capital Market Equilibrium with Incomplete Information*. The Journal of Finance vol. 42, No.3.
<http://www.people.hbs.edu/rmerton/simple%20model%20of%20capital%20market.pdf>
(2015-04-15)

Morgan Stanley (2015), *Morgan Stanley Survey Finds Sustainable Investing Poised for Growth*
<https://www.morganstanley.com/about-us-articles/06490ef0-a8b2-4a68-8864-64261a4decd0.html>
(2015-05-26)

MSCI, 2015, MSCI World ACWI (USD) index
https://www.msci.com/resources/factsheets/index_fact_sheet/msci-acwi-imi.pdf
(2015-04.15)

Newmyer, Tory (2014) Fortune
<http://fortune.com/2014/09/13/defense-industry-winner-against-isis/>
(2015-04-25)

Nordea (2015)
<http://www.nordea.se/privat/sparande/fonder/ansvarsfulla-investeringar.html>
(2015-05-17)

Plumer, B., (2013) The Washington Post. *Americas staggering defense budget*.
<http://www.washingtonpost.com/blogs/wonkblog/wp/2013/01/07/everything-chuck-hagel-needs-to-know-about-the-defense-budget-in-charts/>
(2015-03-23)

PM Nilsson, (2015) – *Behåll avtalet med Saudi*
<http://www.di.se/di/artiklar/2015/2/2/ledare-behall-avtalet-med-saudi/>
(2015-05-26)

PWC (2014), PricewaterhouseCoopers, Aerospace & defense, 2013 in review and 2014 forecast.
http://www.pwc.com/en_US/us/industrial-products/assets/pwc-aerospace-defense-2013-year-in-review-and-2014-forecast.pdf
(2015-04-12)

Salaber, Julie (2007) Sin Stock Returns over the Business Cycle, Dauphine University 2007
http://www.cereg.dauphine.fr/UserFiles/File/Paper_salaber.pdf

SIPRI Year book 2011
Available: <http://www.sipri.org/yearbook/2011>
(2015-04-19)

SEB
<http://sebgroup.com/sv/om-seb/hallbarhet/vara-affarsprioriteringar/ansvarsfullainvesteringar>
(2015-05-17)

SPP (2015)
<https://www2.spp.se/cms/privat/om-spp/hallbarhet/>
(2015-05-18)

Svenska Freds- och Skiljedomsföreningen (2015)
<http://www.svenskafreds.se/saudiavtalet-avslutas-en-seger-for-kampen-for-fred-manskliga-rattigheter-och-demokrati>
(2015-05-07)

Svenska Kyrkan (2015)
<http://www.svenskakyrkan.se/ansvarsfullainvesteringar>
(2015-05-17)

Swedbank (2015)
<http://www.swedbankrobur.se/om-swedbank-robur/nyhetsbrev/index.htm>
(2015-05-17)

Söderberg & Partners (2015) *Hållbara fondförsäkringar*
<http://newsroom.soderbergpartners.se/press/sa-duktiga-ar-fondforsakringsbolagen-pa-hallbarhetsarbete/>
(2015-05-13)

Thompson, L. (2012) *Five Reasons The Defense Industry Is Still A Better Investment Than Other Sectors*

<http://www.forbes.com/sites/lorenthompson/2012/09/10/five-reasons-the-defense-industry-is-still-a-better-investment-than-other-sectors/>

(2015-05-14)

Trading Economics (2015)

Available: <http://www.tradingeconomics.com/sweden/gdp>

(2015-05-27)

The United Nations – ATT 2015

<http://www.un.org/disarmament/ATT/>

(2015-05-24)

United States Government Publishing Office (2015)

<http://www.gpo.gov/fdsys/search/pagedetails.action?granuleId=BUDGET-2015-TAB-5-1&packageId=BUDGET-2015-TAB&fromBrowse=true>

(2015-05-24)

6.2 Printed Sources

Dougherty, C. (2011) *Introduction to Econometrics*, 4th Edition. Oxford University Press Inc. 83, 155

Elton, E.J., Gruber, M.J., Brown, S.J and Goetzmann, W. (2010) *Modern Portfolio Theory and Investment Analysis* (8th edition.) London John Wiley & Sons 296

Fama, E. F. & French, K. R., (1993). *Common risk factors in the returns on stocks and bonds*. Journal of Financial Economics, 33 3-56.

Fama, E. F. & French, K. R., (1997) *Industry costs of equity*. Journal of Financial Economics, 43 153-193

Jutterström, M & Norberg, P. (2013) *CSR as a Management Idea*. Edvard Elgar Publishing

Körner, S. Wahlgren, L. (2006) *Statistisk Dataanalys*. (4. Uppl.) Lund: Studentlitteratur. 200, 351

Sharpe, W. (1964) *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk*. Journal of Finance, 16(3). 424-441

6.3 Databases

Reuters

Yahoo Finance

6.4 Interviews

Eva Lindebäck Brandt (2015-05-11)
Volvo AB - Director CSR Stakeholder Management

Karin Reuterskiöld (2015-05-20)
Danske Bank – Senior Client Executive

Anette Andersson (2015-05-22)
SEB - Portfolio Manager & ESG Investment Specialist, Investment Management

Christina Olivecrona (2015-05-28)
Lina Sandström (2015-05-28)
Andra AP-Fonden - Communications & HR, coordination Corporate Governance

All interviews have been recorded and the transcript have been accepted.

7. Appendix

UTDATASAMMANFATTNING

Defense Portfolio

Regressionsstatistik

Multipel-R	0,523244
R-kvadrat	0,2737843
Justerad R-	0,2697044
Standardfe	0,055361
Observatio	180

ANOVA

	<i>fg</i>	<i>KvS</i>	<i>MKv</i>	<i>F</i>	<i>p-värde för F</i>
Regression	1	0,20567	0,20567	67,10624	4,854E-14
Residual	178	0,545542	0,003065		
Totalt	179	0,751213			

	<i>Koefficienter</i>	<i>Standardfel</i>	<i>t-kvot</i>	<i>p-värde</i>	<i>Nedre 95%</i>	<i>Övre 95%</i>	<i>Nedre 95,0%</i>	<i>Övre 95,0%</i>
Konstant	0,0110186	0,004137	2,663182	0,00845	0,002854	0,019183	0,002854	0,0191832
MKT RF %	0,7420086	0,090579	8,19184	4,85E-14	0,5632617	0,920755	0,5632617	0,9207554

Regressionsstatistik

Multipel-R	0,398499
R-kvadrat	0,158801
Justerad R-	0,154049
Standardfe	0,092356
Observatio	179

ANOVA

	<i>fg</i>	<i>KvS</i>	<i>Mkv</i>	<i>F</i>	<i>p-värde för F</i>
Regression	1	0,285008	0,285008	33,41399	3,3E-08
Residual	177	1,509741	0,00853		
Totalt	178	1,794749			

	<i>Koefficienter</i>	<i>Standardfel</i>	<i>t-kvot</i>	<i>p-värde</i>	<i>Nedre 95%</i>	<i>Övre 95%</i>	<i>Vedre 95,0%</i>	<i>Övre 95,0%</i>
Konstant	0,009234	0,006925	1,333432	0,184104	-0,00443	0,022899	-0,00443	0,022899
MKT RF %	0,876519	0,151634	5,780484	3,3E-08	0,577276	1,175763	0,577276	1,175763

Regressionsstatistik

Multipel-R	0,798649
R-kvadrat	0,637841
Justerad R-	0,635795
Standardfe	0,043278
Observatio	179

ANOVA

	<i>fg</i>	<i>KvS</i>	<i>Mkv</i>	<i>F</i>	<i>λ-värde för F</i>
Regression	1	0,583888	0,583888	311,7356	6,86E-41
Residual	177	0,331525	0,001873		
Totalt	178	0,915413			

	<i>Koefficiente</i>	<i>Standardfel</i>	<i>t-kvot</i>	<i>p-värde</i>	<i>Nedre 95%</i>	<i>Övre 95%</i>	<i>Vedre 95,0%</i>	<i>Övre 95,0%</i>
Konstant	-0,00522	0,003245	-1,60957	0,109274	-0,01163	0,001181	-0,01163	0,001181
MKT RF %	1,254578	0,071057	17,65603	6,86E-41	1,114351	1,394805	1,114351	1,394805

Yearly returns and CAGR	År	Defense	Ethical	Neutral Manufacturing
	2000	24,03%	12,52%	-43,26%
	2001	12,26%	-38,57%	26,63%
	2002	-5,56%	-21,91%	3,58%
	2003	74,14%	56,90%	54,68%
	2004	24,84%	4,02%	-14,00%
	2005	37,31%	14,01%	33,11%
	2006	16,32%	15,21%	-17,12%
	2007	34,51%	19,51%	-3,94%
	2008	-35,86%	-33,41%	-24,20%
	2009	61,44%	61,70%	63,67%
	2010	-9,47%	43,30%	21,70%
	2011	-12,26%	-16,20%	8,40%
	2012	7,97%	4,66%	38,23%
	2013	19,04%	20,93%	-42,50%
	2014	57,52%	11,42%	5,23%
Average Yearly Return (CAGR)		16,09%	5,31%	11,25%

7.1 Summary of Swedish financial institutions' guidelines on responsible investments

SEB

SEB aims to influence companies in their portfolios, to improve their results regarding environment, social issues and corporate governance through dialogue, co-operation with other investors and via direct voting on annual shareholders' meetings. A series of internationally approved conventions and guidelines are used to monitor and secure sustainable business conduct in the banks investment prospects. A commitment to UN's principles for responsible investments (UNPRI) has led to extensive work within the fields of corruption; climate accounting and responsible business conduct in conflict areas. Companies that do not adhere to said guidelines and UN principles will be subject to active dialogue in which SEB will try to influence them to improve their CSR commitment. If these discussions after some time prove to be fruitless SEB may exclude the company from their investments (seb.se). This is however to be considered as a last resort, SEB's preferred route of action is to maintain their role as a shareholder and try to encourage a more sustainable business plan. Divesting makes it easier to communicate that the bank do not invest in certain industries and thereby rid ourselves of any criticism but divesting limits our chances to make a positive impact (Anette Andersson 2015).

There are certain types of weapons that cannot be compatible with current international guidelines; therefore companies that are involved in the making or development of these products are blacklisted by SEB. The weapons that are considered as controversial are aggressive defense products such as landmines, cluster bombs, and chemical and biological weapons. Companies that are in any way involved in production of nuclear weapons are considered non-eligible for investment by SEB. As of January 1st 2015 the list of excluded companies, that is updated twice a year, has a tally of 31. Twelve of these 31 companies can be found in our "Defense Portfolio". (seb.se 15-05-18)

Nordea

Nordea screen all their possessions within Nordea Asset Management's equity portfolio for verified violations against international principles regarding environment issues, human rights, labor standards and overall business ethics. This is done to secure that good returns are being delivered to the bank's clients but not at the cost of responsible investments. Nordea has an approach that involves three different levels of interaction, one, gathering information for ESG-analysis, two, dialogues regarding key issues in order to fulfill a complete report of the company and, three, involvement in an even more intense and deep-going manner in order to influence and enhance the company's overall ESG-management profile.

Like SEB, Nordea can exclude companies from their portfolios, if Nordea's Committee for Responsible Investments does not consider the firm in question to be acting in a desirable fashion when it comes to changing their norm breaching behavior. As of 2012, companies that are involved in production of weapons categorized as controversial or nuclear weapons-related products are eligible for Nordea investments due to "their indiscriminate effects on human populations." As of May 2015, 28 companies are excluded from Nordea investments, 25 of these companies are excluded because of their involvement in weapon manufacturing and nine of these are included in our defense portfolio. In addition to these excluded companies, Nordea chooses not to invest in government bonds issued by countries that are subject to extensive sanctions and does not respect human rights.

Handelsbanken

Handelsbanken's policies for responsible investments are based upon internationally agreed norms for environment, human rights, labor terms, corruption and controversial weapons. Furthermore the bank has joined the voluntary UN initiative Global Compact (Handelsbanken.se 2015-05-18) that consists of ten principles which asks companies to "embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labour standards, the environment and anti-corruption"(unglobalcompact.org 2015-05-18). The policy includes all direct investments,

both foreign and domestic. In case of indirect investments via derivatives or similar financial products the policy is applied to the furthest possible extent.

Handelsbanken's Council for Responsible Investments is the in-house body that decides which companies will be subject to a separate dialogue. The council also has the mandate to exclude such companies that do not make the desired progress regarding improved corporate responsibility. If however, a sale/exclusion would significantly impair the funds ability to appropriately reflect the underlying index then the exclusion could be overturned. Like both SEB and Nordea, Handelsbanken do not deal with companies involved in production of controversial weapons. Handelsbanken has 34 companies on their exclusion list, all of them due to involvement in cluster munitions, landmines or nuclear weapons. Nine of these firms can be found in our Defense Portfolio.

Swedbank Robur

As Sweden's largest fund manager and one of Scandinavia's leading asset managers Swedbank accredit themselves with great responsibility in how they choose which firms to invest in and how they can actively improve the CSR-profile as shareholders. The purpose and aim of the banks shareholder work is to provide a good yield for its clients. A basic condition that must be filled in order to accomplish this is the presence of a competent board of directors that are suitable for the firm's business and risks, including sustainability risks.

Swedbank audits their present and future investments by co-operating with sustainability analysts on a regular basis, among other things a firm's sustainability risk can vary widely depending on industry and geography. Heightened focus is on industries and regions with elevated risks, such as; the oil and mining industry as well as firms active in non-democratic and/or low cost countries. Swedbank want the firms in their portfolios to improve their work on human rights, business ethics, labor conditions and environment. Firms deemed to have room for improvement in these areas will be subject to a dialogue on sustainability where the bank's analysts will discuss the firm's current work on

sustainability and give suggestions on how it can be improved. In addition to direct discussion Swedbank has identified a number of industries and themes where they want to make a difference. These include for example fossil fuels, children's rights and anti-corruption work.

As a last resort, when sustainability discussions seem to be fruitless or if the company in question are involved in the production of cluster munitions, landmines, chemical or biological weapons or nuclear weapons then an exclusion from the bank's investment is an option. At present there are 25 companies on Swedbank's exclusion list of which nine are listed in this research's defense portfolio. Where six are excluded due to involvement in nuclear weapons and three due to development or production of cluster munitions. As previously mentioned, exclusion is the last action that is being resorted to. Inclusion and influence through active ownership of shares is the preferred route of action.

Church of Sweden

On different levels of the Swedish Church there is an on-going and committed effort to ensure that all human beings equal worth and nature's boundaries are being respected. The church strives to own shares in firms that through their actions, their products or services contribute to a sustainable development. Through active ownership and co-operation with other investors, as well as influencing firms through dialogue, the church's vision is to achieve added value in a sustainable manner.

Due to an article in *Dagens Nyheter* in 2014, claiming that the church invests in weapons manufacturing a statement was issued regarding the church's view on the defense industry. A company whose revenue to 99 percent is made up of non-military products is not considered as a weapons manufacturer in the eyes of the Church of Sweden. That last percent will non-the-less be monitored and subject to a qualitative as well as quantitative assessment to take into consideration what type of product that is being manufactured as well as the scale of the production. In this case the company in question derived 0,5 percent of its revenue from a defense related product, namely an armored transport vehicle. A non-aggressive product produced in a small scale like this does not disagree with the church's

policy as long as the product is not connected to guns further down the supply line. If that would be the case the shares would be sold. In other words, the Swedish Church exclude all firms that produce, develop or sell military equipment intended for aggressive usage. This decision is made in accordance with ISP's definition of *War Materials Intended for Battle* (svenskakyrkan.se).

Furthermore are all producers of tobacco products excluded along with all firms involved in Gambling or Alcohol unless they can prove that they accord themselves in a responsible and conscious manner (svenskakyrkan.se)

AMF Pensions

To invest entails a responsibility in choosing which firms that AMF should invest in. To ensure social responsibility within AMF's portfolios they adhere to various guidelines and internationally agreed upon principles such as UN's Global Compact, OECD's guidelines for MNCs, UNCAC and UN PRI. Continuous dialogues and visits to firms invested in enable AMF to make their own assessment of the companies sustainability-profile. In addition to this AMF semi-annually invites an external sustainability expert to conduct a thorough audit on all of AMF's portfolios. Through the internal and external assessments companies are then given a green, yellow or red flag to symbolize their CSR-profile. A red flag means for already existing holdings that a contact and discussion is initialized with the company in question and the outcome will determine if a divestment is necessary. If a possible future investment is red-flagged it should be abnegated.

Regarding the defense industry, AMF honors UN conventions that monitors and regulates the use, trade and development of controversial weapons and nuclear weapons.

SPP

SPP claim to have Scandinavia's largest sustainability team that grades somewhere around 2500 firms according to their own sustainability rating. SPP use their position as shareholder to sway firms towards improved sustainability-profiles and through their

involvement in UNPRI there is also co-operation with other investors in order to influence companies sustainability efforts in a positive manner. Another step for improvement is continuous dialogues, which so far this year has lead to four companies changing their behavior or governance process. These discussions are meant to be long-term and can span over several years in which on-going improvements often can be seen.

SPP uses a form of worse-in-class approach when it comes to exclusions. Firms that are among the bottom ten percent, based on SPP's analysis of their positioning towards future sustainability trends in high-risk industries are excluded from SPP's investments.

Industries that qualifies as high risk according to SPP are among others; oil and gas, textile, chemicals, medical products, electric power, paper pulp, mining and maritime shipping. In accordance with Global Compact, firms that violate human rights, labor rights or are involved in corruption are also excluded along with those who produce or develop controversial weapons (spp.se). As of 2013 SPP include nuclear weapons in the controversial weapons category instead of reporting them separately (SPP's Sustainability Report 2013).

SPP has an extensive list of exclusions that as of the first quarter of 2015 includes 168 companies and 30 government bonds that are not associable with the values and policies that SPP adheres to. In addition to earlier mentioned industries and policies SPP also excludes firms involved in tobacco production. Of the total 168 excluded companies, 22 are excluded due to their production of weapons (spp.se).

Alecta

The ethical policy of Alecta, regarding investments is based upon international agreements ratified by Sweden as a state through governmental decisions. These agreements concern human rights, certain types of arms, environmental issues, child labor, racism and discrimination & labor rights. Thus, Alecta should not invest in corporations that do not live up to the demands and norms that these international agreements have recognized.

To secure a high ethical profile within their portfolios, external analysts screen Alecta's holdings twice a year for irregularities. When found, they shall always lead to a discussion between Alecta and the firm in question with the purpose of establish the firms view on the matter and establish what actions can be taken to improve the situation. Should the same warning flag be raised at the next screening the procedure will be repeated. The firm needs to be made aware of the grave concern that Alecta as an owner experience in the situation and in that way influence the company to alter their behavior or processes. Should the second dialogue prove to be fruitless in a third screening, divestment is a possible option. Neither should any further investments be made in current holdings that carry an unresolved "flagging".

The conventions that Alecta has undertaken to uphold includes the Ottawa-convention and the convention on cluster munitions, thereby Alecta has taken a stand against what is classified as controversial weapons (alcecta.se).

7.2 ISP's mission and guidelines regarding Swedish arms export

The Swedish Agency for Non-Proliferation and Export Controls (Inspektionen för Strategiska Produkter) is tasked with several missions regarding Swedish domestic and foreign politics. Its main area of responsibility is the control and overview of strategic products as well as monitoring sanctions and embargos on Sweden's behalf. They are also the Swedish government body that handles the country's obligations in accordance with the chemical weapons conventions (isp.se).

The current guidelines regarding export of defense-related products that ISP strives to uphold are established through the governmental proposition 1991/92:174. Those guidelines state that permission for exportation of defense materials or other collaborations with anyone outside of Sweden's borders regarding said materials, should only be permitted if such export or cooperation:

Is deemed required to accommodate the needs of the Swedish armed forces in terms of material and knowledge or if it is desirable for security political reasons and does not conflict with the overall principles and goals for Swedish foreign affairs.

Furthermore should permission not be granted if:

- The decision would go against international agreements, embargos, UN's Security Council or public international law.
- Severe violations of human rights occur in the recipient country.
- Armed conflicts are ongoing either with a foreign power or within the nation, regardless if a declaration of war has been made or not (ISP.se).

Since 2000 ISP also monitors the export of products with multiple areas of usage, often referred to as dual usage. These products have an established civil use but could just as well be of use in the manufacturing of weapons of mass destruction or be of other military use. Hence the export of these products is not being monitored because they, by themselves, are inherently dangerous but because if used in a destructive manner they could fulfill military requirements. Examples of such products are; certain types of chemicals, high-tech machine tools and pipes made out of special alloys. The cardinal rule regarding these products is that export should be permitted but can and should be prohibited if there is probable cause to suspect that they will be used for the wrong purposes.

7.3 ATT

The Arms Trade Treaty (ATT) put in place by UNDOA, UN's office for disarmament affairs, entered into force on Christmas Eve 2014. The treaty has, to date, been ratified by 67 states and signed by another 63 states. The treaty basically outlines what the UN expects of all countries in question of arms export, import and record keeping. The treaty establishes a minimum effort that shall be made, but an even greater responsibility is warmly promoted. The lion's share of the ATT-guidelines is interoperable with the Swedish ISP-framework

and aims to establish that all ratifying countries conduct themselves appropriately in accordance with UN sanctions and embargoes to even further limit governments and organizations that violate human rights, or even commits acts of genocidal nature, possibilities to lay their hands on arms that aid their unjust cause. The aim is to contribute to international and regional peace, thereby reducing human suffering through the establishment of the highest possible common international standards for the regulation of international arms trade. Furthermore the treaty is modeled to promote transparency and cooperation between state parties. Countries are required to submit an annual report, where the first is due on the 31st of May 2016, of their import and export of defense-related products. However countries are allowed to exclude information that is commercially sensitive or related to national security (un.org).

7.2 Companies included in our study

Defense portfolio:

Lockheed Martin, BAE Systems, Raytheon, Northrop Grumman, General Dynamics, Finmeccanica, Thales, L-3 Communications, Huntington Ingalls Industries, Booz Allen Hamilton, Leidos, ITT Exelis, Babcock International Group, CACI International, SAAB, Elbit Systems, Rockwell Collins, Cobham, Gencorp, Cubic Corporation, Bharat Electronics

Manufacturing Portfolio:

Toyota, Volkswagen, Samsung, Daimler, General Electric, Ford, Hewlett, Hon Hai, Exor, Siemens, Apple, IBM, Cardinal, BASF, Honda, BMW, Mittal, Boeing, Peugeot, Procter & Gamble

Ethical Portfolio:

Deere And company, Fluor Corporation, Cisco Systems Inc., Cummins Inc, Eaton Corp, Johnson Controls, Ford, General Electric, Caterpillar, AECOM, Honeywell, Juniper Networks, The Timken Company, Delphi Automotive, Kennametal Inc, 3m Company, BMW, Intel Corp, Hewlett Packard, Schneider Electric, Atlas Copco, TE Connectivity