



School of Business  
Economics and Law  
GÖTEBORG UNIVERSITY

Department of Business Administration

**Repurchasing shares synthetically using the total return swap**  
*- Swap agreements combined with a redemption program*

*Bachelor and Master Thesis  
Industrial and Financial Economics*

*School of Business, Economics and Law  
Göteborg University  
Autumn 2005*

*Supervisor: Anders Axvärn*

<i>Authors:</i>	<i>Date of Birth</i>
<i>Björn Holmgren</i>	<i>810119-</i>
<i>Christian Wallenstam Berntsson</i>	<i>820706-</i>
<i>Victor Örn</i>	<i>811002-</i>

## **Abstract**

As the direct stock buyback was legalized in year 2000, it boosted the interest for a Swedish variant invented by Handelsbanken Markets, the synthetic share repurchase, which constitutes the foundation of this report. This descriptive study examines the synthetic repurchase program and evaluates the problem; *if whether or not the synthetic buyback approach is the optimal course of action for a firm repurchasing stock*. Further, the risks associated with, as well as the differences between the two repurchasing approaches (direct and synthetic) are studied and discussed, resulting in conclusive recommendations regarding the problem stated above.

---

***Keywords: synthetic share repurchase, equity derivatives, total return swaps, swaps, redemption program.***

<b>1. INTRODUCTION.....</b>	<b>4</b>
1.1 BACKGROUND .....	4
1.2 SHARE REPURCHASES -A GENERAL DESCRIPTION .....	5
1.2.1 <i>Dividend as substitution for a share repurchase</i> .....	5
1.2.2 <i>The direct approach</i> .....	6
1.2.3 <i>The synthetic approach</i> .....	6
1.3 MODEL FOR ANALYZING INFORMATION .....	8
1.4 PROBLEM DISCUSSION .....	9
1.5 PROBLEM STATEMENT .....	10
1.6 PURPOSE .....	11
1.7 SCOPE AND DELIMITATIONS .....	11
<b>2. METHODOLOGY.....</b>	<b>12</b>
2.1 DEDUCTIVE OR INDUCTIVE APPROACH.....	12
2.2 RESEARCH DESIGN APPROACH.....	13
2.3 DATA COLLECTION TECHNIQUES .....	13
2.4 SOURCES OF DATA.....	14
2.4.1 <i>Primary data</i> .....	14
2.4.2 <i>Secondary data</i> .....	16
2.5 RELIABILITY AND VALIDITY .....	17
<b>3. THEORY .....</b>	<b>18</b>
3.1 GENERAL ASPECTS.....	18
3.1.1 <i>Capital Structure (Capital structure policy)</i> .....	18
3.1.2 <i>Intrinsic value discount (Investment policy)</i> .....	19
3.1.3 <i>Earnings per share (Financial policy)</i> .....	20
3.1.4 <i>Administration (Allocation policy)</i> .....	20
3.1.5 <i>Market signaling (Communication policy)</i> .....	21
3.1.6 <i>Takeover deterrence (Corporate control)</i> .....	22
3.2 AGENCY THEORY .....	23
3.3 LEGISLATION AND LIMITATIONS .....	24
3.3.1 <i>The direct share repurchase program</i> .....	24
3.3.1.1 Capital shifting methods .....	25
3.3.1.2 Protection of creditors .....	25
3.3.1.3 Which companies can repurchase stock?.....	25
3.3.1.4 The decision to repurchase stock .....	26
3.3.1.5 Redemption or transfer of own stock.....	26
3.3.1.6 Maximum holdings of own stock .....	28
3.3.1.7 Managing own stock in the company .....	28
3.3.1.8 Insider issues .....	29
3.3.1.9 Obligation to report .....	29
3.3.2 <i>The synthetic share repurchase program</i> .....	29
3.3.2.1 Maximum holdings of own stock .....	30
3.3.2.2 Insider issues .....	30
3.3.2.3 Obligation to report .....	30
3.3.2.4 Redemption procedure.....	31
3.4 TOTAL RETURN SWAP.....	31
3.4.1 <i>Motivation of the Payer</i> .....	33
3.4.2 <i>Motivation of the Receiver</i> .....	33
<b>4. ANALYSIS AND EMPIRICAL RESULTS.....</b>	<b>34</b>
4.1 SITUATION OF THE FIRM .....	34
4.2 GENERAL ASPECTS - PROS AND CONS .....	35
4.2.1 <i>Capital Structure</i> .....	35
4.2.2 <i>Intrinsic value discount</i> .....	36
4.2.3 <i>Earnings per share</i> .....	36
4.2.4 <i>Administration</i> .....	37
4.2.5 <i>Market signaling</i> .....	38
4.2.6 <i>Takeover deterrence</i> .....	39
4.2.7 <i>Legislation and Limitations</i> .....	40

Repurchasing shares synthetically using the total return swap  
- Swap agreements combined with a redemption program

---

4.3 RISKS AND OPPORTUNITIES WITH SYNTHETIC REPURCHASES .....	41
4.3.1 Credit risk.....	41
4.3.2 Reference asset - a numerical example.....	41
4.3.3 Redemption procedure.....	43
4.4 THE DIRECT VERSUS THE SYNTHETIC SHARE REPURCHASE - A COMPARISON MATRIX.....	44
4.5 RELIABILITY AND VALIDITY .....	47
<b>5. CONCLUSION AND RECOMMENDATIONS .....</b>	<b>48</b>
<b>6. SUGGESTIONS FOR FURTHER RESEARCH .....</b>	<b>50</b>
<b>7. REFERENCES.....</b>	<b>51</b>
7.1 LITERATURE.....	51
7.2 ARTICLES .....	52
7.3 WEBSITES.....	54
7.4 INTERVIEWS .....	54
7.5 MISCELLANEOUS.....	55
<b>8. GLOSSARY OF TERMS.....</b>	<b>56</b>
<b>9. APPENDICES .....</b>	<b>57</b>
9.1 APPENDIX 1 - A NUMERICAL EXAMPLE (UP) .....	57
9.2 APPENDIX 2 - A NUMERICAL EXAMPLE (DOWN) .....	58

**List of figures**

FIGURE 1: THE SYNTHETIC APPROACH.....	7
FIGURE 2: MODEL FOR ANALYZING INFORMATION IN THE STUDY .....	8
FIGURE 3: INDUCTIVE OR DEDUCTIVE APPROACH.....	12
FIGURE 4: EXAMPLES OF DIFFERENT INTERVIEW-TECHNIQUES .....	15
FIGURE 5: AGENCY COSTS .....	24
FIGURE 6: TOTAL RETURN SWAP.....	32
FIGURE 7: COMPARISON MATRIX .....	44

## 1. Introduction

*This first chapter of the study commences by presenting the background of stock buybacks, and moves on to describe the purpose as well as to state the main problem statement upon which this paper has been built on.*

---

### 1.1 Background

From 1895 up until more recently (March 10<sup>th</sup> 2000<sup>1</sup>), Swedish law prohibited joint-stock companies to repurchase and/or to transfer their own shares. Various motives have been presented throughout the years, which justify the prohibition, but the initial motive stated was the protection of a firm's creditors<sup>2</sup>. When the share capital is reduced, there are fewer funds to cover losses thus increasing the default risk, as well as potentially harming creditors if bankruptcy becomes reality.

In 1990 the Swedish government appointed and formed a committee commissioned to review aktiebolagslagen, and in 1999 the committee submitted its report which resulted in legalization of share repurchasing in the year 2000<sup>3</sup>. Sweden was thereby one of the last nations in Western Europe<sup>4</sup> to allow this course of action. As the phenomenon was legalized, the annual buyback limit was set to ten percent of total share capital<sup>5</sup>. In reality, this limitation boosted the interest for a Swedish variant<sup>6</sup> invented over a year earlier by Handelsbanken Markets, the synthetic share repurchase (in combination with a *redemption*<sup>7</sup> program), which constitutes the foundation of this report. The first synthetic repurchase ever made was completed early in 1999 and included the parties Investment AB Öresund and Handelsbanken Markets<sup>8</sup>. Notably, the synthetic repurchase alternative in combination with a redemption program was available to companies prior to share buybacks was legalized.

The reasoning and reasons behind share repurchasing vary, which makes this an interesting research subject. As an example, Dittmar states that firms repurchase stock to distribute

---

<sup>1</sup> Regeringens proposition (1999/2000:34)

<sup>2</sup> Svensk Skattetidning (2000)

<sup>3</sup> Regeringens proposition (1999/2000:34), reviewed the law from 1975 (1975:1385)

<sup>4</sup> Dagens Industri (2000)

<sup>5</sup> Regeringens proposition (1999/2000:34)

<sup>6</sup> Bark (2005)

<sup>7</sup> For description see glossary

<sup>8</sup> Bark (2005)

excess cash flow. On another note, firms may repurchase stock to increase their leverage ratio.<sup>9</sup> Further, it is interesting to observe why a firm chooses a synthetic share repurchase alternative above a direct one, or vice versa. Potential benefits with the synthetic repurchase include minimal impact on corporate liquidity and cash flow, as well as limited impact on the balance sheet and a more favorable accounting treatment<sup>10</sup>.

## **1.2 Share repurchases -a general description**

Share repurchase programs have achieved wide application today as a corporate capital management tool<sup>11</sup>. The following statement provides an eloquent picture:

*Although repurchases may have the effect of shrinking the size of an organization, they are certainly not undesirable or unhealthy, nor should they be viewed as a sign of managerial failure or lack of imagination. They are essential to any dynamic economy that hopes to have voluntary reallocations of capital from the “old” to the “new” economy<sup>12</sup>.*

As already stated, corporate motives for carrying out repurchasing programs vary. A more throughout description of the pros and cons the different repurchasing methods provide and the synthetic buyback method in particular, will be given further on in the paper. In the following three sub-sections, two examples of capital shifting methods are given.

### **1.2.1 Dividend as substitution for a share repurchase**

As mentioned above, Sweden was very late in legalizing stock buybacks compared to the rest of the Westernized world. The occurrence became popular as early as in the 1980s, especially in the United States. Before the buyback option was available, cash dividends were (and still are for a lot of companies) the principal means of returning excess capital to shareholders. However, as repurchasing grew in use and popularity, it grew at the expense of other capital shifting methods. *Special dividends*<sup>13</sup> for example have almost vanished from the marketplace due to the entry of share repurchasing<sup>14</sup>. When comparing the two main capital distribution methods (share repurchasing and cash dividends), one can find both pros and cons with each.

---

<sup>9</sup> Dittmar (2000)

<sup>10</sup> Burns (2000)

<sup>11</sup> *ibidem*

<sup>12</sup> Grullon & Ikenberry (2000) p. 41

<sup>13</sup> For description see glossary

<sup>14</sup> DeAngelo et al (1999)

Benefits associated with dividend paying firms are stable earnings and cash flows<sup>15</sup>, and one big benefit for investors of a repurchasing firm is favorable tax treatment<sup>16</sup>. There is evidence stating that the dividend payout ratio among firms has been declining since the mid-1980s, while the total payout ratio has remained more or less constant<sup>17</sup>. This suggests that firms have been substituting repurchases for dividends. To conclude, evidence also indicates that corporations prefer repurchases over dividends<sup>18</sup>.

*Repurchases give managers more flexibility than dividends—flexibility to make small adjustments in capital structure, to exploit perceived undervaluation of the shares, and even perhaps to increase the liquidity of the stock (which may be particularly valuable in bear markets)*<sup>19</sup>.

### **1.2.2 The direct approach**

A direct share repurchase may be preformed in two different ways; (1) the fixed-price tender offer, and (2) the open market repurchase.<sup>20</sup>

The former alternative involves the firm offering a single buyback price to all shareholders on a specific number of shares, valid for a limited time period. Under the circumstance that the offer gets oversubscribed, the managers can choose to increase the amount of shares to be bought back, or to compensate shareholders in the form of a cash payment which is predetermined.

The latter approach is clearly the preferred technique between the two<sup>21</sup>. In these cases the firms buy back shares directly on the open market or through intermediaries such as banks.

### **1.2.3 The synthetic approach**

Under this approach, a swap-contract which in most cases incorporates a total return swap is established between a payer (bank) and a receiver (company)<sup>22</sup>. It also states a maximum

---

<sup>15</sup> Weisbach et al (2000)

<sup>16</sup> Copeland et al (2005)

<sup>17</sup> Fama et al (2000)

<sup>18</sup> Grullon & Michaely (2000)

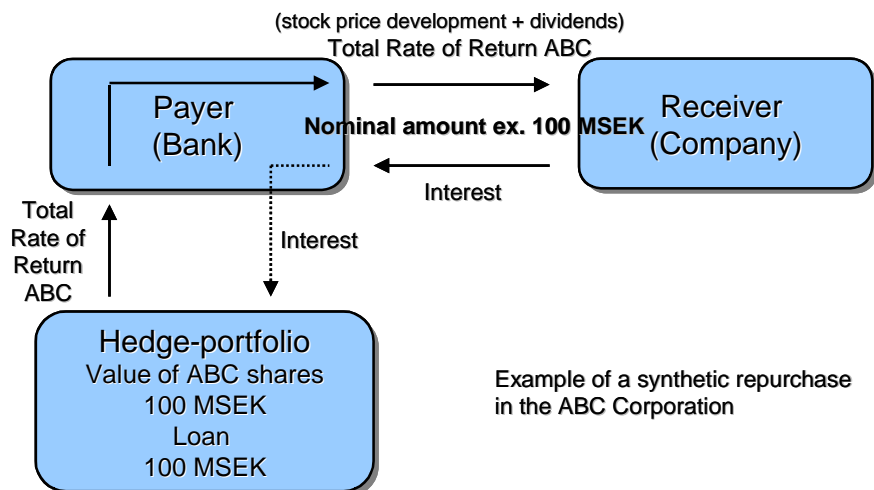
<sup>19</sup> Grullon & Ikenberry (2000) p.49

<sup>20</sup> Grullon & Ikenberry (2000)

<sup>21</sup> *ibidem*

<sup>22</sup> Berntsson (2005)

amount of shares to be bought back. The *duration*<sup>23</sup> of the contract is usually one year, stretching from one shareholders meeting to another<sup>24</sup>. The payer transfers the risk associated with the stock, such as price movements back to the receiver through the creation of a hedge portfolio (see picture below). The payer however, stands the credit risk throughout the duration of the contract. The receiver continuously calls quantities from the original quantity specified, up until the full amount is covered. At the maturity date the receiver rolls out a redemption program, with a stock price well below the prevailing market price (for example minus five percent). The number of shares in the redemption program is the same as the number specified in the swap-contract. As the bank swaps the shares, the swap is closed. The firm then proceeds by applying for denotation of the stocks to a district court.



**Figure 1: The synthetic approach**

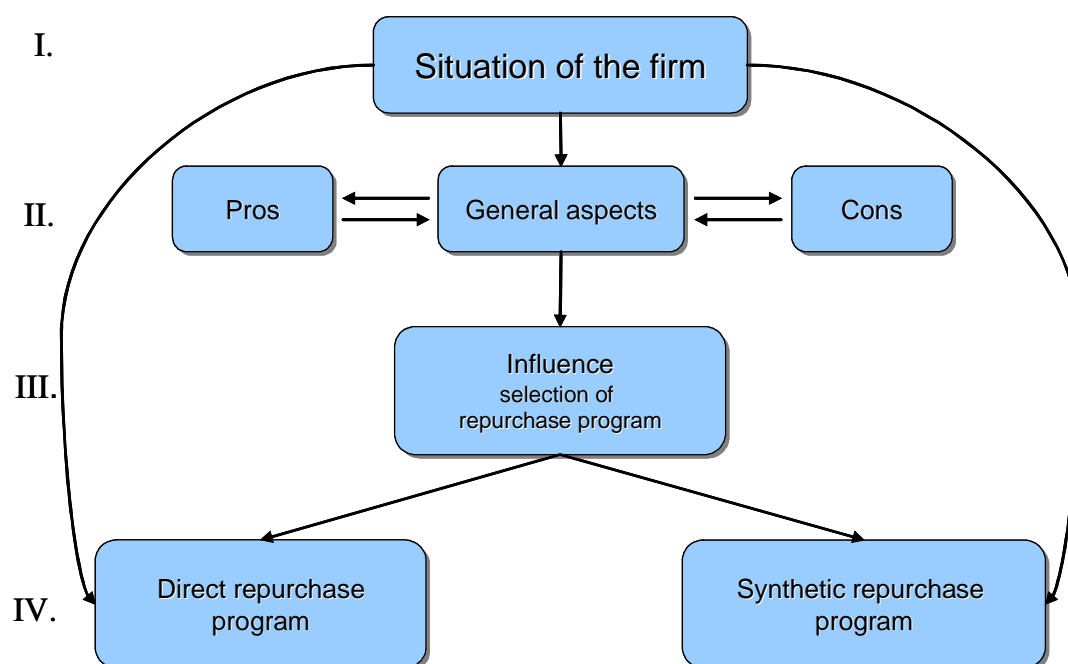
There is no question that a share repurchase program can be completed without using a synthetic approach. Although we can see potential benefits with this alternative, such as the flexibility the method offers, and lower administrative costs it may bring. Other derivative strategies which can be used in conjunction with, or as a substitute for, the direct share repurchase method are forward equity purchases, selling puts, buying call options or a share split with automatic redemption.

<sup>23</sup> For description see glossary

<sup>24</sup> Bark (2005)



### 1.3 Model for analyzing information



**Figure 2: Model for analyzing information in the study**

The model aims to clarify which repurchase alternative is more suitable for a company, given various underlying factors, and it contains the following process flow:

#### I.

The overall situation of the firm may represent limitations to which repurchase approach is feasible. This implies that only one of the two alternatives is possible. The synthetic method may be the only option for a corporation, due to for example the firm temporarily lacking funds for executing a buyback or that the ten percent repurchase limit has been reached. Alternatively, the firm may be limited to a direct repurchase due to a low credit rating.

#### II.

If the company possesses the flexibility to freely choose which alternative to use, there are a number of general aspects to consider. The pros and cons of these are then evaluated.

General aspects evaluated in the model are:

- Legislation issues
- Capital structure (Capital structure policy)
- Intrinsic value discount (Investment policy)

- Earnings per share (Financial policy)
- Administration issues (Allocation policy)
- Market signaling (Communication policy)
- Takeover deterrence (Corporate control)

### III.

The outcome of the evaluation in the previous step works as the main influence on which approach to choose (synthetic or direct program).

### IV.

After following the three previous steps of the analysis model, the alternative most superior stands out.

## **1.4 Problem discussion**

Synthetic share repurchasing is a relatively new phenomenon and there seems to be a lot of advantages with this action. However, since this phenomenon was invented as a consequence of Swedish legislation not allowing share repurchasing, there is a risk that some or all of its current advantages will disappear in the future due to firms potentially abusing the technique. Abuse could for example be if firms engage in stock buybacks without informing the market (and shareholders in particular) correctly. The future for synthetic repurchase programs will also be determined by trends among business-banks and listed companies. Today, a majority of the business-banks consider synthetic repurchase programs prestigious<sup>25</sup>, and as long as the banks are interested in such programs it is probable that agreements of this kind will remain popular. However, if legislation controlling share repurchasing was amended, it could potentially alter the prevailing conditions dramatically and thus, possibly ruin the current benefits.

What will the future hold for synthetic share buybacks, and will its usage grow broader, diminish or stagnate as external powers may have an influence?

On a different note, synthetic repurchase programs may imply both new risks and opportunities. When a company faces the choice of whether to use a synthetic repurchase

---

<sup>25</sup> Immelborn (2005)

program or a direct one, a wide range of aspects have to be considered. The major concern for most firms is the risk. The dilemma of deciding whether or not to use a synthetic repurchase option constitutes the base in the problem discussion.

Which are the greatest incentives for choosing a synthetic repurchase program contra a direct alternative? Is it possible that the synthetic repurchase model will dominate in the future, provided that the legislation does not change?

### **1.5 Problem statement**

Our profound interest in share repurchasing and in its synthetic variant in particular, as well as the recognition of its increasing popularity<sup>26</sup>, has led us to decide on the following problem statement:

***Is synthetic share repurchasing using the total return swap, the most optimal course of action for a Swedish listed joint-stock company when repurchasing stock?***

With the aim of substantiating our findings, we will research vital aspects relevant for the procedure.

The main question has been broken down into sub-questions in order to easier divide our findings, and thereby to facilitate answering the main problem statement.

**Which are the advantages contra disadvantages with a synthetic repurchase program?**

**When repurchasing synthetically, do the pros exceed the cons?**

**Will synthetic repurchasing experience a broader usage in the future, or will trends and legislation hold back its development?**

---

<sup>26</sup> Immelborn (2005)

## **1.6 Purpose**

The main purpose of this paper is to investigate whether a company which aims to repurchase stock is better off or not by doing so using the synthetic buyback approach. Through this study we also aim to clarify the meaning of a synthetic share repurchase program, as well as indirectly compare the direct and synthetic approaches, the only two alternatives presently available to firms.

## **1.7 Scope and delimitations**

We have chosen to demarcate the study only to treat Swedish listed joint stock companies and the legislation that applies to these. Our definition of a Swedish listed firm is a business entity noted at the Stockholm stock exchange.

The realization of a synthetic share repurchase program involves derivatives. We primarily choose to focus on the so called total return swap, since this derivative constitutes a central part of the synthetic share repurchase. Apart from the synthetic share repurchase, other derivative strategies exist, such as forward equity purchases, selling puts or buying call options. Since none of these strategies have been used in Sweden up to date<sup>27</sup>, we choose to exclude these from our study. Another derivative strategy which will not be included in the study, is the share split with automatic redemption. The reason for this is that the strategy is newly developed and thus no statistical results exist.

---

<sup>27</sup> Bark (2005)

## 2. Methodology

*In order to gain a better understanding of how this study has been conducted, the choice of research method and more are presented in this section. In-depth interviews constitute the foundation of the information gathering and hence, the model for analyzing information permeates the methodology chapter.*

### 2.1 Deductive or Inductive approach

A deductive approach is characterized by the possibility to draw conclusions regarding particular occurrences from general principles and existing theories. If the researcher works deductively, he or she follows the path of proof. On the contrary, a person working inductively follows the path of exploration.<sup>28</sup>

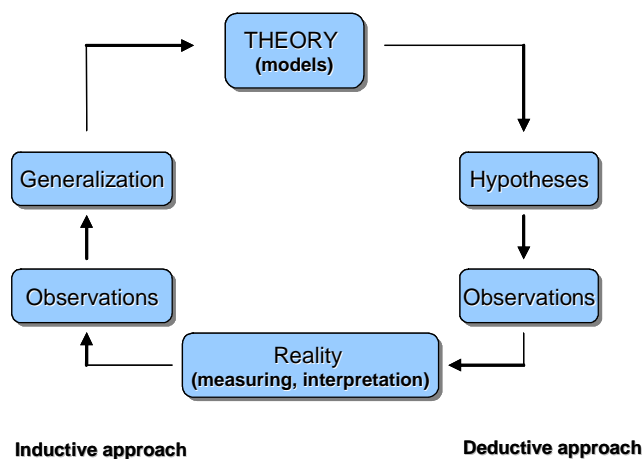


Figure 3: Inductive or Deductive approach<sup>29</sup>

We have chosen a deductive approach since we proceed from already existing theories to subsequently formulate a problem. From existing theory, hypotheses are derived which are examined afterwards empirically in the case. Our course of action begins by studying material concerning synthetic share repurchases, as well as risks and opportunities attached to this transaction. Since theory behind synthetic repurchases is limited, our real life observations (interviews) constitute the backbone of the report. The deductive approach is clearly the obvious choice since we proceed from existing, although in part limited theories.

<sup>28</sup> Patel et al (1994)

<sup>29</sup> Wiedersheim & Eriksson (2001)

## **2.2 Research design approach**

Research design approaches can be divided into four different categories: explorative, descriptive, explanatory and predictive.

In the descriptive approach, you confine yourself just to investigate some aspects of the phenomena you are interested in. The descriptions of these aspects should be detailed and thoroughgoing.<sup>30</sup> It is characterized by a carefully planned and structured research design. Since the purpose is to provide information regarding specific questions, the research must be designed to ensure accuracy of the findings.<sup>31</sup>

The explanatory approach is chosen when there is a need to establish casual relationships between a number of variables, and it enables the user to show connections and influences between these variables. In this approach, the focus is on fewer variables in comparison to the descriptive approach, which often has a wider subject area to investigate.<sup>32</sup>

The explanatory and descriptive research approaches are similar in many ways. The research design approach chosen for this report is the descriptive method, first and foremost because the approach allows a wider subject field to be researched. Further, correlation between the researched aspects has not been investigated. Throughout the thesis we aim to portray a synthetic share repurchase program out of a Swedish joint-stock company's point of view, as well as the consequences and opportunities associated to it. The synthetic share repurchase is quite a new phenomenon among Swedish joint-stock companies<sup>33</sup>, why we subsequently find a descriptive approach of the thesis suitable.

## **2.3 Data collection techniques**

There are generally two different methodological approaches of data collection; quantitative and qualitative methodology. The main difference between the two is in the way numbers and statistics are used. In most cases, the chosen research question underlies which data collection technique to use.<sup>34</sup>

---

<sup>30</sup> Patel et al (1994)

<sup>31</sup> Kinnear & Taylor (1996)

<sup>32</sup> Lekvall & Wahlbin (1993)

<sup>33</sup> Bark (2005)

<sup>34</sup> Holme & Solvang (1997)

The primary purpose of qualitative data collection is to establish an understanding of the phenomenon that is studied. The research focuses on only a few units and aims at getting as much information about these as possible. The information is collected from personal interviews in the form of in-depth interviews and interview guides without fixed questions or answers. A major advantage of the qualitative data collection technique is that a more actual picture of reality may be achieved, as well as deeper understanding of the research subject. Qualitative data collection techniques are less formalized and more flexible than quantitative techniques.<sup>35</sup>

In this thesis, the qualitative data collection technique is used, since in-depth personal interviews are the most optimal course of action for researching this subject. It also gives the study flexibility, which we request and value highly. In addition, the qualitative approach is suitable here due to limited access to respondents.

## **2.4 Sources of data**

The two fundamental categories of data available are primary and secondary data<sup>36</sup>. Both primary and secondary data have been used in this report.

### **2.4.1 Primary data**

This study contains a large amount of primary data collected for researching a specific question. The primary data has exclusively been collected through face-to-face interviews. The purpose with this technique is to gain flexibility in the communication with the respondents.

Only a small number of respondents with significant knowledge about the subject constituted the selected group for interviews. We have focused on a fewer number of key persons belonging to different categories including law, finance and company management. Due to the fact that this field is a bit complex, it was necessary to take advantage of the possibility that in-depth personal interviews provide explanations as well as clarifications. It was also possible to go into detail about the subject in question, and thereby improve the understanding

---

<sup>35</sup> Holme & Solvang (1997)

<sup>36</sup> Dahmström (1996)

of the research subject. Questions were adjusted and corrected during the interviews, and additional questions were added.

As already mentioned, we have adopted a qualitative data collection technique, a technique characterized by a low degree of standardization. The degree of structuring in our interview-technique can be considered medium (somewhat in between the boxes). That is, we both aim at focused interviews and journalistic interviews (see figure 4).<sup>37</sup>

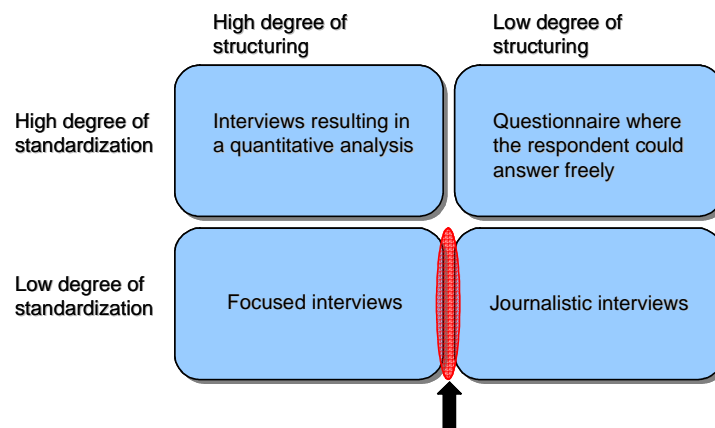


Figure 4: Examples of different interview-techniques <sup>38</sup>

Each interview was prepared individually since our respondents had different areas of expertise. The main questions were the same for all respondents and the answers were collected through a recording device as well as written down. In the interviews, the respondents were encouraged to speak freely and openly about the subject. It was then possible to discover nuances and attitudes not explicitly asked for.

---

<sup>37</sup> Patel & Davidsson (1994)

<sup>38</sup> *ibidem*



The interview questions are characterized by a low degree of standardization and hence, it is not possible here to present the questions in detail. Examples of key questions are as follows:

- *Which aspects do you find most important to consider when realizing a repurchase program?*
- *Which aspects are most vital in the synthetic buyback approach?*
- *Which aspects are most vital in the direct buyback approach?*

Respondents in the study are presented below:

- Bark Johan, vice president of Handelsbanken Equity Derivatives
- Berntsson Anders, vice President of Wallenstam
- Ek Ulf, CFO of Wallenstam
- Immelborn Henrik, Senior Manager of Nordea Equity Capital Markets
- Sandberg Peter, former CEO of Bure Equity
- Sonander Fredrik, Company Lawyer, Vinge
- Söderberg Ulf, Corporate Banking, Kaupthing Bank

#### **2.4.2 Secondary data**

The secondary data in this thesis consists of articles, books, annual reports, confidential material and blueprints from business-banks and companies regarding this subject. The secondary data constitutes the base of the theoretical part in this study. Additional information found on the Internet has also been used as an influence. Search engines like Gunda and Google have been used in the information seeking process, as well as recommendations from persons with extensive experience. The most frequently used keywords for searching the databases (individually or in combination) were:

- Synthetic share repurchase
- Equity derivatives
- Total Return Swaps
- Swaps
- Redemption program

There were some difficulties in finding information that suited specific needs of our research questions. In some cases, adaptations of the secondary data to fit the primary had to be made in order to better correspond with our research questions. An adaptation made was combining the theory behind swap agreements and redemption programs.

## **2.5 Reliability and validity**

Reliability explains how reliable the information is, and validity tells us how valid the collected information is.<sup>39</sup>

Reliability in a study is measured by its ability to avoid random influence. The validity of the study depends on whether the measuring procedure really measures the quality it is suppose to measure<sup>40</sup>. Qualitative data collection techniques can easier achieve high validity than quantitative data collection techniques, since the researchers have a more direct contact with the research object. If the respondent does not possess significant knowledge regarding the specific subject, or if he or she misunderstands the question, it will have a negative effect on the research-validity. The interviewer must also possess sufficient knowledge regarding the problem and the problem area.

In order to guarantee high reliability in our study, we distributed questions to our respondents in advance. They had no incentives to provide misleading or untruthful answers. In addition, the interview questions were prepared and sent to the respondents in order to make sure that time was given for a thorough evaluation of the questions. As mentioned, each respondent's expertise within the area can also be considered a contributor to high reliability in the study.

The validity of the study may be considered high since the purpose of the study is quite easy to grasp, which also makes it easier to form an instrument for analyzing repurchase methods (see section 1.3). As stated, providing the respondents with the questions in advance may also avoid stress which in turn boosts the thesis's validity.

---

<sup>39</sup> Holme & Solvang (1997)

<sup>40</sup> Lekvall & Wahlbin (2001)

## 3. Theory

*This chapter aims to provide a deeper understanding of stock repurchases and of the synthetic method in particular. The information is based on literature, interviews and other theoretical material on the topic of this subject. This chapter will create a platform for analyzing the two different repurchasing techniques which are brought up in this thesis. The chapter will commence by portraying various aspects presented in our model for analysis (in section 1.3).*

---

### 3.1 General Aspects

In the following section several factors are presented, all vital when deciding upon repurchase approach. Depending on the character of the company planning to shift out capital, certain aspects have greater impact than others.

#### 3.1.1 Capital Structure (Capital structure policy)

Capital structure is an important aspect to take into account when repurchasing stock. For some companies, the changes in capital structure that a repurchase of stock implies may be a large incentive when deciding to carry out a stock buyback.<sup>41</sup> Sometimes, financial theory has another starting point. For example Modigliani & Miller argue that the capital structure does not have an effect on the value of the firm since lending and borrowing rates are the same. However, this is not the reality. Transaction costs, agency costs etc. give a rise to the differences between interest rates. The most modern literature like Leland and Toft moved on in this debate and described the trade off between tax deductibility of interest payments and financial distress.<sup>42</sup>

Different capital distribution techniques have various effects on capital structure as well as on the balance sheet<sup>43</sup>. A company planning to shift out capital should decide upon what an optimal capital structure is, based on the company's own preferences<sup>44</sup>. The next step is to choose technique and distinguish what the purpose of the capital distribution is. Both Dittmar and Ikenberry discuss adjustments of the debt to equity ratio. They stress that the leverage ratio is a very important aspect when deciding how and why capital is distributed to

---

<sup>41</sup> Grullon & Ikenberry (2000)

<sup>42</sup> Copeland et al (2005)

<sup>43</sup> Grullon & Ikenberry (2000)

<sup>44</sup> Dittmar (2000)

shareholders. Depending on what kind of business a company operates in, the optimal capital structure varies. The stock market has a tendency to undervalue companies with a non-optimal capital structure. A fundamental statement is: *"The higher the risk of the business, the lower the leverage ratio"*.<sup>45</sup>

### **3.1.2 Intrinsic value discount (Investment policy)**

A large incentive for a stock repurchase is if the stock of a company is undervalued or in other words, an intrinsic value discount exists. There are several reasons for an intrinsic value discount, for example, if a company does not have an optimal capital structure. If the capital structure is positive in the sense that the company has high book-to-market ratios, corporate raiders may have an interest in buying the company to change the capital structure. These types of issues certainly provide large incentives to repurchase stock since undervaluation is likely to come about due to excessive funds not being invested.<sup>46</sup> The undervaluation theory is based on the premise that information asymmetry between insiders and shareholders may cause a firm to be disvalued.<sup>47</sup> A repurchase of stock is an effective way of solving the valuation problem. Management may be flexible since it has the opportunity to wait with a repurchase until the timing is right.<sup>48</sup>

When a company is undervalued, managers have to make strategic moves in order to raise the stock price. Managers are perhaps best positioned to recognize when prices diverge from their true value, since they have a fundamental understanding of the firm and its industry.<sup>49</sup> However, the market does not always react significantly on managers' statements regarding undervaluation. In connection to statements of this art, managers have a good opportunity to initiate a repurchase program.<sup>50</sup> There is however a risk of the market perceiving statements of repurchasing programs as suspicious, since there have been cases of buyback programs not being carried out and therefore, the market has a tendency to await action from the company.<sup>51</sup>

---

<sup>45</sup> Bark (2005)

<sup>46</sup> Sandberg (2005)

<sup>47</sup> Dittmar (2000)

<sup>48</sup> *ibidem*

<sup>49</sup> Ikenberry (2000)

<sup>50</sup> Drobertz (2005)

<sup>51</sup> Ikenberry (2000)

### 3.1.3 Earnings per share (Financial policy)

In conjunction with press releases that accompany repurchase programs, managers frequently argue that the major purpose of the buyback is to increase earnings per share<sup>52</sup>. In addition, financial analysts and bankers often refer to an increase in EPS as the primary benefit of stock buybacks<sup>53</sup>. As long as earnings fall by less (in percentage terms) than the percentage of shares outstanding, then EPS will increase.

The logic presented above contains one major imperfection, it effectively assumes that the firm possesses assets which are unproductive or unused, and by getting rid of such assets the productivity of the company will increase<sup>54</sup>. Consider a case where the corporation finances a repurchase by using excess cash. In this case, the firm chooses to reduce its asset base<sup>55</sup>.

*Theory suggests that shrinking the size of the firm adds value only if the firm is failing to earn its cost of capital on its marginal investments.*<sup>56</sup>

Since EPS is a financial measurement important to analysts and investors, it is important that corporate earnings per share do not fall short of analysts' forecasts. A good way to avoid this is to repurchase stock. However, a buyback may possibly render a mechanical increase in a firm's EPS which may not represent an increase in a firm's real value.<sup>57</sup>

### 3.1.4 Administration (Allocation policy)

Capital distribution often implies extensive administrative work for the company shifting out capital. The major task is to provide information to the market regarding every new move. It is important to fulfill the requirements from *Aktiebolagsnämnden* concerning public companies such as to treat all shareholders equally. There is also legislation regulating to what extent the company has to provide information to the shareholders and to the market. There are also other administrative tasks when shifting out capital. For example, when the

---

<sup>52</sup> Wall Street Journal (2000)

<sup>53</sup> Grullon & Ikenberry (2000)

<sup>54</sup> *ibidem*

<sup>55</sup> Dann (1983)

<sup>56</sup> Grullon & Ikenberry (2000)

<sup>57</sup> Neuman (2005)

company buys back stock, the organization has to keep track on every purchase and make sure that the buyback limit of ten percent of owners' equity is not exceeded.<sup>58</sup>

Some capital distribution techniques imply less administrative work since this function is automatically outsourced when, for example, an agreement with a bank is closed. For smaller organizations which can not handle extensive administrative work, it may be favorable to choose a capital distribution technique which does not require such a large organization.<sup>59</sup>

### **3.1.5 Market signaling (Communication policy)**

A firm's management is in most cases better informed about the firm's intrinsic value than outside shareholders, which creates an asymmetric information relationship. The relationship may result in occasions where managers have good news regarding future profitability, but prevailing stock prices do not reflect this due to imperfect information. The stock may therefore be priced below its true value. The information gap can obviously be eliminated by managers telling the market whatever good news they have, although economists have argued that such announcements are likely not to be received as credible (due to managers potentially producing misleading forecasts). Literature and research indicate that managers can provide credible signals regarding future optimism in earnings by engaging in actions like share buy-backs.<sup>60</sup>

In short, the signal a stock repurchase sends to the market is significant and something investors and analysts take seriously. The message the signaling phenomenon sends to us seems clear; repurchasing companies should experience increases in future earnings and cash flows. However, the empirical evidence is not so clear.

In an early study by Vermaelen, evidence was found of improvements in earnings after buy-back announcements<sup>61</sup>. On the contrary, Grullon found a significant decline in operating income (as a percentage of total assets) in a more recent study. The same study also found that analyst's forecasts of future earnings tended to go down after repurchase announcements.<sup>62</sup> Regardless if the signals sent by management have hidden agendas or not, the signaling

---

<sup>58</sup> Immelborn (2005)

<sup>59</sup> Bark (2005)

<sup>60</sup> Grullon & Ikenberry (2000)

<sup>61</sup> Vermaelen (1981)

<sup>62</sup> Grullon (2000)

phenomenon rests on the efficiency of the market. If the stock market is efficient when it comes to interpret information, then the price should be adjusted objectively to show the true value of the new information. Further, this implies that transfers of value should not occur between shareholders who choose to keep their shares and those who sell back their shares to the firm.<sup>63</sup>

### **3.1.6 Takeover deterrence (Corporate control)**

The previously stated general aspects all relate the decision to repurchase shares to an internal corporate issue, affecting the firm and its investors. However, a buyback may have an effect on the relationship between the firm and outside parties<sup>64</sup>.

Hodrick presented evidence that if an upward-sloping supply curve exists, a target firm can avoid an acquisition, or at least increase the cost for one, by repurchasing shares<sup>65</sup>. Share buybacks can increase the cost that a potential acquirer pays to attain control of an acquiring firm, since shareholders selling in a stock repurchase are those who demand the lowest payment in return for their shares, thus leaving the acquirer facing those with relatively higher valuations. Hence, a repurchase can be used as defense in a takeover situation since it can increase the lowest price for which shares are available, making a potential target-firm expensive<sup>66</sup>. Repurchasing shares may also concentrate ownership in management-friendly hands, which reduces the probability that a potential bidder would prevail in a struggle for control<sup>67</sup>.

Bagwell writes that deterrence is more likely when shareholder diversity is large and when private benefits of control are small. Further, deterrence is also more likely if tax rates are high and interest rates are low.<sup>68</sup>

The repurchase can also be utilized as a defense-tactic to overcome a takeover attempt. If management produces a responsive offer before shareholders tender to the acquirer, there is a possibility to outbid the acquirer (at least winning over the shareholders with the lowest

---

<sup>63</sup> Hedensjö & Holmqvist (2000)

<sup>64</sup> Dittmar (2000)

<sup>65</sup> Hodrick (1996)

<sup>66</sup> Dittmar (2000)

<sup>67</sup> Persons (1994)

<sup>68</sup> Bagwell (1991)

valuation preferences). A repurchase, unlike the takeover action, need not to buyback fifty percent of total shares to gain control, but just enough to make the median shareholder one with such a high reservation value that the takeover is no longer profitable.<sup>69</sup>

### **3.2 Agency theory**

The principal/agency theory is founded on the problem connected to that firm management often acts to favor their interests, and by doing so, not striving to maximize shareholder wealth. The problem is greater and more common in listed companies where the ownership is spread among several shareholders and thus, where it is more difficult to control the company's management.<sup>70</sup>

In a company, the shareholders are the "*principals*" and the managers the "*agents*". As shareholders lose control, managers may put their own preferences, which are not to maximize the firm's profit, ahead of their shareholders'. The validity of this theory is dependent on the principals' prioritization of utility maximization. As a firm becomes larger, more opportunities exist for managers to indulge their needs for pecuniary benefits. Unless properly controlled, such behavior can lead to managers making inefficient expenditures by taking on less than optimal investments as they attempt to "*grow*" the firm. This problem, how to motivate managers to disgorge the cash rather than investing it at below the cost of capital or wasting it on organizational inefficiencies, is called free cash flow hypothesis.<sup>71</sup>

The cost arising from this conflict between growth and value maximization is known as agency costs and could be defined as the sum of; (1) the monitoring expenditures by the principal (2) the expenditures by the agent (3) the residual loss.<sup>72</sup>

The free cash flow theory suggests that repurchase announcements are likely to be good news because they reduce management's ability to divert capital to uses that are not in the best interest of the shareholders. By reducing financial slack in the firm, managers who repurchase stock have fewer opportunities to adopt value-reducing projects.<sup>73</sup>

---

<sup>69</sup> Bagwell (1991)

<sup>70</sup> Copeland et al (2005)

<sup>71</sup> Jensen (1986)

<sup>72</sup> Jensen & Meckling (1976)

<sup>73</sup> Grullon & Ikenberry (2000)



The market reaction to share repurchases is negatively correlated with the firm's operating return on investment. The market reacts favorably to buyback programs announced by companies whose investment opportunities appear to have declined.<sup>74</sup>

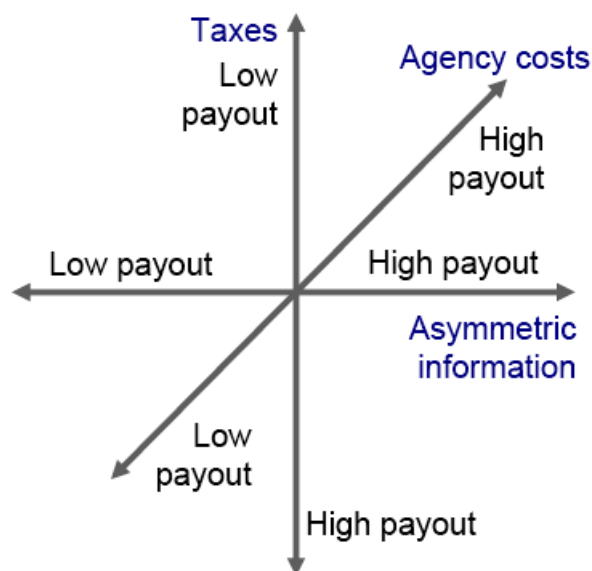


Figure 5: Agency costs<sup>75</sup>

An introduction of taxes in the agency theory illustrates that investors have a tendency to select investments which match their tax circumstances. Further, the agency theory indicates that high growth firms with high leverage pay fewer dividends.<sup>76</sup>

### 3.3 Legislation and Limitations

In the following, legislation and limitation issues concerning a firm's share buyback will be discussed. Legislation surrounding companies' share repurchases do not, to a certain degree, embrace the synthetic approach, mainly the direct one.

#### 3.3.1 The direct share repurchase program

There are as mentioned earlier primarily two methods companies use to shift capital out to their shareholders; dividends and share buybacks. This section portrays the direct repurchase technique.

<sup>74</sup> Grullon & Ikenberry (2000)

<sup>75</sup> Drobertz (2005)

<sup>76</sup> *ibidem*

### 3.3.1.1 Capital shifting methods

Swedish law describes four capital shifting methods: (1) dividend of the annual profit (2) repurchase of own stock (3) reduction of the share-capital in order to repay shareholders (4) other business occurrences resulting in a decrease in company wealth.<sup>77</sup>

The synthetic share repurchase method is a combination of the second and third capital shifting methods, which means, both a repurchase of own stock as well as a reduction of share-capital through redemption of stock.

### 3.3.1.2 Protection of creditors

Repurchasing own stock is a repayment to the shareholders which, in many aspects, could be equivalent with a traditional dividend. In order to protect the company's creditors, the repurchase program and the traditional dividend must fall under the same legislation and limitations. In order to realize a share repurchase program, enough funds must exist so the restricted reserves remain unaffected, and in addition, one is not allowed to transfer an amount so big that it could jeopardize the company's consolidation need and solidity.<sup>78</sup>

The legislation regarding protection of creditors regulates the predicament with the, already mentioned, agency theory where the managers' ways of action may prevent a maximization of shareholder wealth.

### 3.3.1.3 Which companies can repurchase stock?

The legal right to repurchase stock comprises all companies that are listed by a Swedish or a foreign stock exchange<sup>79</sup>. Repurchases are permitted to take place,

(1) on a stock exchange, on an authorized market (IM Marknadsplats AB, Aktietorget Norden AB, Avanza etc.) or on another regulated market within the European union.

(2) on a stock exchange or on some other regulated market outside the European union with permission from *Finansinspektionen*<sup>80</sup>.

(3) in accordance with a repurchase tender offer which has been aimed to all stockholders.<sup>81</sup>

---

<sup>77</sup> 17 KAP 1 § ABL

<sup>78</sup> 17 KAP 3 § ABL

<sup>79</sup> 19 KAP 13 § ABL

<sup>80</sup> a Swedish authority overseeing finance activities of Swedish listed companies.

<sup>81</sup> 19 KAP 14 § ABL

### 3.3.1.4 The decision to repurchase stock

The decision that a company should repurchase its own shares is to be made on the annual shareholders' meeting. The shareholders' meeting can also authorize the board of directors to make a decision regarding this matter.<sup>82</sup> In order for the decision to be valid, two thirds of the votes are needed.<sup>83</sup> However, the meeting may not decide on issues potentially treating shareholders unfairly.<sup>84</sup>

The proposal from the board of directors concerning a repurchase shall be announced in the letter convening the shareholders' meeting and should primarily embrace the purpose of the share buyback. The proposal shall be available for the shareholders at least two weeks before the meeting.<sup>85</sup>

The proposal from the board of directors shall include the following:<sup>86</sup>

- (1) in which way the stocks should be acquired
- (2) the time period for which the authorization is valid.
- (3) the highest amount of shares that can be acquired
- (4) the lowest and the highest price that can be paid for the stocks
- (5) other conditions for the acquisition

The proposal could hence follow two paths in order to gain legal force; either through the board of directors which presents the proposal on the shareholders' meeting, or through the meeting which authorizes the board of directors to make a decision regarding the proposal.

### 3.3.1.5 Redemption or transfer of own stock

A company which has repurchased shares may choose two ways of action; either to transfer the stocks as a payment in connection with a conceivable acquisition of another firm, or either to invalidate the stocks in a redemption program.<sup>87</sup> Since the latter way of action constitutes the main focus in the study, special attention is devoted to this occurrence.

---

<sup>82</sup> 19 KAP 17 § ABL

<sup>83</sup> 19 KAP 18 § ABL

<sup>84</sup> 7 KAP 48 § ABL

<sup>85</sup> 19 KAP 20-25 §§ ABL

<sup>86</sup> 19 KAP 28 § ABL

<sup>87</sup> 19 KAP 32 § + 20 KAP 1 § ABL

The decision regarding a potential reduction of the share-capital through a redemption program is as mentioned made by the shareholders on the shareholders' meeting. The decision, as stated, needs at least two thirds majority.<sup>88</sup> Practically, a reduction (redemption) of a certain amount of shares increases the nominal value of other shares, due to that the total number of shares outstanding decreases.

A reduction of the share-capital may occur when the company:<sup>89</sup>

- (1) aims to cover an annual loss, and the unrestricted reserves can not cover this loss.
- (2) wishes to put liquid capital into the reserve fund.
- (3) wishes to repay its shareholders.

If the purpose of the proposal is that the share-capital shall be reduced to repay the shareholders, the proposal shall embrace the following:<sup>90</sup>

- (1) the right to get the stocks redeemed
- (2) the highest and lowest amount by which the share-capital shall be reduced with
- (3) the time period for shareholders to register for the redemption offer
- (4) the price that will be paid for a redeemed stock
- (5) the time period for the payment of the redeemed stocks

An utterance motivated by the board of directors shall also be attached to the proposal stating whether or not the proposed repayment is defensible with regards to the protection of creditors.<sup>91</sup>

A corporation seeking to reduce share-capital by repurchasing shares shall apply for permission at Bolagsverket, within two months after the registration of the decision. An affidavit, signed by the chief executive officer or the board of directors, stating that the company's known creditors have been informed about the share-capital reduction, shall be attached to the application.<sup>92</sup>

---

<sup>88</sup> 20 KAP 5 § ABL

<sup>89</sup> 20 KAP 1 § ABL

<sup>90</sup> 20 KAP 7-9 §§ ABL

<sup>91</sup> 20 KAP 8 § ABL

<sup>92</sup> 20 KAP 25 § ABL

If none of the company's creditors oppose the proposal of a share-capital reduction within the given time period, Bolagsverket shall give the company permission to reduce its share-capital. However, if a creditor goes against the proposal, then Bolagsverket shall hand-over the commission to a district court in the area, in which the company's board of directors is registered.<sup>93</sup>

The only way the company then could get permission from the specific district court is to prove that the creditors, objecting the proposal, have been paid in full. Furthermore, the company has to prove that the proposed repurchase program does not jeopardize these creditors' claims.<sup>94</sup>

### **3.3.1.6 Maximum holdings of own stock**

The maximum holdings of own stock, a listed company may hold, may not exceed ten percent of total outstanding shares. Stock in the parent company, owned by subsidiaries, shall be treated as if the parent company owns them.<sup>95</sup>

### **3.3.1.7 Managing own stock in the company**

Shares that have been bought back do not have any legal voting rights. Subsidiaries also do not have any preferential rights on the stock repurchased by the parent company.<sup>96</sup> Repurchased stock also lacks certain economical rights, such as the right to obtain potential dividends.

Technically, repurchased stock is an *off-balance sheet item*<sup>97</sup>. It must not be brought up on the balance sheet, as a fixed asset.<sup>98</sup> The unrestricted reserves shall be reduced by the amount used to repurchase stocks.<sup>99</sup>

---

<sup>93</sup> 20 KAP 27 § ABL

<sup>94</sup> 20 KAP 28 § ABL

<sup>95</sup> 19 KAP 15 § ABL

<sup>96</sup> 7 KAP 7 § ABL

<sup>97</sup> For description see glossary

<sup>98</sup> 4 KAP 14 § ÅRL

<sup>99</sup> 5 KAP 14 § ÅRL

### 3.3.1.8 Insider issues

It is illegal to use securities such as shares as instruments to inappropriately influence the market price of the underlying asset.<sup>100</sup> As an exception, this paragraph is not applicable on companies that repurchase stock.<sup>101</sup>

There are so called black-out periods, when repurchases of shares is forbidden. These periods occur 30 days prior to the announcements of the company's reports.<sup>102</sup>

A physical person that is in an insider position is: (1) a member of the company's board (2) the chief executive officer and the deputy chief executive officer (3) the company's accountant (4) the chief executive officer in a subsidiary (5) a stockholder whose possession of stock is greater than ten percent of the total number of outstanding stocks (6) another employee with a managerial position within the company.<sup>103</sup> A person in an insider position faces the same regulations as the company, regarding forbidden trade during black-out periods. A breach of this law might, in the worst case scenario, result in jail for two years.<sup>104</sup>

### 3.3.1.9 Obligation to report

Each time a company has repurchased stock it must inform the market about the transaction. This is usually made through press-releases presented on the company's homepage. If a company does not report a transaction, the company could be put to trail by *Finansinspektionen*. Consequently, the company receives fines for its breach.<sup>105</sup>

## 3.3.2 The synthetic share repurchase program

As mentioned earlier, legislation controlling a firm's share buyback does partially not comprise the synthetic approach. As mentioned earlier, the approach is basically built on a bilateral agreement between a financial institution and a company. The main reason for this legislative gap is that the firm, as already mentioned, does not itself repurchase its own stock; it is the bank. The synthetic repurchase program launches as the bank starts to repurchase

---

<sup>100</sup> 8 § Lag om straff för marknadsmissbruk

<sup>101</sup> 9 § Lag om straff för marknadsmissbruk

<sup>102</sup> 15 § Lag om anmälningsskyldighet för innehav av finansiella instrument

<sup>103</sup> 3 § Lag om anmälningsskyldighet för innehav av finansiella instrument

<sup>104</sup> 2 § Lag om straff för marknadsmissbruk

<sup>105</sup> 10-13 §§ Lag om straff för marknadsmissbruk

shares according to instructions from the company.<sup>106</sup> That is, when the bank starts to build up its hedge portfolio consisting of the company's shares.

The laws embracing the synthetic approach are the ones regarding the stockholders' meeting and its obligations regarding this matter. The legislation also embraces the board of directors' way of acting during this business occurrence.

The major legislative differences will be portrayed in the following.

### **3.3.2.1 Maximum holdings of own stock**

The ten percent rule, stating the maximum possession of own stock, is not applicable when repurchasing synthetically, again due to the fact that the synthetic approach is an off-balance sheet transaction. That is, the company repurchasing stock does not bring up the shares as fixed assets on the balance sheet. The difference between the direct and the synthetic repurchase is that throughout the synthetic repurchase program, the company is not the legal owner of the shares it buys back "through" the bank.<sup>107</sup>

### **3.3.2.2 Insider issues**

The company repurchasing the stock synthetically is not hit by the regulations regarding the black-out periods, because the company practically does not repurchase any stock. Due to sound business practices companies usually tell the bank not to buy any shares when the company is undergoing a black-out period.<sup>108</sup>

### **3.3.2.3 Obligation to report**

When repurchasing synthetically the company is not obliged to report each repurchase, opposed to as if the firm was repurchasing directly. The information requirements are not that strict in a synthetic repurchase program, which constitutes a great cost-reducing advantage with this approach. Many corporations though, still choose to publish press-releases as they buy back stock synthetically, because they want to be associated with sound business practices.<sup>109</sup>

---

<sup>106</sup> Immelborn (2005)

<sup>107</sup> Tavakoli (2001)

<sup>108</sup> Bark (2005)

<sup>109</sup> Sonander (2005)

There is however an obligation for the bank to inform the market when (or if) it has acquired more than five percent of total outstanding shares. The bank is also obliged to do so continuously for each and every five percent of shares it acquires.<sup>110</sup>

### **3.3.2.4 Redemption procedure**

The company's board of directors shall suggest, on the shareholders' meeting, to decide upon redemption of those shares which the bank has acquired throughout the synthetic repurchase program. If the meeting approves the redemption and consequently a reduction of the share capital, the company is obliged to report this to Bolagsverket the day after the meeting. The finishing day for the synthetic repurchase program is set to that day, when Bolagsverket registers the reduction of the firm's share capital. This usually takes place about four months after the shareholders' meeting.

If however the meeting decides not to reduce the firm's share capital and consequently not to repurchase, the already synthetically acquired shares from the bank, the bank shall then according to instructions from the company, resell these acquired stocks back to the market. The finishing day in this scenario is set to be the day when the bank no longer holds any stock.<sup>111</sup>

The exercise price of the shares for redemption is usually the prevailing market price of the stock less five percent. The reason for this is that the firm wants the shareholders at the meeting to find the redemption unbeneficial. The shares for redemption are those acquired by the bank, no other.<sup>112</sup>

## **3.4 Total return swap**

A total return swap, further on mentioned as TRS (and also denominated as a Total Rate of Return Swap), is an agreement to exchange the total return on a bond or reference asset for STIBOR<sup>113</sup>. The total return includes coupons, interest and the gain or loss on the asset over the life of the swap.<sup>114</sup> A TRS is a bilateral financial agreement between a total return payer

---

<sup>110</sup> Bark (2005)

<sup>111</sup> Sonander (2005)

<sup>112</sup> Sonander (2005)

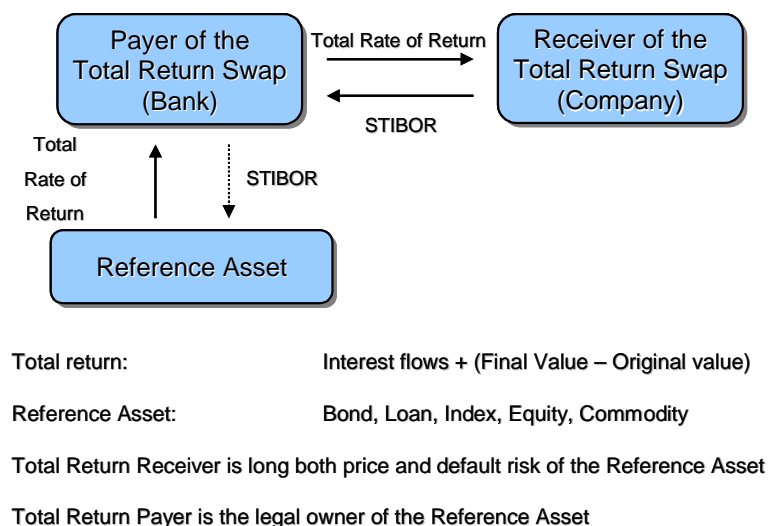
<sup>113</sup> Stockholm Inter-Bank Offer Rate (for description see glossary)

<sup>114</sup> Hull (2003)



and a total return receiver. The total return payer delivers the total return of a reference asset and receives a form of payment from the recipient.

A TRS allows an investor to enjoy all of the cash flow benefits of a security without actually owning it. At the end of the swap contract the investor (“*receiver*”) of the TRS receives the total return rate of return. If there is a decline in price of the security, the investor has to compensate the TRS payer for this. An appreciation in the security will benefit the investor in the form of the difference between the original price and the new, higher price.<sup>115</sup> The swap stimulates a *long position*<sup>116</sup> in the reference asset and requires no direct investment. It is believed that the TRS structure offers considerable flexibility.<sup>117</sup>



**Figure 6: Total Return Swap<sup>118</sup>**

The total rate of return payer is the legal owner of the reference asset, as illustrated in figure 6. The payer takes up the financial commitment (loan) on its balance sheet and has now created a *short position*<sup>119</sup> in the market risk, due to fluctuations in the asset price.<sup>120</sup>

During the synthetic repurchase program, the total rate of return receiver is not the legal owner of the reference asset. Consequently, the reference asset does not appear on the balance sheet of the receiver. During the transaction period, the receiver holds a synthetic long

<sup>115</sup> Tavakoli (2001)

<sup>116</sup> For description see glossary

<sup>117</sup> Burns (2000)

<sup>118</sup> Tavakoli (2001)

<sup>119</sup> For description see glossary

<sup>120</sup> Tavakoli (2001)

position in the market risk of the reference asset. It is not until the shareholders' meeting, when the company, through the meeting, decides whether to reduce the share capital by buying (swapping) stocks from the bank or not. If the meeting does not approve a reduction of the company's share capital, the bank, which is the legal owner of the stock, shall then as stated, resell the shares to the market, with directions from the company.<sup>121</sup>

### **3.4.1 Motivation of the Payer**

The payer of the TRS creates a hedge for price risk in the reference asset. The payer of the TRS is as mentioned, the legal owner of the reference asset and this action represents an off-balance sheet transaction. A long-term investor who feels that a reference asset in its portfolio may widen in spread in the short-term before stabilizing, may enter into a TRS-agreement that is shorter than the maturity of the asset.<sup>122</sup>

### **3.4.2 Motivation of the Receiver**

There are many reasons for both a payer (bank) and a receiver (company) to enter into a total return swap agreement,

- The company may create new assets with a specific maturity not currently available in the market.
- The company gains efficient off-balance sheet exposure to a desired asset class such as loans or high-yield bonds, to which they otherwise would not have had access.
- The company may achieve a higher return on capital. TRSs are treated as derivatives, or off-balance sheet instruments. Direct asset ownership is an on-balance sheet funded investment.
- A TRS may reduce administrative costs via an off-balance sheet purchase (as opposed to buying loans on the balance sheet).

The key reason for the receiver to enter into a TRS-agreement, is to take advantage of the opportunity cost for leverage, since the transaction is financed by debt. The company makes no initial cash payments and these are usually paid on a net basis.

---

<sup>121</sup> Sonander (2005)

<sup>122</sup> Tavakoli (2001)

## 4. Analysis and empirical results

*This chapter links up with the main problem statement and aims at examining the synthetic repurchase approach in particular, through the use of theoretical and empirical evidence. The information is processed through the model for analysis presented in section 1.3 where for example benefits and drawbacks are explored. Each sub-section under this chapter will finally result in more profound knowledge based on special attention given to each aspect.*

---

### 4.1 Situation of the firm

Presented as the first step (out of four) in our model for analysis, this section will analyze different scenarios a company may face when choosing whether or not to use a synthetic or a direct repurchase program. A corporation with the possibility to launch the two techniques simultaneously, or just one of them, has to be in a state where several aspects are well thought-through.

First of all there are general aspects (presented in the theory section) relevant for both programs. For example, a firm planning to shift out capital has to be in a financially strong state of affairs where capital can be distributed to shareholders. Another aspect in common for both programs is that firms often lack other investment ideas. The buyback programs aim to create shareholder value and thus, if the capital is not invested, it should be distributed.<sup>123</sup> This also applies to overvalue in for example real estate companies possessing unrealized profits, where these yet may be distributed to shareholders<sup>124</sup>.

After examining the financial situation, the company may determine the technique most suitable. Direct repurchase programs require high liquidity and if this is not the case for the company, it is delimited to choose a synthetic repurchase program. Here the bank solves liquidity temporarily, although it requires stable cash flows as well as a risk less commitment.<sup>125</sup>

---

<sup>123</sup> Sandberg, Immelborn, Berntsson, Bark and Sonander (2005)

<sup>124</sup> Berntsson (2005)

<sup>125</sup> Bark (2005)

A firm with a desire to pursue a direct buyback program may be delimited to undertake a synthetic one, since the ten percent repurchase limit might be exceeded. In this scenario, the synthetic approach is obviously the only alternative.

## **4.2 General aspects - pros and cons**

This section aims to elucidate the pros and cons connected to each aspect. As illustrated in our model for analysis, this section is a major part in the search to identify for the firm, the most beneficial repurchasing method. The following seven sub-sections result in recommendations on the most choice of method, with regards to each specific aspect.

### **4.2.1 Capital Structure**

According to our respondents<sup>126</sup> the capital structure is very important to consider when deciding to distribute capital. Both the direct and synthetic techniques have the same effect on capital structure. As mentioned, the difference with a synthetic program is that capital expenditures are delayed and paid out at the end of the contract. Both the direct and the synthetic repurchase program represent off-balance sheet transactions (and disregarding of method, a firm may not take up its own shares as a financial asset) and potential changes in the balance sheet will be seen only when the shares have been redeemed. Handelsbanken<sup>127</sup> stresses the fact that both programs have the same signaling effects regarding capital structure. Consequently, when making a choice between a direct and a synthetic repurchase program, the cash flow of the company should be the basis for the decision-making. Nordea<sup>128</sup> has the same idea as Handelsbanken<sup>129</sup> but they also stress the importance of companies having a thought through plan of why they distribute capital. If the company chooses the synthetic alternative, the financial aspect plays a crucial role. The excessive liquidity required in a direct program (obviously not loan financed) is not necessary in a synthetic setup which also means that the company most likely has a different capital structure in comparison to companies choosing the direct alternative. Therefore, the company has to consider the financial situation to a greater extent when choosing a synthetic program, although loaning money may finance the capital distribution in a short run perspective.<sup>130</sup> In short, since there are no major differences between the two in effects on capital structure, the decision maker

---

<sup>126</sup> Sandberg, Immelborn, Bark, Berntsson (2005)

<sup>127</sup> Bark (2005)

<sup>128</sup> Immelborn (2005)

<sup>129</sup> Bark (2005)

<sup>130</sup> Sandberg (2005)

should be indifferent to which method is chosen, although the synthetic repurchase setup constitutes a slightly larger financial commitment.

#### **4.2.2 Intrinsic value discount**

Undervaluation of stock is something which is common among listed companies on the Swedish stock exchange.<sup>131</sup> When trying to resolve this, company management may choose among different techniques, although according to our respondents<sup>132</sup> a repurchase of stock is an effective way of solving the matter. It is important from the management's point of view to send signals to the market stating that the share is undervalued.<sup>133</sup> Different capital shifting techniques send different messages to the market, making it important to thoroughly consider the choice of approach. For example, a larger dividend will not send as strong signals to the market regarding undervaluation as an extensive buyback program.<sup>134</sup>

Since we have now concluded that the repurchase of stock is the more effective way of sending signals to the market, the choice stands between a direct and a synthetic repurchase program. In this case a direct program may be more effective since it is required to provide the market with more information than a synthetic program, making the signals it sends to the market more reliable. Hence, the direct program have a more direct effect than the synthetic method and is the more favorable approach from an intrinsic value discount point of view.

#### **4.2.3 Earnings per share**

There is no clear evidence supporting that effects in this financial ratio should function as a base for decision making when buying back shares. Sure, there have been various cases where a stock repurchase have had substantial effects on EPS, but the impact on EPS is more dependent on how the repurchase is financed<sup>135</sup>. One fundamental assumption around which a lot of the theory has been built around is the assumption made of unproductive assets. This assumption is not applicable on most firms. Hence, there is no proof of a magical EPS-effect<sup>136</sup>.

---

<sup>131</sup> Sandberg (2005)

<sup>132</sup> Sandberg, Immelborn, Bark 2005

<sup>133</sup> Bark (2005)

<sup>134</sup> *ibidem*

<sup>135</sup> Immelborn (2005)

<sup>136</sup> Sandberg (2005)

Whether the stock repurchase is financed with debt or excess cash, the rule of thumb for achieving increases in EPS is that earnings should fall less (in percentage terms) than the outstanding number of shares.

In the case where the buyback is financed with excess cash, the firm is effectively shrinking its balance sheet. This could prove to be successful if the firm has an unbeneficial capital structure (such as over liquidity). This is also supported by the fact that holding of excess cash generally is considered a negative NPV investment. But when we look at it more critical, it is just a reallocation of assets to higher-valued uses<sup>137</sup>. This implies that the only way a buyback could contribute positively to earnings is if it is carried out using funds which otherwise would not earn the cost of capital. If earnings increase in a case of a debt-financed repurchase, we must also keep in mind that the increase is achieved at the cost of higher financial risk.

All mentioned above in the EPS-discussion apply to both the direct and synthetic repurchase methods. Since there are no differences between the two methods in terms of effect on earnings per share, pros as well as cons are identical. Keeping this financial ratio in mind, the facts presented should leave the decision-maker indifferent to which repurchase method is chosen.

#### **4.2.4 Administration**

To begin with, the administrative aspect and its impact on the repurchasing methods are not as important as the underlying reason to why capital is distributed<sup>138</sup>. Most of our respondents argue that the aspect is more vital to consider for smaller firms operating with organizations not fit for handling heavy administrative workloads. The direct approach constitutes just this; a lot of additional and costly administrative work in comparison to the synthetic method. A firm using the direct buyback program may as a last resort be forced to outsource administrative functions as a means to ease the workload. According to Nordea the synthetic repurchase program provides benefits in terms of outsourced administrative functions which lower costs in comparison to an “in house” administrative function<sup>139</sup>.

---

<sup>137</sup> Drobertz (2005)

<sup>138</sup> Sandberg (2005)

<sup>139</sup> Immelborn (2005)

In short, bearing the administrative aspect in mind, we recommend the synthetic buyback routine based on pure cost reasons. For corporations of sufficient size, able to handle the administrative work, a direct buyback may be an option, but this is clearly an issue which varies from case to case. This has to be put in relation to the costs associated with a direct program and the size of the administrative unit of the firm.

#### **4.2.5 Market signaling**

We are of the opinion that a company's management possesses more information and is better informed about the firm's true value than outside shareholders and investors. In general, a repurchase, direct or synthetic, signals the belief that management considers its share undervalued. With this said, it is important to keep in mind that firms have actually announced repurchase-programs to boost the share price, only to end up refraining from buying back stock<sup>140</sup>.

For the repurchasing corporation, it is vital to thoroughly examine what the market thinks of its actions before action is taken. This is important in order to achieve the desired outcome.

The two methods signal roughly the same information to the market. A drawback with the synthetic method is that its signals are not as clear as the signals sent from a direct program. This might cause the market to consider the actions of the firm as untrustworthy or suspect<sup>141</sup>. This is of course a debatable issue, but since the synthetic approach has not yet achieved as wide application as the direct method, it is a natural fact that an issue like suspiciousness may become reality. In addition, since the synthetic method is much less affected by legislation than the direct one, it also contributes to further suspiciousness and uncertainty. Management ought to be able to avoid the issue by simply, in a concrete and straightforward manner, explaining to the market why the synthetic method has been chosen<sup>142</sup>. Contrary to this, a benefit with the direct repurchase method is its clear and straightforward message to the market. With this approach, the market is constantly updated and follows every move the firm makes.

---

<sup>140</sup> Primarily occurred on the American market - Sandberg (2005)

<sup>141</sup> Bark (2005)

<sup>142</sup> *ibidem*

Traditionally in Sweden, unlike in the Anglo-Saxon parts of the world, company management should not have opinions whether or not its own stock is undervalued. In contrast to this statement, if a company repurchases shares, management should definitely have opinions on how the stock is priced. However, the realization of a redemption program implies that management is neutral towards its own share price.<sup>143</sup>

Disregarding of which method a firm uses, we find it important for a company to level with the market, which means to clearly inform what is going on. In other words, to follow sound business practices. With regard to a firm potentially abusing the repurchase announcement to boost the share price, this is more unlikely if the repurchasing method is synthetic since a third party is involved. One reason could be that the bank wants to be associated with sound business practices. There is no major benefit or drawback with either of the approaches, although a direct repurchase approach could, with regard to the discussion above, be the safer choice for sending a more stable signal to the market.

#### **4.2.6 Takeover deterrence**

A firm struggling to gain direct corporate control in order to prevent a conceivable hostile takeover should primarily choose the direct share buyback approach. As previously mentioned, during a synthetic buyback, the company is not the legal owner of its own stock, which could generate complications in a thinkable hostile takeover procedure.<sup>144</sup>

The share price, when buying back synthetically, is not that affected compared to when buying back directly from the market.

As stated, the target firm may increase the cost for an acquisition by repurchasing stock. That is, to boost the stock price by reducing the supply of outstanding shares.<sup>145</sup> However, the synthetic approach may not be as effective as the direct one in terms of influencing the stock price, which is why we consider the synthetic approach not to be the most effective one with regards to takeover deterrence.

---

<sup>143</sup> Bark (2005)

<sup>144</sup> Tavakoli (2001)

<sup>145</sup> Dittmar (2000)



#### 4.2.7 Legislation and Limitations

A synthetic repurchase program is not affected to the same extent by legislation as the direct method. No specific rules or recommendations exist exclusively aiming at the synthetic buyback. However, the legislation controlling for instance the decision procedures as well as matters regarding protection of creditors is equivalent for the direct and the synthetic approach.<sup>146</sup>

The major legislative difference between a synthetic and a direct share buyback is the rule of the ten percent repurchase limit, where the synthetic approach makes it possible to exceed this limit. Another big difference is the black out period implication which in reality does not affect the company buying back synthetically. These aspects constitute two major advantages and differences with the synthetic approach compared to the direct one.

One other concern is the obligation to report, which is far more regulated in the direct approach. When buying back synthetically the company is obliged only to inform the market when the program is initiated and when it reaches its closing day. When using the direct approach, press releases for each transaction have to be published. This makes the direct procedure more expensive and time consuming, from a company's point of view. However, as already mentioned, due to firms struggling to meet sound business practices, they still choose to partially inform the market regarding an ongoing synthetic repurchase. The differentiated regulatory regarding obligations, constitutes a disadvantage for the synthetic approach, since neglecting to completely inform about business occurrences potentially could treat a shareholder unfairly. In addition, the fact that the synthetic repurchase is invisible on the firm's balance sheet could result in that calculations of the firm's financial ratios turn out deceptive.

To sum up, a synthetic repurchase program is fairly unregulated. This may be the main legislative incentive for a company to launch a program of this kind. However, as mentioned earlier, it is prohibited to deliberately and inappropriately influence the share price, disregarding of method used. On another note, the regulation regarding equal treatment of shareholders when it comes to offer all shareholders a possibility to redeem their shares is

---

<sup>146</sup> Sonander (2005)

applicable on both methods. To conclude, the synthetic repurchase method is less regulated and therefore the superior alternative from a legislative point of view.

### **4.3 Risks and Opportunities with synthetic repurchases**

When buying back synthetically, both the company and the bank take on a specific risk. A synthetic repurchase program is essentially built around an underlying asset and its conceivable movements. A synthetic repurchase program presumes up movements in the underlying asset, since the opportunities connected to the synthetic technique are dependent on an up movement in the stock. The synthetic buyback is equivalent to a gamble between the company and the bank, which make risks and opportunities connected to it rewarding to study.

#### **4.3.1 Credit risk**

As mentioned, a bank that launches a synthetic share repurchase program takes on a specific credit risk. The worst case scenario for the bank would be if the company in question should go bankrupt. The difference from the direct share repurchase, if financed by loans, is that the bank in this case owns shares in the company which consequently become useless and probably renders heavy losses for the bank. The loan the firm takes on from the bank can be considered a loan without any security backing it up. Since the company is prohibited from putting out any bank security covering their own shares, the credit risk is taken by the bank.<sup>147</sup>

The sometimes high credit risk also results in the company facing a higher borrowing rate from the bank. Due to a high credit risk, a company wanting to launch a synthetic repurchase program may have difficulties in finding a bank with which it can realize the program. The most crucial factor examined by the bank is how stable the firm's finances are. In connection to stock buybacks, banks are often unwilling to take on credit risk, since the amounts involved are often substantial, which imply vast financial commitments.<sup>148</sup>

#### **4.3.2 Reference asset - a numerical example**

The up or down movements of the reference asset price are central issues to take into account when analyzing the outcome of the synthetic repurchase program. A major downward

---

<sup>147</sup> Bark (2005)

<sup>148</sup> Immelborn (2005)

movement in the reference asset price will result in a substantial loss for the firm. As mentioned, the primary risk, from the bank's point of view is the risk connected to the default.

The apprehension of the complications connected to a stock's up or down movement may be simplified by using a simple and lucid numerical example. We have put together examples illustrating two scenarios where the underlying asset price goes up or down.<sup>149</sup>

The numerical example has been simplified through several assumptions that have been made. In the numerical example, the synthetic program runs from December to September and the number of stocks that are bought back is 150 000. These are bought back through three business transactions; the first takes place in December (50 000 stocks), the second in February (50 000 stocks), and the third and final in April (50 000 stocks). In the appreciation example, the acquisition prices on the three occasions respectively are SEK240, SEK260 and SEK280 and the other way around in the depreciation example. The *exercise price*<sup>150</sup> of the stock is SEK290 (less five percent) in the appreciation example and SEK230 (less five percent) in the depreciation example. The dividend is set to be SEK8 per stock.

The *brokerage fee*<sup>151</sup> is estimated to be 0,20 percent and is calculated on the final exercise price. The administration fee is estimated to be SEK75 000. The annual interest rate is set to four percent, and the interest costs are calculated monthly from the transaction month; the first transaction taking place in December bears an interest cost calculated for nine months (December to September).

This numerical example constitutes a fictitious explanation of the procedure, although the theory behind it is comparable with a realistic synthetic repurchase program. In an actual synthetic buyback procedure, the business transactions (of share purchasing) are usually more in numbers. Nevertheless, the procedure of calculating the cost of interest for these transactions is equivalent with an actual share buyback.<sup>152</sup> The simplified example facilitates the understanding of the possible economic outcomes of the synthetic program.

---

<sup>149</sup> Appendix 1

<sup>150</sup> For description see glossary

<sup>151</sup> For description see glossary

<sup>152</sup> Sonander and Berntsson (2005)

The difference in what the company might earn or lose given the two outcomes, *ceteris paribus*<sup>153</sup> is surprisingly immense: SEK2 616 367 if the stock price moves up, and SEK -5 952 767 if the stock price experiences a down movement.<sup>154</sup> If the stock price experiences an up movement, *ceteris paribus*, the bank will earn SEK1 054 317 and if the stock goes down the bank will earn SEK1 063 883.<sup>155</sup> This fact supports the earlier mentioned statement of the bank not being significantly affected by movements in the underlying security and thus, illustrates that the firm stands the greater part of the risk connected to the security.

### 4.3.3 Redemption procedure

The greatest risk connected to the redemption procedure in a synthetic share buyback is if the shareholders' meeting decides not to redeem any stocks and thereby, as a consequence, not to reduce the company's share capital. If this occurs, the bank as mentioned in section 3.3.2.4, then faces a situation where it has acquired stocks for which it can not get paid. The bank shall then sell back the stock to the market again, in accordance to instructions given by the company. The worst case scenario would be if the price of the underlying stock has fallen below the acquisition price, making the bank suffer a temporary loss if it sells out the shares. The firm shall then compensate the bank for this loss, which again marks that the bank is relatively hedged for risk of this kind. The synthetic repurchase program along with the related interest costs, does not close until the day when the bank no longer holds any of the company's shares. In order to minimize costs and losses, the company may choose an aggressive method of stock reselling.<sup>156</sup> The settlement where the bank is compensated for a decline in stock price is always regulated in the agreement between the bank and the firm, set up prior to initiating the buyback.<sup>157</sup> On the contrary, if the stock price has gone up and the bank makes a profit when selling back the shares, the bank shall return the profit to the company.

A fall in the stock price constitutes another possible scenario, potentially making it desirable for other shareholders to redeem their shares. As previously stated, legislation says that a company must not treat shareholders unfairly, which is why the company legally must fulfill the same demands for all shareholders. That is why the company and the bank agree upon an

---

<sup>153</sup> For description see glossary

<sup>154</sup> Appendix 1

<sup>155</sup> Appendix 2

<sup>156</sup> Bark (2005)

<sup>157</sup> Sonander (2005)

exercise price subtracted with five percent from the prevailing market price of the stock. All sane shareholders will then find the deal unfavorable and hence not choose to redeem their shares (mainly because they would get paid more by selling their shares at market price through the stock exchange).<sup>158</sup>

To conclude, the biggest risk taker in this course of action is the company, not the bank. A synthetic repurchase program should be launched by a firm well acquainted with how the synthetic buyback functions, as well as possess a broad understanding of how the market perceives its share, as this would minimize risk and prevent unpredictable events from happening.

#### **4.4 The Direct versus the Synthetic share repurchase - a comparison matrix**

In order to tie together and create a clear picture of the main differences between the two approaches, we have put together a comparison matrix. The matrix will conclude the main findings of this chapter and is therefore used as a tool to simplify the comprehension of the analysis section.

	Capital structure	Capital intensity	Off-balance sheet action	Solving for intrinsic value discount	Effect on EPS	Administrative benefits	Distinct market signaling	Prevention of take over	Legislative benefits	Credit risk	Stock volatility risk	Flexibility
Synthetic repurchase	✓	✓	✓		✓	✓			✓	✓	✓	✓
Direct repurchase	✓		✓	✓	✓		✓	✓			✓	

✓ = constitutes the superior choice of method, with regard to the aspect in question (from the company's point of view)

**Figure 7: Comparison matrix**

<sup>158</sup> Sonander (2005)

### ***Capital structure***

In terms of capital structure, both the synthetic and the direct program have the same effect for the firm which should leave decision makers of the firm indifferent to which alternative is chosen.<sup>159</sup>

### ***Capital intensity***

Since the firm under a synthetic program most often repays the loan to the bank at the closing date of the swap, it gives the firm opportunities to engage in alternative investments. The synthetic approach is therefore the better choice.<sup>160</sup>

### ***Off-Balance sheet action***

Both the direct and synthetic techniques represent off-balance sheet transactions and hence, no alternative is superior to the other.

### ***Intrinsic value discount***

A repurchase will send signals to the market which presumably aids in raising the share price. From an intrinsic value point of view, a direct buyback sends more direct signals to the market (than a synthetic one), in turn making it a tool more effective in influencing the stock price.<sup>161</sup>

### ***Effects on EPS***

The two methods have the same effect on EPS, which should make a firm equally inclined towards engaging in a direct or a synthetic buyback.<sup>162</sup>

### ***Administrative benefits***

The synthetic line offers exceedingly more benefits than its direct counterpart with regards to the administrative aspect.<sup>163</sup>

---

<sup>159</sup> Immelborn (2005)

<sup>160</sup> Bark (2005)

<sup>161</sup> Sandberg (2005)

<sup>162</sup> Bark (2005)

<sup>163</sup> *ibidem*

### ***Market signaling***

For the firm launching a share buyback, it is vital to send the right signal. Bearing this aspect in mind, the direct repurchase method sends a more straightforward message to the market.<sup>164</sup>

### ***Prevention of hostile takeovers***

When exposed to a takeover attempt, firms have a chance in raising the stock price, presumably helping to avoid the takeover by increasing the costs for it. The direct repurchase method is more effective in raising the stock price than the synthetic approach, and thus the superior alternative for the firm with regards to this aspect.

### ***Legislative benefits***

As previously mentioned, the synthetic buyback offers supplementary benefits from a legislative point of view.<sup>165</sup>

### ***Credit risk***

In a direct buyback the firm bears the risk, while as in the synthetic repurchase, the bank stands the credit risk. This makes the synthetic method the safer choice for a corporation buying back stock (if the firm is successful in finding a bank willing to launch a synthetic repurchase).

### ***Stock volatility risk***

Stock price fluctuations imply risk for the company both when using a direct or a synthetic program. In a synthetic program, risk is transferred back to the firm since it has to compensate the bank for any down movements in the share price. The direct repurchase program implies a direct risk for the company, since it is the legal owner of the shares.<sup>166</sup>

### ***Flexibility***

Flexibility among different capital distribution techniques vary depending on legislation, capital binding etc. The synthetic repurchase program is considered more flexible since the technique is not hit by the legislation surrounding the direct repurchase program.<sup>167</sup> The

---

<sup>164</sup> Sandberg (2005)

<sup>165</sup> Sonander (2005)

<sup>166</sup> Berntsson (2005)

<sup>167</sup> Sonander (2005)

technique does not bind capital to the same extent as the direct repurchase program since the parties involved (bank and firm) can agree upon zero payments throughout the buyback process. The entire payment will in most cases instead be made at the closing date of the swap. This gives the company flexibility to use the funds for other purposes throughout the program.<sup>168</sup> The fact that the synthetic approach avoids legislation to a certain extent further emphasizes flexibility with this routine. Avoidance of the ten percent buyback limit and more deregulated requirements regarding market information, are two examples of flexibility mentioned above.<sup>169</sup>

#### **4.5 Reliability and validity**

We find the validity of this research high, since our study with its qualitative method of data collection is based on exclusive and unique material, collected from a small amount of respondents, each possessing special competence and experience within the subject field.

The synthetic buyback in combination with a redemption program is a Swedish phenomenon invented by Handelsbanken, and since we have been able to collect primary data from this reliable source, the reliability of our study may be considered fairly high. In addition, to further guarantee the reliability of this paper, primary data from other Scandinavian banks (Nordea and Kaupthing Bank) with considerable experience from the synthetic buyback field, have also been collected.

In order to simplify the apprehension of implications connected to a synthetic repurchase program as well as movements in the underlying asset, we conducted the numerical example exclusively from recommendations from our respondents. The theory upon which the example has been built on is comparable with an actual repurchase program, which contributes to a high validity. The reliability may vary in the example as a side effect of various simplifications being made regarding assumptions and prerequisites.

To conclude, the majority of the material constituting the framework of this thesis is collected from respondents possessing specialized knowledge within this field which, hence brings about high validity and reliability in the paper.

---

<sup>168</sup> Sonander (2005)

<sup>169</sup> *ibidem*



## 5. Conclusion and Recommendations

*This chapter aims to depict our concluded findings and recommendations regarding our research topic, as well as our thoughts on the future of the synthetic buyback and more.*

---

In line with our main problem statement, with this report we have aimed to create a platform which a firm may use as a tool to determine the buyback method most optimal.

Our research has led us to conclude that we are unable to present one universal solution, suitable for all firms. On the contrary, we have found the choice of approach a matter to be tackled on a case to case basis. Although, when examining each aspect separately, we are pleased to present our findings which conclude in recommendations on buyback approach. The firm is in our mind best off by using the material presented in this study as a guide to establish the most essential aspects upon which to base a buyback decision on. When the fundamental aspects have been identified, we are of the opinion that a comparison between these will provide a more clear and accurate picture of which repurchase technique to use. We sincerely stress that the choice of technique always depends on the situation the firm faces.

Our main problem statement comprises three sub-questions. In response to the first one, the analysis chapter of this paper presents advantages as well as the antonyms with the synthetic buyback. The findings from our second sub-question are derived from the first one, concluding that the pros well exceed the cons, primarily due to a firm obtaining legislative benefits as well as wide-spread flexibility as mentioned earlier.

In response to our third sub-question of the main problem statement we find that the future of the synthetic buyback is dependent on especially legislation.

As long as legislation controlling the repurchase techniques remains unchanged, we consider it to be a technique retaining its popularity. The higher risk connected to a synthetic repurchase from a bank's point of view, may very well negatively affect its forthcoming popularity and usage, and thus open up for other methods and techniques. However, our general opinion regarding the forthcoming usage of the technique is that it will stay in use and

possibly even develop into an even more widely spread method than what we have seen and see today.

Our study with its descriptive line of attack, functions as an exceptional springboard into the subject field of equity derivatives, and the usages of these in various capital shifting techniques. That is why we recommend this report when considering further research within this subject area.

## 6. Suggestions for further research

*In this section, suggestions for further research are presented for those wishing to enrich their knowledge of specific issues within the subject field.*

---

One way to further develop and improve knowledge regarding the subject matter would be to carry out a comparative study encompassing other equity derivative strategies such as; *share split with automatic redemption, forward equity purchases, selling puts or buying call options*. One lucid problem to examine might then be: *Which of these equity strategy tools are most superior in conjunction with or as a substitute for a repurchase program?*

Furthermore, as mentioned above, the equity derivate tool *share split with automatic redemption*, with its recent market introduction and its forthcoming development on the market, may be an interesting item to research.

A quantitative study, exclusively examining the differences in effect on share price the two buyback approaches may have, would be another interesting research item. In the future, these differences may constitute the main incentives for choosing one share buyback approach over the other.

A research paper exclusively investigating potential future changes in how the market conceives stock repurchases as well as buyback signals, could also be interesting to perform.

## 7. References

---

### 7.1 Literature

- Aczel A. D., *Sampling methods. Complete business statistics 4<sup>th</sup> ed.*, Irwin/McGraw-Hill, Boston, 1999
- Castagnino J.-P., *Derivatives: The key principles 2<sup>th</sup> ed.*, Richmond, Richmond, 2005
- Copeland T. E., Weston J. F., Shastri K., *Financial Theory and corporate policy 4<sup>th</sup> ed.*, Pearson, New York, 2005
- Dahmström K., *Från datainsamling till rapport Andra upplagan*, Studentlitteratur, Lund, 1996
- Damodaran A., *Investment Valuation 2<sup>nd</sup> edition*, Wiley Finance, New York, 2002
- Davidson B., Patel R., *Forskningsmetodikens grunder Andra upplagan*, Studentlitteratur, Lund, 1994
- Holme I. M., Solvang B. K., *Forskningsmetodik Andra upplagan*, Studentlitteratur, Lund, 1997
- Hull J.C., *Options, futures and Other Derivatives 5<sup>th</sup> ed.*, Prentice Hall, New Jersey, 2003
- Kinnear T. C., Taylor J. R., *Market research – an applied approach 5<sup>th</sup> ed.*, McGraw Hill, New York, 1996
- Kolb R. W., *Futures, Options and Swaps 4<sup>th</sup> ed.*, Blackwell, United Kingdom, 2003
- Lekvall P., Wahlbin C., *Information för marknadsföringsbeslut*. IHM Förlag AB, Göteborg, 2001
- Steinherr A., *Derivatives – The wild beast of Finance*, John Wiley & Sons, New York, 1998
- Tavakoli J. M., *Credit Derivatives and Synthetic Structures 2<sup>nd</sup> ed.*, Wiley Finance, New York, 2001
- Trost J., *Att skriva en uppsats med akribi*, Studentlitteratur, Lund, 1998
- Trost J., *Kvalitativa intervjuer Andra upplagan*, Studentlitteratur, Lund, 1997
- Wiedersheim-Paul F., Eriksson L. T., *Att utreda forska och rapportera Sjunde upplagan*, Liber ekonomi, Malmö, 2001
- Wiedersheim-Paul F., Hägg I., *Modeller som redskap - att hantera företagsekonomiska problem*, Liber-Hermods, Malmö, 1994

Yin K. R., *Case study research Design and Methods 2<sup>th</sup> ed.*, Sage Publications, London, 1994

## **7.2 Articles**

Aktiespararna, “Ägarstyrningspolicy”, 2003

Bagwell L. S., “Share repurchase and takeover deterrence”, *The RAND Journal of Economics*, Vol. 22 No. 1 p. 72-88, 1991

Billetta M. T., Xueb H., “Share repurchases and the Need for External Finance”, University of Iowa, Iowa, 2004

Brigo D., Tarenghi M., “Equity Swap Valuation under Counterparty Risk with a Tractable Structural Model”, 2004 FEA Conference at MIT, Cambridge, 2005

Burns N., “Using derivatives to facilitate share repurchase programs”, Harris Nesbitt volume no 17, 2000

Byström H., “Credit default swaps and equity prices: the itraxx cds index market”, Department of Economics by Lund University, 2005

Chuang S.-L., “Why Firms Repurchase Stock?”, *Tamsui Oxford Journal of Management Sciences*, Vol. 19 No. 1 p.79-108, 2003

Dann L. Y., “Is Your Common Stock Really Worth Buying Back?”, *Directors & Boards* 7 No. 4 p. 23-29, 1983

DeAngelo H., DeAngelo L., Skinner D., “Special Dividends and the Evolution of Dividend Signalling”, *Journal of Financial Economics*, forthcoming, 1999

Dittmar A. K., “Why do firms repurchase stocks?”, *The Journal of Business*, Vol. 73 No.3, 2000

Drobertz W., “Dividend Policy and Share Repurchase”, University of Basel (WWZ) - Department of Corporate Finance, 2005

Fama E. F., French K. R., “Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?”, *The Center for Research in Security Prices Working Paper No. 509*, Chicago, 2000

Fried J. M., “Open Market Repurchases: Signaling or Managerial Opportunism?”, Tel Aviv University Law School, 2000

Grullon G., “The Information Content of Share Repurchase Programs”, Rice University working paper, 2000

Grullon G., Ikenberry D. L., “What do we know about stock repurchases?”, *Journal of applied corporate finance*, Vol.13 No. 1, 2000

- Grullon G., Michaely R., “The information content of share repurchases programs”, the Journal of Finance, Vol. LIX No. 2, 2004
- Grullon G., Michaely R., “Dividends, Share Repurchases, and the Substitution Hypothesis”, Cornell University, 2000
- Gyoshev S. B., “Synthetic Repurchase Programs through Put Derivatives: Theory and Evidence”, Drexel University, 2001
- Hodrick L. S., “Does price elasticity affect corporate financial decision?”, Working paper: Columbia University, New York, 1996
- Howe J. S., Jain R., “Share Repurchase Programs by Banks”, University of Missouri-Columbia and University of Massachusetts Lowell, 2005
- Instefjord N., “Risk And Hedging: Do Credit Derivatives Increase Bank Risk?”, Birkbeck College, London, 2003
- Jensen M. C., “Agency costs of free cash flow”, American Economic Review, Vol. 76 No. 2 pp. 323-329, 1986
- Jensen M. C., Meckling W. H., “Theory of the firm: Managerial behavior, Agency Costs and Ownership Structure”, Journal of financial economics, Vol.3 No. 305-360, 1976
- Jensen M. C., “Self-Interest, Altruism, Incentives, & Agency Theory”, Journal of Applied Corporate Finance, Vol. 3 No. 2, 1994
- Kahle K.M., “When a buyback isn’t a buyback: Open market repurchases and employee options”, Journal of Financial Economics, Pittsburgh, 2001
- Lamba A., Ramsay I., “Share buybacks: an empirical investigation”, The Centre for Corporate Law and Securities Regulation, The University of Melbourne, 2000
- Mazur E. J., “Accounting for Derivatives”, a Presentation to the NASACT 2004 Conference, Chicago, 2004
- Neuman S., “Repurchasing stock won’t fool the market”, Olin School of business, 2005
- Oded J., “Why Do Firms Announce Open-Market Repurchase Programs?”, The Review of Financial Studies, Vol. 18 No. 1, 2004
- Persons J. C., “Signaling and Takeover Deterrence with stock repurchases: Dutch actions versus fixed price tender offers”, The journal of finance, Vol. 49 No. 4 p.1373-1402, 1994
- Sinha S., “Share Repurchase as a Takeover deterrence”, The Journal of Financial and Quantitative Analysis, Vol. 26 No. 2 p.233-244, 1991
- Tavakoli J., “Introduction to Credit Derivatives. Total Return Swaps – TRS”, Tavakoli Structured Finance Inc., Chicago, 2001

“The appeal behind a share repurchases”, Wall Street Journal, p. 17, 2000

Vermaelen T., “Common Stock Repurchases and Market Signaling”, Journal of Financial Economics 9, 1981

Weisbach M., Jagannathan M., Stephens C., “Financial Flexibility and the Choice between Dividends and Stock Repurchases”, Journal of Financial Economics, Vol. 57 No. 355-384, 2000

### **7.3 Websites**

Mathieu J. A., *Agency Theory Framework*, Babson College - (2005-12-07) - <http://www.investopedia.com/offsite.asp?URL=http://www.babson.edu/entrep/fer/papers96/shane/shane3.htm>

*Off-balance-sheet financing*, Investopedia.com - (2005-12-08) - <http://www.investopedia.com/terms/o/obsf.asp>

Social Science Research Network - <http://www.ssrn.com> - (2005-11-02)

Sooran C., *Currency Swaps*, Victory Risk Management Consulting, Inc.- (2005-11-02)- <http://www.finpipe.com/currswaps.htm>

Sooran C., *Equity Swaps*, Victory Risk Management Consulting, Inc.- (2005-11-02)- <http://www.finpipe.com/equityswaps.htm>

Sooran C., *Hedging Swaps*, Victory Risk Management Consulting, Inc. - (2005-11-02)- <http://www.finpipe.com/hedgeswaps.htm>

Sooran C., *Interest rate Swaps*, Victory Risk Management Consulting, Inc.- (2005-11-02)- <http://www.finpipe.com/inrateswaps.htm>

*Survey Software -Online Surveys & Paper Questionnaires*, Stat Pac Inc.-(2005-11-15) - <http://www.statpac.com/surveys/sampling.htm>

### **7.4 Interviews**

Bark Johan, vice president of Handelsbanken Equity Derivatives – (2005-11-24)

Berntsson Anders, vice President of Wallenstam – (2005-10-24)

Ek Ulf, CFO of Wallenstam – (2005-10-24)

Immelborn Henrik, Senior Manager of Nordea Equity Capital Markets – (2005-11-21)

Sandberg Peter, former CEO of Bure Equity – (2005-11-29)

Sonander Fredrik, Company Lawyer, Vinge – (2005-11-23)

Söderberg Ulf, Corporate Banking, Kaupthing Bank – (2005-11-24)

## **7.5 Miscellaneous**

Aktiebolagslag (2005:551)

Hendensjö R., Holmqvist D., *Återköp av egna aktier: motiv ur företagsledningens perspektiv*,  
Luleå Tekniska universitet 2 000:159, 2000

Investment AB Öresund annual report, 1999

Lag (2000:1087) om anmälningsskyldighet för vissa innehav av finansiella instrument

Lag (2005:377) om straff för marknadsmissbruk vid handel med finansiella instrument

Lag om ändring i årsredovisningslagen (1995:1554) - SFS 2005:556

Regeringens proposition 1999/2000:34 Förvärv av egna aktier

SFS 2000:66 Lag om ändring i aktiebolagslagen

SFS 2005:377 Lag om straff för marknadsmissbruk vid handel med finansiella instrument

SFS 2005:552 Lag om införande av Aktiebolagslagen

SOU 1997:22 Aktiebolagets kapital

*Svensk Skattetidning*, Nordstedts Juridik, Årgång 67 nr 1, 2000

Årsredovisningslag (1995:1554)



## 8. Glossary of terms

*In the following section we have listed and explained terms related to a synthetic repurchase program.*

---

**Brokerage fee** - *A percentage fee a banks requires for executing a financial transaction.*

**Ceteris Paribus** - *It means that all other things are being equal.*

**Duration** - *The time period, within i.e. a project is running.*

**Exercise price** - *The price for the stocks that the company should pay in order to close the redemption and consequently the synthetic repurchase program.*

**Long position** - *The state of actually owning a security, contract, or commodity, also called long (opposite of short). Futures contracts are purchased when the investor expects the price of the underlying security to rise. This is known as going long.*

**Off-balance sheet instruments** - *This is unlike loans, debt and equity, which do appear on the balance sheet. Examples of off-balance sheet financing include derivatives, joint ventures, research and development partnerships, and leases (rather than purchases of capital equipment).*

**Redemption** - *The return of an investor's principal in a security, such as a bond, preferred stock or mutual fund shares, at or prior to maturity.*

**Short position** - *In the case of a futures contract when the promise is to sell a certain quantity of a good at a particular price in the future. Opposite of a long position.*

**Special dividends** - *Occasional payments that companies typically tell their investors not to expect again.*

**STIBOR** – *Stockholm inter-bank offer rate*

## 9. Appendices

### 9.1 Appendix 1 - A numerical example (up)

#### Synthetic repurchase program if stock price has gone up (SEK)

##### Exercise price

Number of stocks	150 000	
Price	290	<u>43 500 000</u>
Exercise price (-5%)	276	<u>41 325 000</u>

##### Acquired stocks (Initial price)

Acquired	Number of stocks	Share price	Sum
Dec	50 000	240	12 000 000
Feb	50 000	260	13 000 000
Apr	<u>50 000</u>	<u>280</u>	<u>14 000 000</u>
	150 000		<b>39 000 000</b>

##### Price at maturity

Exercise price		41 325 000
Dividend per share	8	<u>1 125 000</u>
Price at maturity		<b>42 450 000</b>

##### Yield from interest

Number of stocks	Annual interest:	Interest	
Dec		360 000	
Feb		303 333	
Apr		<u>233 333</u>	
		896 667	<b>896 667</b>

##### Yield from stock

Price at maturity		42 450 000
Initial price		<u>39 000 000</u>
Yield from stock		<b>3 450 000</b>

Brokerage 0,20%

**82 650**  
**979 317**

##### Costs from the company's point of view

Yield from stock	3 450 000
Yield from interest	<u>-979 317</u>
	<b>2 470 683</b>

##### Costs from the bank's point of view

Initial price	39 000 000
Yield from interest	979 317
Dividend	<u>-1 125 000</u>
	<b>38 854 317</b>

Redemption -41 325 000

**Net company -38 854 317**

**Net bank -39 000 000**

<b>What the bank earns:</b>	
<u>Administration fee:</u>	75 000
<u>Brokerage:</u>	82 650
<u>Interest:</u>	896 667
	<b>1 054 317</b>
<b>What the company earns:</b>	
<u>Net bank - Net company:</u>	145 683
<u>Yield from stock:</u>	2 470 683
	<b>2 616 367</b>

Duration of repurchase program: December to September (9 months)

## 9.2 Appendix 2 - A numerical example (down)

### Synthetic repurchase program if stock price has gone down (SEK)

#### Exercise price

Number of stocks	150 000	
Price	230	<u>34 500 000</u>
Exercise price (-5%)	219	<b>32 775 000</b>

#### Price at maturity

Exercise price		32 775 000
Dividend per share	8	<u>1 125 000</u>
Price at maturity		<b>33 900 000</b>

#### Yield from stock

Price at maturity		33 900 000
Initial price		<u>39 000 000</u>
Yield from stock		<b>-5 100 000</b>

#### Costs from the company's point of view

Yield from stock		-5 100 000
Yield from interest		<u>-988 883</u>
		<b>-6 088 883</b>

Redemption		<b>-32 775 000</b>
------------	--	--------------------

<b>Net company</b>	<b>-38 863 883</b>
--------------------	--------------------

#### Acquired stocks (Initial price)

Acquired	Number of stocks	Share price	Sum
Dec	50 000	280	14 000 000
Feb	50 000	260	13 000 000
Apr	<u>50 000</u>	<u>240</u>	<u>12 000 000</u>
	150 000		<b>39 000 000</b>

#### Yield from interest

	Number of stocks	Annual interest:	Interest	
Dec	50 000		420 000	
Feb	50 000		303 333	
Apr	<u>50 000</u>		<u>200 000</u>	
	150 000		923 333	<b>923 333</b>

Brokerage	0,20%		<b>65 550</b>
			<b>988 883</b>

#### Costs from the bank's point of view

Initial price	39 000 000
Yield from interest	988 883
Dividend	<u>-1 125 000</u>
	<b>38 863 883</b>

<b>Net bank</b>	<b>-39 000 000</b>
-----------------	--------------------

<b>What the bank earns:</b>	
<b>Administration fee:</b>	75 000
<b>Brokerage:</b>	65 550
<b>Interest:</b>	923 333
	<b>1 063 883</b>
<b>What the company loses:</b>	
<b>Net bank - Net company:</b>	136 117
<b>Yield from stock:</b>	-6 088 883
	<b>-5 952 767</b>

Duration of repurchase program: December to September (9 months)