

AXEL HILLING

Income Taxation of Derivatives and other Financial Instruments – Economic Substance versus Legal Form

A study focusing on Swedish non-financial companies



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Axel Hilling
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Abstract

The aim of this book is to examine the Swedish income tax treatment of derivatives, to ascertain the extent to which this treatment provides tax arbitrage opportunities, and to present possible solution that may prevent existing arbitrage opportunities. This study establishes that there are two types of financial instruments that constitute the greatest challenges regarding tax arbitrage opportunities in the Swedish income tax system: hybrid financial instruments and synthetic instruments. These instruments challenge the Swedish income tax system because their legal form is not always in accordance with their economic substance. Accordingly, to prevent tax arbitrage opportunities related to derivatives and other financial instruments in the long run, it is necessary to draft relevant income tax provisions in a way that better mirrors the economic substance of these instruments. As a benchmark for such provisions, the international accounting standard IAS 39 Financial Instruments: Recognition and Measurement is presented and evaluated.

The topic and findings are of interest to academics and are highly relevant to practitioners and government officials in the area of income taxation. Although the focus is the Swedish income tax system, the material in this book has application to other countries as well.

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Abbreviations

AG	Application Guidance
BC	Basis for Conclusion
<i>BFN</i>	<i>Bokföringsnämnden</i>
BIS	Bank of International Settlement
CA	Company Act
Cf.	Confer
COM	(European) Commission
CPI	Consumer Price Index
EATLP	European Association of Tax Law Professors
EC	European Community
Ed.	Edition
EU	European Union
<i>et al.</i>	<i>et alii</i>
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Standards
IE	Illustrative Examples
IG	Guidance on Implementing IAS 39
IN	Introduction
ISDA	International Swaps and Derivatives Association
ITA	Income Tax Act
JWG	Financial Instruments Joint Working Group of Standard Setters
<i>No.</i>	<i>Numero</i>
MM	Modigliani and Miller
OECD	Organization for Economic Co-operation and Development
OTC	Over the counter
p.	page
pp.	pages
<i>RegR</i>	<i>Regeringsrätten</i>
<i>RR</i>	<i>Redovisningsrådet</i>
<i>RÅ</i>	<i>Regeringsrättens årsbok</i>
<i>SOU</i>	<i>Statens Offentliga Utredningar</i>
USD	United States Dollars
Vol.	Volume

I Introduction

I.1 The Subject

Derivative¹ trading, if not the largest business in the world, is certainly among the largest. As of April 2004, the Bank for International Settlement (BIS) calculated the daily turnover in over-the-counter (OTC) derivative markets at approximately 2.41 trillion US dollars (USD).² In the financial literature, the OTC derivative market is estimated to be approximately five times the USD value of the exchange traded derivative market.³ In April 2004, the combined total daily turnover in these two derivative markets was approximately 2.9 trillion USD.⁴ To put this number into perspective, the gross national product of Sweden for 2004 was 321.4 billion USD:⁵ less than one hour of derivative trading!⁶

The nature of derivatives makes them well suited for risk hedging or for leveraging the payoff possibilities of traditional financial instruments like bonds.⁷ Depending on how their intended use, derivatives may be traded on a stand-alone basis or as implanted components in traditional financial instruments. Because of this variation, it is sometimes difficult to identify the existence of a derivative in relation to a financial instrument. As a consequence, the legal treatment of a derivative sometimes varies depending on whether it appears on a stand-alone basis or as a component in a separate financial instrument. This is evident in the Swedish income tax system.

¹ The term “derivative” has been defined as “A financial instrument, the price of which has a strong relationship with an underlying commodity, currency, economic variable, or financial instrument” (see “derivative” in Smullen, J. and Hand, N. (2005)). See also Section 2.3.1.1, dealing with the definition of the term.

² BIS’s Triennial Central Bank Survey (2004, p. 15). A new survey is scheduled in June 2007; however, it will not appear until after the printing of this book.

³ Hull, J. C. (2006, p. 3).

⁴ 2.41 * 1.2.

⁵ Encyclopaedia Britannica Online – www.britanica.com.

⁶ Calculated on a presumption that the derivative trade is conducted eight hours per day.

⁷ The term “financial instrument” has been defined as “[a]ny evidence of the legal relationship arising from the provision of money, property, or a promise to pay money or property by one person to another in consideration for a promise by the other person to provide money or property at some future time or times, or upon the occurrence or non-occurrence of some future event or events” (see Edgar, T. (2000, pp. 4-5)). See also Section 2.3.1.2 dealing with the term financial instrument.

The Swedish income tax treatment of derivatives and other financial instruments is based on the legal form of these instruments. This legal form is not systematically related to the economic substance of the instruments. For this reason two identical derivatives may be treated differently depending on the context in which they appear – on a stand-alone basis, or as a component of a separate financial instrument. As a result, the legal classification gives rise to situations in which the payoffs from two financial instruments with different legal forms but identical economic substances are taxed differently. In these situations there is a possibility for a tax subject that wants to invest in a certain economic substance to choose the financial instrument for which the payoff is taxed most favorable. Consequently, the income taxation of the payoff from this investment becomes arbitrary, thereby creating opportunities for tax arbitrage.

In summary, although derivatives may be the most traded item in the world, the Swedish income tax system has not yet found methods of dealing with these instruments in a way that eliminates possible tax arbitrage. Considering the volume of the derivative trade, finding such methods ought to be an urgent matter.

1.2 Study Purpose and Delimitation

1.2.1 Purpose

Although it appears as if the taxation of derivatives and other financial instruments is a critical issue within Swedish income taxation policy, it is an issue that essentially has been left outside present research. Therefore, the general purpose of this study is to establish the Swedish income tax treatment of derivatives and to ascertain the extent to which this treatment provides tax arbitrage opportunities. A further aim is to present and evaluate methods of preventing existing tax arbitrages.

1.2.2 Delimitation

Depending on the nature of the tax subject, the Swedish income tax treatment of derivatives and other financial instrument differs. In this study, focus is on the income tax treatment of instruments held by non-financial companies because they are end users of the derivatives and other financial instruments.⁸ As a consequence, the income tax treatment of the instruments is, in principle, dependent on how they are used by the company: as part of the company's ordinary business or for purpose of capital management.⁹ According to the Swedish income tax system, income generated by a company's ordinary

⁸ A non-financial company is defined in this study as any company that does not conduct a security business. See Section 3.3.4.

⁹ See Section 3.3.5.

I. Introduction

business is computed in a different way from company income generated by capital management; the latter is computed similar to the way individuals compute their capital income. Thus examining the income tax treatment of derivatives and other financial instruments from the perspective of non-financial companies yields information that is relevant for these companies; this information is highly likely to be useful for individuals engaged in the trading of financial instruments.

Most non-financial companies are also closely held companies,¹⁰ and the Swedish income tax system prescribes special provisions for them, relating to the distribution of profit to the owner(s). However, these provisions are of limited relevance to the income tax issues dealt with in this study, and are not taken into account.

An examination of the income tax treatment of derivatives and other financial instruments covers, in principle, innumerable and varied instruments, and an attempt to examine them would be endless. Therefore, this study primarily focuses on the general structures of the income tax system related to the relevant instruments. Special attention is paid to the basic building blocks of financial instruments: credit-extension instruments and derivatives.¹¹

Also outside the scope of this study are derivatives used within employee incentive plans, such as employee stock option programs. This decision is based on the fact that derivatives used in employee incentive plans are modified in a way that makes them different from, and not particularly relevant to derivatives as defined in this study.¹² In addition, derivatives used in employee incentive plans are covered far more extensively in the Swedish legal literature than are derivatives that are not part of these plans.¹³ Thus to achieve the aim of contributing to the common knowledge on the taxation of derivatives, it appears appropriate to focus on derivatives that are not used in employee incentive plans, about which very little has been written.

The international trade in derivatives and other financial instruments is enormous.¹⁴ Thus income from these instruments is subject to cross-border income tax issues – problems arising when applying tax treaties to eliminate international juridical double taxation of income, for example. Although cross-border income tax issues related to derivatives and other financial instruments is an issue deserving future research, it is not a subject covered in this study¹⁵

¹⁰ In Swedish, *fåmansföretag*.

¹¹ See Section 2.6.2.

¹² See Section 4.2.3.

¹³ A range of published material on these derivatives is presented in Footnote 26, Chapter 4.

¹⁴ See Section 1.1 in this chapter.

¹⁵ For information about international tax issues related to the global trading of derivatives and other financial instruments, see, for instance, OECD (1998) and (2006, Part III, pp. 119-179). See also, for example, Jacobs, O. H. and Haun, J. (1995) and Gammie, M. (1999, p. 233).

I.3 Method and Material

I.3.1 Interdisciplinary Study

The main objective of this study is to establish the Swedish income tax treatment of derivatives and to examine whether or not this treatment contains tax arbitrage opportunities. Generally, tax arbitrages occur when the economic substance of two financial instruments is identical, although their legal forms differ. Consequently, in order to fulfil the purpose of the study, it is necessary to consider the legal form as well as the economic substance of the financial instruments that are examined.

To establish the legal form of a financial instrument within the area of Swedish income taxation, I utilize a traditional legal method, the content of which is presented below. Because the traditional legal method cannot be used to examine the economic substance of financial instrument, I use financial theory to do so. Furthermore, fulfilling the aim of this study required me to find and apply methods to prevent the existing tax arbitrages connected with derivatives and other financial instruments. For this purpose, I consulted international accounting standards on financial instruments as detailed by the International Accounting Standard Board (IASB). Consequently, in addition to drawing upon traditional legal material used to establish the law in relation to the income tax treatment of derivatives and other financial instruments, I also considered the finance literature and various materials on financial accounting.

Tax law, finance, and financial accounting are usually conceptualized as separate academic disciplines in which research is conducted independent of other academic disciplines. However, the character of the subject dealt with in this study makes it necessary to include all three disciplines. Consequently, this study is, to some extent, interdisciplinary. That said, this study's primary focus is on tax law – in particular, Swedish tax law – and its main contributions are in these areas.

I.3.2 Comments on the Application of a Traditional Legal Method

I.3.2.1 Interpretation of Legislation

The general method used throughout this study is a traditional legal method¹⁶ involving an interpretation of the legislation by means of legal material: preparatory works, case law, and additional legal sources such as the relevant literature.¹⁷ The following sections indicate how this legal material is used in this study.

¹⁶ For information on the application of a traditional legal method in the area of Swedish income taxation, see, for example, Aldén, S. (1998, pp. 20-27) and Melz, P. (2004, pp. 107-110).

¹⁷ See, for instance, Peczenik, A. and Bergholz, G. (1995, pp. 322-331).

1.3.2.2 Preparatory Works¹⁸

In the Swedish legal literature, there appears to be a general understanding that the Swedish Supreme Administrative Court¹⁹ and lower Swedish administrative courts closely follow what is stated in the preparatory works when interpreting income tax legislation.²⁰ However, although the rule of law – *nullum tributum sine lege*²¹ – implies that preparatory works are to be considered only when they are not in conflict with the general meaning of the legislation, the weight to give statements in preparatory works when interpreting income tax legislation may still be questioned.²² In this study, preparatory works are employed as a means of interpretation in situations in which the meaning of legislation is ambiguous. Statements from preparatory works are considered to the extent it appears reasonable and corresponds to the general meaning of the interpreted legislation.

When interpreting the Swedish Income Tax Act²³ (hereinafter referred to as ITA) with references to preparatory works, it is not always evident which preparatory works to employ. The ITA resulted from an attempt to improve the structure of income tax legislation and make the language coherent.²⁴ However, much of the material contents of the ITA legislation were established in its predecessors: the Swedish Municipal Income Tax Act²⁵ and the Swedish National Income Tax Act²⁶. These prior acts were subject to major material changes during the income tax reform of 1990. Therefore, the reasons for the design and structure of much of today's income tax legislation are presented in the government bills that founded that reform. As a consequence, these government bills are relevant when interpreting the ITA.

In addition to government bills, official government reports are consulted for reasons of interpretation. However, unlike government bills, official government reports have not been accepted by the Swedish Parliament and are of a lower rank in a legal hierarchy.

1.3.2.3 Case Law

In accordance with the Instrument of Government, Swedish courts have been given the authority to make the ultimate decision on legal matters within the

¹⁸ In this study, preparatory works refers to the background documents prepared prior to and during the process of drafting and approving laws – in this case, Swedish Government Bills (*Propositioner*) and Swedish Government Official Reports (*Statens Offentliga Utredningar* – *SOU:er*).

¹⁹ In Swedish, *Regeringsrätten*.

²⁰ See, for example, Bergström, S. (2003, pp. 2-3).

²¹ See Chapter 8, Section 3 Instrument of Government (*Regeringsform 1974:152*).

²² Different opinions on the issue are summarized in Aldén, S. (1998, pp. 22-24) and Bergström, S. (2003, pp. 2-3).

²³ *Inkomstskattelag (1999:1229)*.

²⁴ See the Swedish Government Bill (*Proposition*) 1999/2000:2, Part 1 (p. 476).

²⁵ In Swedish, *Kommunalskattelagen* (SFS 1928:370).

²⁶ In Swedish, *Lag om statlig inkomstskatt* (SFS 1947:576).

jurisdiction of Sweden.²⁷ Decisions carried out by the Supreme Administrative Court are given precedence.

Although the lower courts are not formally obliged to judge in accordance with a similar issue dealt with in a precedent court decision, adherence to such decisions is generally without exceptions.²⁸ Thus although it may be possible to argue against the interpretation on which a precedent-setting court decision is based, the legal status of the decision is difficult to question. In other words, precedent-setting court decisions establish the law within the limits of the decision, making precedent-setting court decisions superior to preparatory works in situations in which they are contradictory.

Regarding the appeal system, a leave of appeal is required in order for a case that has been decided by an administrative court of appeal²⁹ to be accepted for review by the Supreme Administrative Court. However, without the need for leave to be granted, the Supreme Administrative Court also provides precedent-setting court decisions on income tax issues ruled by the Board of Advanced Tax Rulings³⁰ (hereinafter referred to as the Board).³¹

The Board gives advanced ruling on tax issues, but is by definition not a court.³² However, the precedence status of judgments by the Supreme Administrative Court, previously dealt with by the Board, is no different from cases granted leave from an administrative court of appeal.

In this study, income tax legislation is interpreted with references to cases decided by the Supreme Administrative Court. Case law from the administrative courts of appeal, and rulings from the Board not subsequently decided by the Supreme Administrative Court, is given a limited value. The cases referred to in this study have been collected systematically by relevant databases. Cases decided after July 15, 2007 have not been considered.

1.3.2.4 Additional Legal Sources – Literature

The subject of this study – the income tax treatment of derivatives and other financial instruments from the perspective of Swedish non-financial companies – has not previously been dealt with in a coherent scholarly study.³³ However, several of the relevant issues have been elaborated on in articles published in the two major tax journals in Sweden: *Svensk Skattetidning* and *Skattenytt*. Furthermore, Rutberg, Rutberg and Molander published a book, *Beskattning av värdepapper* (1997), which deals comprehensively with the Swedish income tax treatment of financial instruments. Also Tivéus regularly updates his book, *Skatt*

²⁷ See Chapter 1, Section 8; and Chapter 11, Section 2 Instrument of Government (*Regeringsform* 1974:152).

²⁸ Lodin S-O, *et al.* (2007, pp. 15-16).

²⁹ In Swedish, *Kammarrätt*.

³⁰ In Swedish, *Skatterättsnämnden*.

³¹ See Lag (1998:189) *om förhandsbesked i skattefrågor*.

³² For further reading see, for instance, Francke, J. (2001); Leidhammar, B. (2002); and Wingren, C-G. (2002). See also Bergström, S. (1990).

³³ See Edgar, T. (2000), however, dealing with the issue on a general level, with references to legislation in Australia, Canada, New Zealand, and the United States of America.

på kapital, dealing with many of the issues covered in this study. In comparison to this study, these books take a more practical perspective on the issues dealt with. However, together with relevant articles published in *Svensk Skattetidning* and in *Skattenytt*, they are the most relevant additional legal sources to draw upon considering that the traditional legal method is applied in this study.

I.3.3 Comments on the use of Financial Literature

The general finance literature referred to in this study is a selection of the most common literature in the area of derivatives and financial instruments, and in the area of corporate finance.³⁴ This literature provides what I consider to be a general understanding of a certain issue from a financial perspective. Because the referenced literature is among the most accepted internationally, I consider it to be a sound basis for this study. The financial literature on more specific issues – such as *risk* or *arbitrage* – has been selected systematically from various data bases – primarily JSTORE Business.

I.3.4 Comments on the use of Materials on Financial Accounting

I.3.4.1 Materials on Financial Accounting

In Chapter 8 of this study the international accounting standard, *IAS 39 Financial Instruments: Recognition and Measurement*, is used as a source to establish how derivatives and other financial instruments are treated in accordance with International Financial Reporting Standards (IFRS). The provisions of this standard are labelled under the following headings: *Introduction*, the actual *Accounting Standard*, *Application Guidance*, *Basis for Conclusions*, *Dissenting Opinions*, *Illustrative Examples*, and *Guidance on Implementing IAS 39*. Provisions presented under any of these headings deal with how to recognize or measure financial instruments; yet it is not evident how and when to use them. Therefore, in following five sub-sections I provide a brief explanation of how different parts of the accounting standard have been dealt with in this study. The standard referred to is IAS 39, as of January 1, 2007.

I.3.4.2 Introduction

The *Introduction* is of explanatory character; it briefly describes the content of the standard and the main changes from its previous draft. Thus paragraphs in the *Introduction* are not used for purposes of establishing the actual treatment of

³⁴ For example, see Hull, J. C. (2006); McDonald, R. L. (2003); and Ross, S. A., Westerfield, R. W. and Jaffe, J. (1996).

financial instruments in a company's financial reports; rather they are used as guidance, explaining the background to the present standard.³⁵

1.3.4.3 The Accounting Standard and Application Guidance

The actual *Accounting Standard* follows the *Introduction* section. Some paragraphs are written in bold, whereas others are written in regular font. The former indicates the main principles, but has the same authority as any other paragraph within the standard.³⁶

Compared to Swedish accounting legislation and to national accounting standards, paragraphs of IFRS are highly detailed. Furthermore, the paragraphs are accompanied by mandatory *Application Guidance* described in even more detailed paragraphs. How to apply Paragraphs 10 to 13 of IAS 39 on embedded derivatives, for instance, is described in detail in Paragraphs AG 27 to AG 33B of IAS 39. Consequently, to appreciate how to deal with embedded derivatives according to IAS 39, it is necessary to consult not only the relevant paragraphs in the actual standard, but also the paragraphs dealing with the issue in the accompanying *Applications Guidance*. In this study, the paragraphs of the actual accounting standard are considered to be the primary source when establishing the treatment of financial instruments according to IFRS. However, in situations in which an issue is also dealt with in the *Application Guidance*, the paragraphs therein are always consulted in order to interpret the accounting standard correctly.

1.3.4.4 Basis for Conclusion, Preface to IFRS, and the IASB Framework

Although the paragraphs in the IFRSs are extremely detailed, there may still be situations in which it is not perfectly obvious how the standards are to be applied. In such situations, the IASB indicates that the paragraphs shall be read:

*...in the context of its objective and the Basis for Conclusions, the Preface to International Financial Reporting Standards and the Framework for the Preparation and Presentation of Financial Statements.*³⁷

Basis for Conclusion is a summary of the considerations IASB used in deciding on how to draft the present accounting standard. For example, the reason for permitting the use of a fair-value option, as stated in Paragraph 9, IAS 39, is explained in Paragraphs BC 71 to BC 76B, IAS 39. *Dissident Opinions* are published together with the *Basis for Conclusion*. Neither of these documents is part of the accounting standard; the documents are solely used as a means for interpretation.

³⁵ See, for instance, Paragraphs IN 1 – IN 3 IAS 39.

³⁶ Paragraph 14 Preface to International Financial Reporting Standards.

³⁷ This statement is included in every standard published by IASB and is placed in between the *Contents* and the *Introduction*.

I. Introduction

The Preface to IFRSs was approved in 2002 and generally sets out the objectives of IASB. For instance, the Preface states that an objective of IASB is to develop accounting standards in order: "...to help participants in the various capital markets of the world and other users of the information to make economic decisions."³⁸ Therefore, using the Preface to IFRSs as a means of interpretation, it appears that the information provided by IFRSs primarily serves the needs of investors rather than the needs of creditors, for example.³⁹

The present version of the *IASB Framework* was adopted in 2001 and generally establishes the concepts that underlie international accounting standards. Furthermore, it thoroughly explains concepts that are commonly used in the IFRSs. For instance, in IAS 39, the term "financial asset" is defined with reference to the term "asset", which is not defined in the standard. In the *IASB Framework*, however, an asset is defined as a resource controlled by a company as a result of a past event, and from which future economic benefits are expected.⁴⁰ Consequently, to understand the concept of financial asset as used in IAS 39, it is necessary to interpret the term with reference to the *IASB Framework*.

1.3.4.5 Illustrative Examples and Guidance on Implementing IAS 39

Illustrative Example and *Guidance on Implementing IAS 39* are presented as appendixes to IAS 39. These documents are not formally part of the accounting standards, but provide a great number of examples helpful when applying the standard to various situations. Examples in the *Guidance* are sorted into categories, each of which deal with specific issues – definition, measurement, and hedging, for example – usually formulated as illustrative questions and answers intended as guidance in situations similar to those explicitly dealt with in the example.⁴¹

In this thesis, *Illustrative Examples* and *Guidance on Implementing IAS 39* are consulted in situations in which an issue is ambiguous, that is, not yet settled in primary sources: the paragraphs of the actual accounting standard or in the paragraphs of the *Application Guidance*. Furthermore, some of the examples presented in the *Guidance on Implementing IAS 39* are used in this study to illustrate how certain regulations in an accounting standards are to be applied.

1.3.4.6 Interpretations

The International Financial Reporting Interpretations Committee (IFRIC) publishes Interpretations of IFRSs.⁴² Interpretations approved by the IASB are part of IFRS and have the same authority as accounting standards.⁴³ In relation

³⁸ Paragraph 6(a) Preface to International Financial Reporting Standards.

³⁹ Cf. Section 3.2.2.

⁴⁰ Paragraph 49(a) IASB's Framework.

⁴¹ See Paragraphs 7-12 IAS 8.

⁴² Paragraph 36 the IASC Foundation Constitution, and Paragraph 2 Preface to International Financial Reporting Standards.

⁴³ Paragraph 11 IAS 1.

to the issues dealt with in this study, the following Interpretation is relevant: *IFRIC Interpretation 9, Reassessment of Embedded Derivatives*.

1.4 Some Terminological Issues

1.4.1 Analytical Framework: Finance

Because of the interdisciplinary character of this study, material from various academic disciplines – tax law, finance, and financial accounting – has been used.⁴⁴ This has caused some terminological inconvenience. For example, the term “financial instrument” is defined differently in the three disciplines. In the Swedish income tax regulations, the contents of a financial instrument vary depending on the context in which it is used.⁴⁵ According to international accounting standards (IFRS), the term “financial instrument” is defined independent of the context and refers solely to its contractual characteristics.⁴⁶ In finance, the term is used as a general reference to contracts involving a financial obligation: bonds, loans, and derivatives, for example.⁴⁷ Although, all three interpretations of the term “financial instrument” refer to similar contracts, it would be incorrect to say that they are identical. Given the interdisciplinary nature of this study, there is some merit in attempting to take into account the context in which the term “financial instruments” is used. However, I believe that such distinctions would be more confusing than helpful. Therefore, the term and all other terms (like “derivative”) that have been defined slightly differently in the three different disciplines are used in the way they appear in finance, unless stated otherwise. The financial context has been chosen because it is the context of the analytical framework of this study.⁴⁸

1.4.2 Some Commonly Used Terms

Terminology developed in relation to financial instruments, in a financial context, is sometimes unknown to persons unfamiliar with finance. Because some readers of this study may have trouble understanding some of the terminology, I try to explain in this section the most commonly used terms not typically in the vocabulary of a tax lawyer. In addition, most of the finance

⁴⁴ See Section 1.3.1, in this chapter.

⁴⁵ See, for instance, *RÅ 2002 referat 106*, *RÅ 2002 notis 215*, and *RÅ 2004 referat 142*. See also *RÅ 1994 notis 41*, in which the Board for Advanced Tax Ruling (*Skatterättsnämnden*), the Board, elaborates on the contents of the term “financial instrument” as used within the Swedish income tax system.

⁴⁶ Paragraph 11 IAS 32.

⁴⁷ See: “financial instrument” in Smullen, J. and Hand N. (2005). See also Section 2.3.1.2.

⁴⁸ See Section 2.1.

literature involves comprehensive glossaries of terms that could be helpful for readers unfamiliar with the finance terminology.⁴⁹

The most commonly used terms in this study are “financial instrument” and “derivative”. The contents of these terms are defined in Section 2.3.1, Chapter 2, and are not further elaborated upon here. It is worth mentioning, however, that because a derivative is a financial instrument, a reference to a financial instrument may be a reference to a derivative. Furthermore, as illustrated in the next chapter, derivatives may be implanted components in separate financial instruments, and not derivatives as such.⁵⁰ In this study, such separate financial instruments are referred to as “financial instruments”. Thus a reference to a “derivative” in this study always refers to a stand-alone derivative.

The value of a derivative typically changes because the value of its underlying variable.⁵¹ The underlying variable may be an asset or an index, or something else. In the financial literature, the underlying variable of a derivative is generally referred to as the *underlying* of the instrument. Thus in this study, I also use “underlying” as a noun.

For income tax purposes, the yield of a financial instrument is classified as, for instance, ordinary income or expenses, capital gains or losses, or interest income or expenses. Depending on the classification, the income tax treatment of the yield differs. Therefore, this terminology cannot be used to explain the economic substance of a financial instrument in a neutral way, an explanation that is necessary in order to be able to analyze the income tax treatment of the financial instrument. As a consequence, I use the tax-neutral term *payoff* as a general reference to the positive or negative return of financial instruments.

Finance terminology that has not been commented on in this section is explained in the context connected to the first appearance of the term in the study. As a general rule, the terminology is in accordance with the general meaning in a financial context.

I.4.3 The Realization Approach and the Fair-Value Approach

An essential issue in this study is *timing arbitrages* – those that are a result of similar payoffs that are taxed in different income periods.⁵² In order to explain how and why timing arbitrages exist in the Swedish income tax system, I refer to a *realization approach* and a *fair-value approach*.⁵³ In this study, these approaches represent the extremes of several different methods for income recognition. Thus they shall not be considered as references to any present method of income recognition – although they are in many ways identical to the

⁴⁹ See, for example, Hull, J. C. (2006, pp. 741-759); and Ross, S. A., Westerfield, R. W. and Jaffe, J. (1996, pp. 868-885).

⁵⁰ See Section 2.6.

⁵¹ See Section 2.3.

⁵² See Section 3.2.5.

⁵³ See Section 3.2.2.

methods used – but solely as pedagogical tools facilitating the understanding of timing arbitrage.

1.4.4 Language

The income tax treatment of derivatives and other financial instruments challenges not only the Swedish income tax system, but it is recognized as a problem in other jurisdictions.⁵⁴ The principal problems appear to be of a similar character.⁵⁵ Therefore, an analysis of the subject from a Swedish perspective and a presentation of possible solutions to identified problems may be of interest to an international audience. For this reason, the study is written in English.

However, Swedish legal terms are sometimes difficult to translate into English. One example is the Swedish term, “*termin*”, which refers to derivatives generally known as forwards and futures in English. This term has a wider scope than the English equivalent; therefore, it cannot be properly translated by a single word. As a result, the Swedish word has been used as a suffix to the most similar English word: forward. Thus in this study, references to a financial instrument that is designated to be a “*termin*” in Swedish are written as “forward (*termin*)”.

Nevertheless, in most cases the situation has been the opposite: some English words do not have Swedish equivalents. In fact, the English language has incorporated new terminology concerning derivatives and other financial instruments, whereas the Swedish language has not. Therefore, the difficulties related to the translation of Swedish words into English would likely be greater if the study were written in Swedish and English words had to be translated. In many situations, such translation would be extremely difficult, if not impossible.

1.5 Outline

This study is divided into nine chapters. The next two chapters deal with the fundamentals of the study. Chapter 2 is written from a financial perspective, and explains how derivatives work and how they, together with credit-extension instruments, constitute the basic building blocks of financial instruments. Furthermore, the relevance of a no-arbitrage assumption, and the way it makes financial engineering possible, are presented in Chapter 2.⁵⁶

Chapter 3 starts by presenting the general principles of tax arbitrages and proceeds by explaining how they may challenge the Swedish income tax system. Also in Chapter 3, the basics of Swedish income taxation, applicable to financial instruments held by non-financial companies are examined. The overall purpose

⁵⁴ See, for instance, Plambeck, C. T., Rosenbloom, H. D. and Ring, D. M. (1995, p. 657); Lokken, L. (1997, p. 4); and Thuronyi, V. (2001, pp. 1-2).

⁵⁵ See, for example, OECD (1994, p. 38) and Gammie, M. (1999, pp. 232-235).

⁵⁶ Financial engineering is the process of combining and/or stripping financial instruments in order to attain a specific, desired financial position; see Section 2.6.

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of Chapter 3 is to illustrate the general structures of the income tax provisions for the types of financial instruments that are explicitly dealt with in subsequent chapters.

Chapter 4 establishes the Swedish income tax treatment of derivatives. The way in which derivatives are defined according to the Swedish income tax system is examined first, followed by a presentation of the income tax treatment of the payoff from derivatives. Finally, the way in which the income tax treatment of derivatives constitutes tax arbitrages is illustrated.

Chapter 5 presents three methods that can be used to prevent tax arbitrages related to financial instruments. These methods are relevant for the examination of the Swedish income tax treatment of composite contracts, examined in Chapter 6. A composite contract is a legally distinct contract – in substance, a combination of several stand-alone financial instruments, particularly credit-extension instruments and derivatives. The primary focus of Chapter 6 is the way in which composite contracts challenge the Swedish income tax system by giving rise to several tax arbitrage opportunities.

Chapter 7 deals with the Swedish income tax treatment of synthetics. A synthetic is a financial position consisting of a number of legally distinct financial instruments the payoffs of which offset each other in a way that makes the net payoff equal to the payoff of another, legally distinct financial instrument. This chapter examines how synthetics challenge the Swedish income tax system by constituting tax arbitrage opportunities. Furthermore, because synthetics are contractually structured the same way as risk-hedging transactions are, the Swedish income tax treatment of risk-hedging is also examined in Chapter 7.

Chapter 8 illustrates that IAS 39 deals with derivatives and other financial instruments in a way that appreciates their economic substance to a greater extent than does the Swedish income tax system. Furthermore, this chapter examines whether or not this difference entails that IAS 39 provides measures that can be implemented in the Swedish income tax system to prevent the identified tax arbitrages.

Finally, in Chapter 9, the general findings of the study are presented, together with some concluding remarks.

2 The Economic Substance of Derivatives

2.1 Analytical Framework

In Section 1.3.1, Chapter 1, I note that in order to fulfil the purpose of this study – to ascertain the extent to which the Swedish income tax system provides opportunities for tax arbitrages in relation to derivatives – it is necessary to evaluate the income tax system on the basis of the economic substance of these instruments. Therefore, the economic substance of derivatives constitutes the analytical framework of this study.

The economic substance of derivatives cannot be considered common knowledge among commercial lawyers, who are the principal target group of this study. As a consequence, this chapter attempts to provide a general understanding of the issue, and thereby to facilitate the accessibility of the analyses carried out throughout the study.

First, as a basis for the assessment of the economic substance of derivatives, Section 2.2 examines the general concepts of income and risk. This section is followed by a thorough examination of the nature and effects of derivatives; Section 2.3 defines and explains the general concept of derivatives, and Sections 2.4 and 2.5 present a thorough analysis of the two general types of derivatives – price-fixing derivatives and price-insurance derivatives. Sections 2.6 and 2.7 illustrate the way in which derivatives can be used to replicate almost any conventional financial instrument, and thus permit an economically neutral or near-neutral choice between the conventional instrument and a “synthetic” version. Finally, the general points made in this chapter are presented in Section 2.8, Conclusions.

2.2 Income and Risk

2.2.1 The Haig-Simons Concept of Income

The most widely accepted concept of income is probably the Haig-Simons definition of income. By Simons’ definition, income is said to be:

the algebraic sum of (1) the market value of rights exercised in consumption and (2) the change in the value of the store of property rights between the beginning and the end of the period in question.¹

Simons' definition of income is actually an elaboration on a theory expressed by Robert A. Haig, who stated that:

income is the money value of the net accretion to one's economic power between two points of time.²

Together, the Haig-Simons concept of income is wealth at the end of the period plus consumption during the period, minus wealth at the beginning of the period.³ As Melz puts it, Haig-Simons defines income as the utmost capacity to consume without decreasing wealth below its level at the beginning of the period.⁴ However, as income is not always consumed in its entirety, the concept generally shows the utmost capacity to consume and invest, where an increase in value that is not consumed involves a decision to let that income remain invested.⁵

In principle, the Haig-Simons definition of income is based on the perspective of an individual: it defines personal income. However, using the income definition in a corporate context, the Haig-Simons' concept of income may be defined as:

the amount the corporation can distribute to the owners of equity in the corporation and be as well off at the end of the year as at the beginning.⁶

This quote establishes the fundamental concept of income as used in this study, and is generally referred to as the Haig-Simons concept of income. However, as the concept is used as a basis for analyzing the Swedish income tax system, the amount distributable to the shareholders of the company is prior to corporate income taxation.

2.2.2 Risk

2.2.2.1 Different kinds of Risk

A company's possibility of earning income is directly dependent on how its business performance corresponds to the demands of the market. Without perfect information about the future, there will always be uncertainty about

¹ Simons, H. C. (1938, p. 50).

² Haig, R. M. (1921, p. 7).

³ For a comprehensive survey of the development of the Haig-Simons concept of income, see, for instance, Holmes, K. (2000, pp. 35-84).

⁴ Melz, P. (1986, p. 13).

⁵ Melz, P. (1986, p. 13).

⁶ Alexander, S. S. (1962, p. 139).

2. The Economic Substance of Derivatives

future market demands, and therefore uncertainty about a company's income in the future. This uncertainty is generally known as business risk or speculative risk.⁷

Business risk must not be mistaken for the concept of risk used in the context of insurance. In the latter context, risk is generally defined as the possibility of a negative deviation from one's expectations.⁸ However, business risk is not necessarily a negative deviation from one's expectation; the deviation may be positive as well. Thus business risk is the variation of return during a certain period.⁹ Limited risk means great certainty that an unknown event, which may cause the return of an investment to deviate from one's expectations, will not happen; and large risk means great certainty that such event will occur.

In this study, risk is a reference to the concept referred to as business risk. A *positive* deviation from one's expectation is referred to as *upside risk*, and a *negative* deviation is referred to as *downside risk*. The relatively large scope of the concept of business risk is sometimes reduced by referring to the actual source of risk – foreign exchange risks, for instance, or credit risks.¹⁰

2.2.2.2 Risk Premium

Analogous to physical energy, in a closed financial context, the amount of risk is constant.¹¹ From a capital market perspective, risk cannot vanish; it can only be reallocated among the market participants. In order to reduce or avoid risk, then, a company must make someone else bear the risk to which it is exposed. The cost for reallocating the risk is generally known as risk premium. Thus risk premium is the difference in expected return between a risk-free investment and an investment that is exposed to risk.¹²

2.2.2.3 Risk and Return

The Haig-Simons definition of income covers any increase in wealth – any increase in capital. Thus besides any investment return, the concept also covers increases in capital that are not a result of an investment – donations or state aid, for instance. In this study, income that is not a result of an investment in capital or manpower is referred to as *windfall gains*.

In competitive markets, the price of a capital investment is usually equal to its discounted, expected future income.¹³ Consequently, all capital investments traded on a competitive market have an expected income, which can be determined by referring to the discount rate used to establish the price of the

⁷ See, for example, Gabriel, S. C. and Baker, C. B. (1980, p. 560); and Wood, O. G. (1964, p. 85).

⁸ About this concept of risk, see, for example, Atheam, J. L. (1971, pp. 639-645).

⁹ See, for example, Ross, S. A., Westerfield, R. W. and Jaffe, J. (1996, p. 235); and De Ridder, A. (2003, p. 65).

¹⁰ See, for example, Mörner, A. V. (1996-97, pp. 653-654); or the Swedish Tax Agency (1996, pp. 25-26).

¹¹ See, for example, Mörner, A. V. (1996-97, p. 653).

¹² See, for example, Ross, S. A., Westerfield, R. W. and Jaffe, J. (1996, p. 233).

¹³ See Section 6.6.1.

investment. For example, investing 100 in an exchange-traded share, the value of which has been established on the basis of a discount rate of 10 percent, entails an expected income of 10.52 percent in one year.¹⁴

However, the risk of the exchange-traded share entails that an unexpected event may change the probability of a share providing income. If such an event happens, the change in value of the share is a windfall gain or loss, as the investor could not predict the event at the time of the investment.

2.2.2.4 Payoff Profiles

To illustrate how risk influences return on an investment, payoff profiles of the investments can be used. If all risks of an investment have been eliminated, the payoff from an investment is perfectly predictable, and is not affected by unexpected events that would otherwise influence the value of the investment. The payoff profile of such a risk-free investment is illustrated in Figure A.

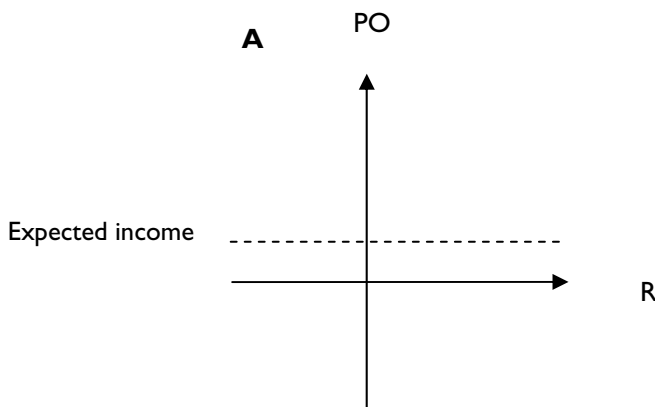


Figure 2.1 Payoff from a risk-free investment

The figure illustrates the payoff from a risk-free investment at a certain future date. The payoff of the investment (PO) is independent of any unexpected change, and is therefore independent of risk (R).

An investment that is exposed to risk provides windfall gains or losses if unexpected events occur, changing the investment's possibility of providing income. Therefore, the payoff profile of such an investment is directly related to

¹⁴ $100e^{0.1} - 100$. Continuous compounding is used in this study; for the rationale, see Section 2.4.1.2.

2. The Economic Substance of Derivatives

the risk of the investment. Furthermore, the risk of a contract, such as a financial instrument, differs between the long and the short position in the contract. In principle, if a party to a financial instrument receives a windfall gain, the counterparty to that contract receives a corresponding windfall loss. Figure B illustrates the payoff profile of a short position in a financial instrument exposed to risk, and Figure C illustrates the payoff profile of a long position in a financial instrument exposed to risk.

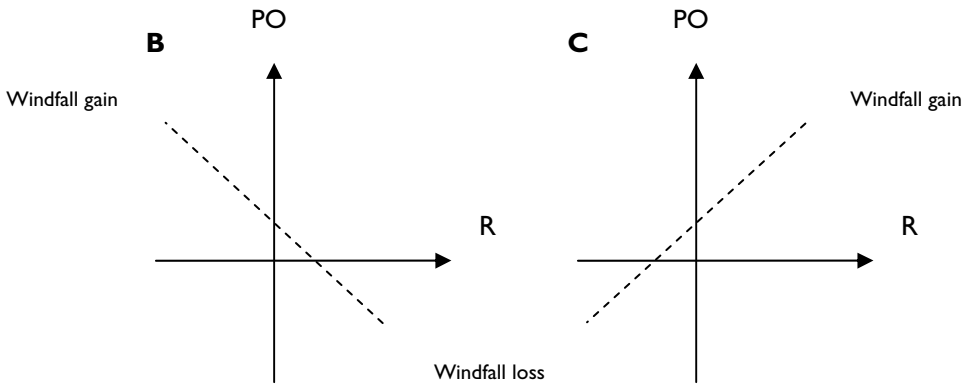


Figure 2.2 Payoff profiles relating to unexpected change

Payoff profiles relating the payoff (PO) from a position in a financial instrument to unexpected changes in the value of the financial instrument – to risk (R).

In summary, expected income is the return provided by an investment, presupposing that it is not subject to any unexpected events that change its potential to provide future income. Thus an investment provides expected income if the risks connected to the investment are eliminated. A windfall gain or loss is the difference between expected income and the total income of an investment. When an investment provides a windfall gain or loss, it is because of unexpected events that change the investment's potential to provide income. More specifically, windfall gains or losses arise as a result of the risk to which an investment is exposed.

2.3 Derivatives

2.3.1 Definition

2.3.1.1 Derivative

A derivative is generally defined as: “A financial instrument, the price of which has a strong relationship with an underlying commodity, currency, economic variable, or financial instrument.”¹⁵ It follows from the derivative definition that the value of a derivative is determined on the basis of the value of something else – on the basis of an *underlying*. Derivatives are distinguished from regular spot transactions in that derivatives are settled at a future date. When deciding the value of a derivative, it is necessary to consider not only the price of its underlying, but also the time value left until maturity of the contract.

However, these characteristics also apply to commercial contracts that are not usually known as derivatives. For instance, the delivery price in regular purchase or sales contracts is usually established with reference to the value of the underlying of the contracts and the time left to delivery. To exclude regular purchase or sales contracts from a derivative definition, derivatives are generally defined as financial instruments. Consequently, the derivative definition is eventually dependent on the contents of the term, “financial instrument”.

2.3.1.2 Financial Instrument

In principle, the meaning of the term, “financial instrument”, differs depending on the context in which it is used. In its broadest sense, a financial instrument can be defined as:

*...any evidence of the legal relationship arising from the provision of money, property, or a promise to pay money or property by one person to another in consideration for a promise by the other person to provide money or property at some future time or times, or upon the occurrence or non-occurrence of some future event or events.*¹⁶

This broad definition of financial instrument more or less covers all commercial contracts, specifically transferable contracts that bear their own independent value. However, the broad definition of financial instrument may be reduced. For example, in the context of International Financial Reporting Standards, IFRS, a financial instrument is: “...any contract that gives rise to a financial

¹⁵ “Derivative” in Smullen, J. and Hand, N. (2005). See also, for example, Ingersoll, J. E. Jr. (1992, p. 645); Hull, J. C. (2006, p. 1); Hudson, A. (2006, p. 13); McDonald, R. L. (2003, p. 1); and Board, J. (2000, p. 155).

¹⁶ Edgar, T. (2000) pp. 4-5.

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asset of one entity and a financial liability or equity instrument of another entity.”¹⁷

The principle difference between the two definitions of financial instrument is that the latter excludes contracts that pay property other than cash or financial securities. A delivery contract on grain is included in the broad definition of a financial instrument, for example; whereas it is outside the scope of the narrower definition. Therefore, the contents of the derivative definition may be fundamentally different, depending on the meaning employed for the term, “financial instrument”.

2.3.1.3 Derivatives and other Financial Instruments

This study focuses on the income tax treatment of derivatives that challenge the Swedish income tax system. In principle, derivatives that entail delivery of assets other than financial securities do not cause problems to the income tax system. Consequently, this study generally deals with derivatives that are financial instruments in a relatively narrow sense. Consequently the term “financial instrument” has a narrow meaning in this study, and the term “derivative” refers to a derivative that is a financial instrument.

2.3.2 Derivative Trade

In Sweden, organized trade with derivatives, involving, for instance, options and futures, has existed for a little more than twenty years.¹⁸ From a global perspective, however, derivative contracts are not new; they have probably been used in commercial transactions for thousands of years.¹⁹ History shows that derivatives have often existed in connection with commodity hedging or speculation.²⁰ In order to even out the flow of seasonal commodities, such as grain or corn, delivery contracts known as “to-arrive” contracts have been used.²¹ Initially, to-arrive contracts were viewed as commercial contracts, but today they are better known as future contracts, which are tradable independent of the underlying commodity. In parallel with the trade of commodities, an independent trade of derivatives could often be seen to occur at the public commodity markets.

In general, there are two kinds of marketplaces for derivative trade: exchange-traded markets and over-the-counter markets. Derivative exchanges are marketplaces where standardized derivative contracts, which have been

¹⁷ Paragraph 1, IAS 32.

¹⁸ In Sweden, the regulated derivative trade was introduced by the OM on June 12, 1985. OM is now called OMX, and is currently providing the third greatest derivative exchange in Europe, The Nordic derivatives market. See, www.omxgroup.com.

¹⁹ For instance, see Swan, E. J. (2000, pp. 27-30); and Hudson, A. (2006, pp. 12-13).

²⁰ For instance, see Markham, J. W. (2002, pp. 265-267).

²¹ For instance, see Hull, J. (2006, pp. 1-2); and Markham, J. W. (2002, p. 267-268).

defined by the exchanges, are traded.²² The world's largest derivative exchanges are Eurex; the Korean exchange, KRX; Chicago Mercantile Exchange, CME; and the Chicago Board of Trade, CBOT.²³

The over-the-counter (OTC) market is one in which dealers are free to negotiate their derivative contracts as they like. Trade is often conducted between financial institutions or between a financial institution and a client. The OTC markets have no formal organization; however, traders usually conduct their transactions in accordance with regulations established by professional market associations.²⁴ An example of such an organization is International Swaps and Derivatives Association Inc. (ISDA), which has developed the ISDA Master Agreement that applies to derivative contracts traded on the OTC market.²⁵ Thus although the exchange traded derivative markets are individually regulated by the derivative regulation of each individual exchange, the regulation of the OTC derivative market is usually founded on the documentation of various professional market associations.

Today the global trade in derivatives is enormous. The notional principle amount of outstanding OTC derivatives totalled USD 415,183 billion at the end of December 2006.²⁶ The total gross market value of these contracts was USD 9,695 billion.²⁷ The OTC derivative market is estimated to be approximately five times the USD value of the exchange traded derivative market.²⁸ Using that factor, it is possible to conclude that the total gross market value of outstanding derivatives at the end of December 2006 was roughly USD 11.6 billion.

2.3.3 The Purpose of Derivative Trade

According to Hull, there are usually three reasons to enter a derivative contract: hedging, speculation, and arbitrage.²⁹ Hudson adds another reason – asset/liability management – however this addition involves many of the characteristics of hedging and speculation, so will not be considered an independent purpose.³⁰ According to Board, derivatives can sometimes be effectively used to exploit loopholes in the regulations.³¹ This type of regulatory evasion includes regulatory arbitrage and tax arbitrage, issues that are thoroughly discussed in Section 3.2, Chapter 3. Finally, in recent decades, derivatives have been used in incentive programs, such as employee stock

²² The derivatives traded on the Nordic derivatives market are defined in *Stockholmsbörsen's Rules and Regulations for Derivative*, see www.omxgroup.com.

²³ www.eurexchange.com, www.krx.co.kr, www.cme.com, www.cbott.com

²⁴ See, for example, Neftci, S. N. (2004, p. 15); and Hudson, A. (2006, pp. 102-104).

²⁵ See www.isda.org. See also Usher, G. (2006, pp. 25-39).

²⁶ Bank for International Settlement, www.bis.org.

²⁷ Bank for International Settlement, www.bis.org. A derivative that is worth 100 at one side, and -100 at the other side, is considered to have a gross market value of 100.

²⁸ Hull, J. C. (2006, p. 3).

²⁹ Hull, J. C. (2006, p. 8). See also Ali, P. (2006, p. 10); and McDonald, R. L. (2003, pp. 2-3).

³⁰ Hudson, A. (2006, p. 20).

³¹ Board, J. (2000, p. 159).

2. The Economic Substance of Derivatives

options schemes.³² However, from a company's perspective, these incentive schemes are part of the company's asset/liability management, and would therefore be considered to be covered by the reason proposed by Hudson. Consequently, besides using derivatives for the purpose of exploiting loopholes in regulation, the general reasons for derivative trade are those set out by Hull: hedging, speculation, and arbitrage.

Hedgers, speculators, and arbitrageurs use derivatives for their qualities of transferring risk. Basically there are two ways a derivative can be used to transfer risk: to fix the future price of the underlying of the derivative³³ or to insure a future price by providing the holder of the derivative the possibility (option) of selling or acquiring the underlying at a certain price in the future.³⁴ Therefore, all basic derivatives can be divided into these groups, which, in the following discussion, are referred to as price-fixing derivatives and price-insurance derivatives.³⁵

2.4 Price-Fixing Derivatives

2.4.1 Forwards

2.4.1.1 Definition

A forward contract is an agreement to purchase or sell an underlying at a certain price on a certain future date.³⁶ The underlying does not have to be a physical asset, but could as well be an index or interest rate, for example. The party that has agreed to purchase the underlying is said to be in a *long position* of the contract and the party who is obliged to sell the underlying in a *short position* in the forward contract.

Most derivative exchanges offer a large variety of standardized forwards. A standardized forward contract specifies that the underlying and the date of maturity are non-negotiable. Non-standardized forwards are negotiated on the OTC market.³⁷

2.4.1.2 The Delivery Price of a Forward

When a forward contract is negotiated, its delivery price is usually set equal to the future price of the underlying, a step taken to cover the cost of financing the underlying during the lifetime of the forward.³⁸ Furthermore, if the underlying

³² See, for example, Edvarsson, L. (2002, pp. 15-18).

³³ See section 2.4.

³⁴ See section 2.5.

³⁵ The terms "price-fixing" and "price-insurance" are borrowed from Edgar, T. (2000, pp. 8-19).

³⁶ See, for example, Arditti, F. D. (1996, p. 149); and Hull, J. C. (2006, p. 3).

³⁷ See Section 2.3.2.

³⁸ Hull, J. C. (2006, pp. 101-104).

provides known income or expenses during the lifetime of the forward – dividends and/or storage costs, for example – the future value of that income and/or expense is considered when the delivery price of the derivative is established. The value of the additional expenses and income is usually summarized in terms of *cost of carry*.³⁹ Consequently, the difference between the delivery price of a forward and the spot price of the underlying is the cost of carry for the underlying.

If the underlying of a forward entails no income, or storage costs – for instance, in case of a no-dividend paying share – the cost of carrying the underlying equals the (hypothetical) interest that is paid to finance it. Thus the cost of carry for the underlying of a forward contract always entails the interest expense of the capital of the underlying.

When pricing derivatives, such as forwards, the hypothetical interest expense is established on the basis of a risk-free interest rate. The risk-free interest rate is usually known as the rate at which money can be borrowed or loaned with no credit risk. When pricing derivatives, the risk-free interest rate typically used is the London Interbank Offered Rate (LIBOR).⁴⁰ When establishing the price of derivatives, interest rates are measured on the basis of continuous compounding.⁴¹ The difference between continuous compounding and annual compounding is shown in the following example:

Example:

If the interest rate is 10 per cent and the principle amount is 100, an annual compounding would entail that the value of the principle amount at the end of the year would be 110 ($100 * (1 + 0.1)$). If the compounding were done on a daily basis, the principle amount at the end of the year would be 110.52 ($100 * (1 + 0.1/365)^{365}$). With continuous compounding, the value of the principle amount would also have been 110.52 ($100e^{0.1}$); therefore, continuous compounding can be seen as the interest being compounded on a daily basis.

To summarize, the delivery price of a forward contract equals the present value of the underlying capitalized to maturity of the contract with a risk-free interest rate. Furthermore, because the exercise price of the forward contract compensates for the cost of carry, the market value of the contract is zero at the time of negotiation.

³⁹ See, for example, Hull, J. C. (2006, p. 118-119); and McDonald, R. L. (2003, pp. 132-133).

⁴⁰ Hull, J. C. (2006, p. 76); and McDonald, R. L. (2003, p. 152). The Swedish equivalence is the Stockholm Interbank Offered Rate (STIBOR).

⁴¹ Hull, J. C. (2006, p. 79); and McDonald, R. L. (2003, p. 793).

2. The Economic Substance of Derivatives

2.4.1.3 The Value of a Forward

It is only at the date of negotiation of a forward contract that the contract has no value. Changes in the spot price of the underlying, the risk-free interest rate, and the time left to maturity influence the value of the contract.

Assuming that there are no changes in the risk-free interest rate, a long forward contract can be valued by subtracting the delivery price of the forward from the spot price of the underlying. This can be explained based on the fact that if the spot price is higher than the delivery price, the holder of a long forward can exercise the contract, sell the underlying on the spot market, and still have some money left over. However, as the delivery price of the forward is a capitalization of the value of the underlying at the time the contract was negotiated, it must be discounted to its present value. Consequently, the value of a long forward contract can be expressed in the following way:

$$(2.1) \quad \text{long forward contract} = S - De^{-rT},$$

where S is the spot price of the underlying, D is the delivery price of the forward contract, T is time left to maturity, and r is the risk-free interest rate.

Similarly, a short forward contract can be valued by subtracting the spot price of the underlying from the delivery price of the forward contract. If the delivery price is greater than the spot price of the underlying, then, the party in a short position can exercise the contract to sell the underlying; buy a new, equal underlying on the spot market; and still have some money left. Consequently, the value of a short forward contract can be expressed in the following way:

$$(2.2) \quad \text{short forward contract} = De^{-rT} - S.$$

However, it is important to remember that forward contracts, like all price-fixing derivatives, cannot be exercised until maturity.⁴² Therefore, these examples can be seen as principle illustrations of how price-fixing derivatives are valued before maturity, as in connection with a closing-out transaction, for example.⁴³ Furthermore, the examples presuppose that the underlying is an investment asset and not a consumption asset. If the underlying were a consumption asset, it is possible that the holder of the asset would be reluctant to sell the asset and buy a forward (as in the examples above) because the asset has an additional value compared to the forward, in that it can be used in the production of the company.⁴⁴

⁴² Futures differ from forwards, as a specific delivery date is not always specified in the contract, but can usually be exercised after a certain period.

⁴³ A closing-out transaction typically occurs when the holder of, for example, a long forward contract takes a short position in an identical forward contract, entailing that a gain or a loss has been secured until the maturity of the contracts.

⁴⁴ About the difference in pricing forwards with consumption assets or investments assets as the underlying asset, see, for example, Hull, J. C. (2006, pp. 99 and 116-118). This difference is of little importance for this study, and will not be further considered.

2.4.2 Futures

The functions and principles for valuation of futures contracts are generally the same as for forward contracts, but unlike forward contracts, futures are subject to daily settlement.⁴⁵ The daily settlement of the fluctuation between the spot price and delivery price of a futures contract reduces the default risk connected with the contract. Thus a futures contract can be seen as a number of forward contracts, in which one contract is settled every day. Another important difference between forwards and futures is that futures contracts are always highly standardized and may be traded anytime before maturity.⁴⁶

The daily settlement of futures contracts makes their payoff profile slightly different from the payoff profile of a forward contract. This is primarily because the daily settlements make positive payoff from a futures contract available for additional investment before the maturity of the contract. Likewise, a negative payoff from a futures contract limits the possibilities of making additional investment before maturity. However, as the lifetime of a futures contract decreases, the differences between forward and futures contracts become smaller and smaller.⁴⁷ Consequently, futures contracts with a relative short lifetime have a payoff profile almost identical to forward contracts.

2.4.3 Swaps

A swap contract is an agreement to purchase or sell an underlying at a certain time at a certain price. Thus technically, there are no differences between forwards and swaps. What distinguishes the two types of contract is that swap contracts usually involve several settlements before maturity, whereas forwards are settled only at the date of maturity.⁴⁸ Like forwards, swap contracts can have a lifetime of several years, but swaps involve settlements on a regular basis, usually annually or semiannually, a feature that decreases their default risks.

Swaps are traded on the OTC market, and the most common swap contracts are interest rate swaps: swap contracts with interest as the underlying.⁴⁹ A typical interest rate swap involves two parties holding debt with floating and fixed interest rate respectively. The swap requires one party to pay the other party's interest over a specified period, and vice versa. Such arrangements can be viewed as the parties buying the conditions of each other's loan at a price corresponding to the interest of their respective loans, that is, they swap floating interest rate for a fixed interest rate, and vice versa. The settlements are typically netted, meaning that the party that has had the greatest payoff during the period receives the difference between that payoff and the payoff owed the counterparty of the contract.

⁴⁵ See, for example, Hull, J. C. (2006, pp. 26-28); and Smithson, C. W. (1998, pp. 30-31).

⁴⁶ About the differences between futures and forwards, see, for example, Arditti F. D. (1996, pp. 149-150).

⁴⁷ See, for example, Hull, J. C. (2006, p. 110).

⁴⁸ See, for example, Hull, J. C. (2006, p. 149); and Smithson, C. W. (1998, pp. 31-32).

⁴⁹ See Degré, H. (2004, p. 1), and Bank for International Settlements: www.bis.org.

2.4.4 Using Price-Fixing Derivatives to Transfer Risk

The way in which the delivery price of a forward or any other price-fixing derivatives is established, requires that, from the day a party enters into a short forward contract on an asset in its possession, the net payoff of the asset and the derivative equals the return of a risk-free investment.⁵⁰ Consequently, the short position in a forward transfers the total risk of the underlying to the party in a long position of a forward. Thus if the value of the underlying unexpectedly changes, the value of a long forward position will change in the same direction. It follows that any windfall gains or losses which would have been attributable to the holder of the underlying and the short forward, are, in principle, transferred from that party to the party in the long position of the forward. However, it is important to note that if the party in a short position in a forward is not in possession of the underlying asset of the forward, it is exposed to a risk opposite to that of the underlying asset. Thus if the value of the underlying asset increases, the value of the short forward decreases, and vice versa.

The way in which a price-fixing derivative, like a forward, transfers the entire risk of its underlying can be illustrated by means of its payoff profile. When a price-fixing derivative is exercised, its payoff is the difference between the delivery price of the contract and the spot price of its underlying.⁵¹ The cost of carry is relevant only when the derivative is closed out before maturity.⁵² Therefore, disregarding the cost of carry, the payoff of a long forward is the spot price of its underlying at maturity (S) minus the delivery price (D), and the payoff from a short forward is $D-S$. Thus the payoff profiles of forward contracts may be illustrated in the following way:

⁵⁰ See Section 2.4.1.2.

⁵¹ See Section 2.4.1.3.

⁵² Considering the cost of carry, the value of a long forward is $S - Ee^{-rT}$ and the value of a short forward is $Ee^{-rT} - S$. However, if the time left to maturity (T) is zero, the exercise price (E) is multiplied by 1, meaning that there is no cost of carry to be considered.

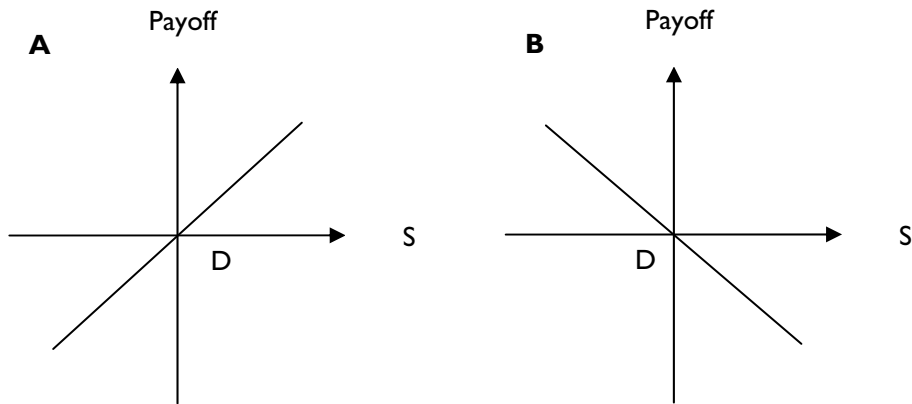


Figure 2.3 Payoff from a forward contract

Figure A shows the payoff from a long position in a forward contract, and Figure B the payoff from a short position in a forward contract, where S is the spot price of the underlying at delivery and D (in the origin of coordinates) is the agreed delivery price.

As noted in this section, when a price-fixing derivative is used to transfer away the entire risk of an asset, the net payoff of the asset and the derivative is equal to a risk-free investment. Purchasing an asset and simultaneously entering into a short forward on that asset would give a payoff equal to an investment in, for instance, a government bond.

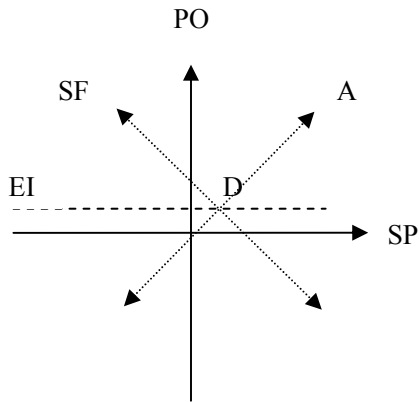


Figure 2.4 How a forward offsets the risk to which an asset is exposed

The figure shows how the short forward offsets the risks to which an asset is exposed, providing a net income that is perfectly predictable. D is the delivery price of the short forward and SF and A are the payoff profiles of the short forward and the asset, respectively. SP is the spot price of the asset and PO is the payoff of the investments. EI is expected income, which is equal to a risk-free investment independent of the variations in the spot price of the asset.

2.5 Price-Insurance Derivatives

2.5.1 Options

2.5.1.1 The Function of Options

Price-insurance derivatives are generally known as options.⁵³ An option is a contract that gives one party the possibility of purchasing or selling a specified underlying at a certain price at a specified future time. The other party of the contract is obliged to sell or to purchase the underlying if the counterparty exercises its option. The party holding a price-insurance derivative is insured that it will not suffer from unexpected events, making the price of the underlying less favorable than the strike price stated in the contract. However, if unexpected events make the price of the underlying more favorable than the strike price of the option, the holder of the derivative may choose not to exercise it, thereby

⁵³ On the basics of options, see, for instance, Hull, J. (2006, pp. 6-8).

benefiting from these changes – a benefit that would not have been available to the holder of a price-fixing derivative. In cases in which an option is exercised, the issuer of the derivative will suffer from the unexpected changes in the price of the underlying, as that party has to purchase or sell the underlying at a price that is less favorable than the price on the spot market.

2.5.1.2 Different Kinds of Options

An option contract always gives the holder the right to exercise the contract at a certain time. Options that let the holder exercise its right any time up to the expiration date are called *American options*, and options that can only be exercised on a specific date are called *European options*. Most of the options traded on exchanges are American.⁵⁴ Options that are not traded on an exchange, and thus differ from the standardized options in one way or the other, are often referred to as *exotic options*.⁵⁵

Whether options are American, European, or exotic, they are always divided into *call options* and *put options*. The holder of a call option has a right to purchase the underlying and the counterparty is thus obliged to sell the underlying if the holder chose to exercise its right. A put option is a contract that gives the holder a right to sell the underlying and the counterparty has an obligation to purchase the underlying if the contract is exercised. Consequently, there are four contractual positions in option contracts: a long position in a call option, a short position in a call option, a long position in a put option, and a short position in a put option.

2.5.1.3 Intrinsic Value and Time Value

Just like any other kind of derivatives, the value of an option is directly dependent on the value of its underlying and the time left to maturity of the contract. The value that an option derives from the value of its underlying is called its intrinsic value, defined as the difference between the exercise price of the option and the spot price of the underlying. Thus intrinsic value is the value the derivative would have if it were exercised immediately.

The intrinsic value of an option can be decided with high reliability, as long as there is a liquid market for the derivative and/or the underlying. Therefore, the intrinsic value of exchange traded options is a relatively uncomplicated issue. However, the liquidity for options that are not traded on exchanges – OTC options – is as high as it is for underlyings of these options. Thus the valuation of OTC options may cause great concerns, as it may be difficult to decide the value of underlyings.

In addition to their intrinsic value, options also have a time value. The time value is the worth of the possibilities for favorable movements in the intrinsic value of the option.⁵⁶ With time left until maturity of the option, there is always

⁵⁴ Hull, J. C. (2006, p. 6). Both American options and European options are traded at OMX.

⁵⁵ Hull, J. C. (2006, p. 199). Briys, E. *et al.* (1998, p. 360).

⁵⁶ See, for example, Hull, J. C. (2006, p. 188).

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a possibility that the price of the underlying will develop in a way that positively affects the value of the option. Thus the time value is the difference between the intrinsic value and the total value of the option.

2.5.1.4 The Strike Price of an Option

Unlike the delivery price of a forward contract, the strike price of an option is not a capitalization of the present value of the underlying. Instead, the strike price is set to meet the requirements of the buyer of the option (in the OTC market) or to correspond with the regulations for the exchange where these options are traded.⁵⁷ The value of an option is, in principle, never zero; an option always has a value. This value is either a time value only or it is the sum of time value and intrinsic value. Thus unlike price-fixing derivatives, price-insurance derivatives have a market value (price) at the date of issue. Therefore, the party in the short position of the contract is rewarded a premium corresponding to the value of the issued option.

2.5.1.5 The Value of an Option

The characteristic of an option that distinguishes it from a price-fixing derivative is that the holder of an option may choose not to exercise it. This means that the possible negative payoff of a long position in an option is limited to the price (premium) of the option, whereas the positive payoff of the position is unlimited.

The attributes of the underlying of an option are vital for its valuation. For example, high volatility in the price of the underlying increases the value of the option because positive changes in the underlying always fully affect the value of the option, whereas a negative movement in the underlying has only a limited influence on the value of the option. In a forward contract, in which the parties are obliged to exercise the contract, the volatility of the underlying would not affect the value of the forward, as the possibilities of positive or negative movements in the value of the underlying would offset each other.

Furthermore the terms applicable to deciding the right to exercise an option also affect the value of the option. Compared to a holder of a European option, the holder of an American option has an additional right: the right to early exercise. Thus the value of an American option will always be the same or greater than a corresponding European option. The value will be greater if it is more profitable to exercise the option before maturity. However, it is difficult to identify cases in which an early exercise of an option is more favorable than an exercise at maturity⁵⁸, making the valuation of an American option relatively complex.⁵⁹

⁵⁷ See, for example, Hull, J. C. (2006, p. 187); and OMX: www.omxgroup.com at Section 4.2.13.1 in the *Stockholmsbörsen's Rules and Regulations for Derivative*.

⁵⁸ See, for example, Smithson C. W. (1998, p. 216).

⁵⁹ For a survey of the general problems connected with the valuation of American options see, for example, Briys, E., *et.al.*, (1998, pp. 158-163).

Like any kind of valuation, the valuation of options entails elements of subjectivity, which makes it a rather complicated exercise. Among the attempts that have been made to establish a conventional option-pricing model, the most well known is *the Black-Scholes Option-Pricing Model*. This model was developed at the beginning of the 1970s, and its founders were awarded the Nobel Prize in 1997.⁶⁰ However, the Black-Scholes Option-Pricing Model and other valuation models for options will not be further analyzed in this study, as such analysis would not contribute to our main purpose. Instead, the rest of this section focuses on the fundamental principles for option pricing, as these principles are used to explain how options transfer risk. For simplicity, the rest of this chapter, unless otherwise stated, refers to European options that have highly liquid underlyings.

2.5.1.6 Long positions in Options

As noted in Section 2.5.1.1, the principle difference between an option and a forward contract is that the holder of an option may choose not to exercise the contract, a possibility that the holder of a forward contract lacks. Consequently, the value of an option is never lower than the value of a corresponding forward contract, but the value may be higher because the lower limit of the value of an option is the paid premium. Thus the value of a call option is the greater of the paid premium, which is negative, and the value of a long position in a corresponding forward contract. This is generally expressed as:

$$(2.3) \quad \max(S - Pe^{-rT}; \text{paid premium})$$

where S is the spot price of the underlying and P is the strike price of the option contract, T is time left to maturity, and r is the risk-free interest rate.

Another way to explain how to value a long call option is to emphasize the fact that, with a no-arbitrage assumption, a portfolio with a long call option and a bond that has a principle amount equal to the present value of the strike price of the option, is always worth as much as or more than the underlying of the option.⁶¹ This valuation occurs because, if the price of the underlying at maturity of the option is greater than the strike price of the option, the holder of the option can sell the bond, thereby obtaining enough money to exercise the option to buy the underlying. In this situation, the two portfolios are of equal worth. If the price of the underlying at maturity of the option contract is lower than the exercise price, the holder of the option can sell the bond and buy the underlying on the spot market. In this situation, the value of the portfolio with the bond and the option is of greater worth than the portfolio with the underlying, because the bond has a higher market value than the underlying. Consequently, the value of a long call option can be explained as:

⁶⁰ For a review of the development and use of the Black-Scholes Option-Pricing Model see Merton, R. C. (1998); and Scholes, M. S. (1998).

⁶¹ See Section 2.6.1 on a “no-arbitrage assumption”.

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$$(2.4) \quad LC + Pe^{-rT} \geq S \Rightarrow LC \geq S - Pe^{-rT}$$

where LC is a long call option, S is the spot price of the underlying, P is the strike price of the option contract, T is time left to maturity, and r is the risk-free interest rate. Because a long call option will not be exercised if the spot price of its underlying is lower than its strike price, the value of the option will never fall below the premium paid for it. Consequently:

$$(2.5) \quad LC \geq \max(S - Pe^{-rT}, \text{paid premium}).$$

Just as a call option is similar to a long position in a forward contract, a put option is similar to a short position in a forward contract. However, the option to sell the underlying will not be exercised if the spot price of the underlying is greater than the strike price of the option. Consequently, for the same reason as is the case for a long call option, the value of a long put option (LP) can be expressed as:

$$(2.6) \quad LP \geq \max(Pe^{-rT} - S, \text{paid premium}).$$

2.5.1.7 Put-Call Parity

As argued in the previous section, the value of a portfolio with one long call option and a bond equal to the present value of the exercise price of the option, is always equal to or greater than the value of a portfolio with the underlying ($LC + Pe^{-rT} \geq S$). Similarly, the value of a portfolio with one long put option and the underlying is always the same or greater than the value of a portfolio with a bond equal to the present value of the strike price of the option ($LP + S \geq Pe^{-rT}$). Consequently, the portfolios with options are worth the greater of the spot price of the underlying and the strike price of the option. Therefore, if the options have corresponding terms – the same underlying, the same strike price, and the same duration – the value of the two portfolios are identical. This relationship can be expressed as:

$$(2.7) \quad LC + Pe^{-rT} = LP + S$$

and is known as *put-call parity*. Put-call parity requires that the value of a long call option be established on the basis of the value of a corresponding long put option, and vice versa.

2.5.1.8 Short Positions in Options

A short position in an option contract has exactly the opposite value compared with the long position of the contract. It involves no option, but an obligation to fulfill the contract if its holder so wishes. Therefore, if the spot price of the underlying is greater than the strike price of a call option, the party having a short position in that option is, in principle, obliged to sell the underlying at the

strike price of the option. On the other hand, if the spot price of the underlying is lower than the strike price of a call option, the party having a long position in the option will not exercise it, but will purchase the underlying on the spot market. The party having a short position in the option will then benefit from keeping the premium received when the option was issued. Consequently, the positive value of a short position of an option is limited to the value of the premium, whereas the negative value of such position is unlimited.

As the value of a short position of an option is opposite that of the value of a long position of the option, the value of a short call option can be expressed as:

$$(2.8) \quad - \max (S - Pe^{-rT}; \text{received premium})$$

or

$$(2.9) \quad \min (Pe^{-rT} - S; \text{received premium})$$

Similarly, the value of a short position in a put option can be expressed as:

$$(2.10) \quad \min (S - Pe^{-rT}; \text{received premium})$$

2.5.1.9 The Payoff from Options

The payoff from an option equals the intrinsic value of the option when exercised.⁶² Therefore, unlike the value of an option, the payoff from an option is established without regard to a time value. Thus disregarding the time value, the payoff from a long call option is

$$(2.11) \quad \max (S - P; \text{paid premium})$$

where S is the spot price of the underlying and P is the strike price of the option. Likewise, the payoff from a short call option is

$$(2.12) \quad \min (P - S; \text{received premium})$$

the value of a long put option is

$$(2.13) \quad \max (P - S; \text{paid premium})$$

and the value of a short put option is

$$(2.14) \quad \min (S - P; \text{received premium})$$

The four different payoff profiles are illustrated in the following diagrams:

⁶² See Section 2.5.1.3.

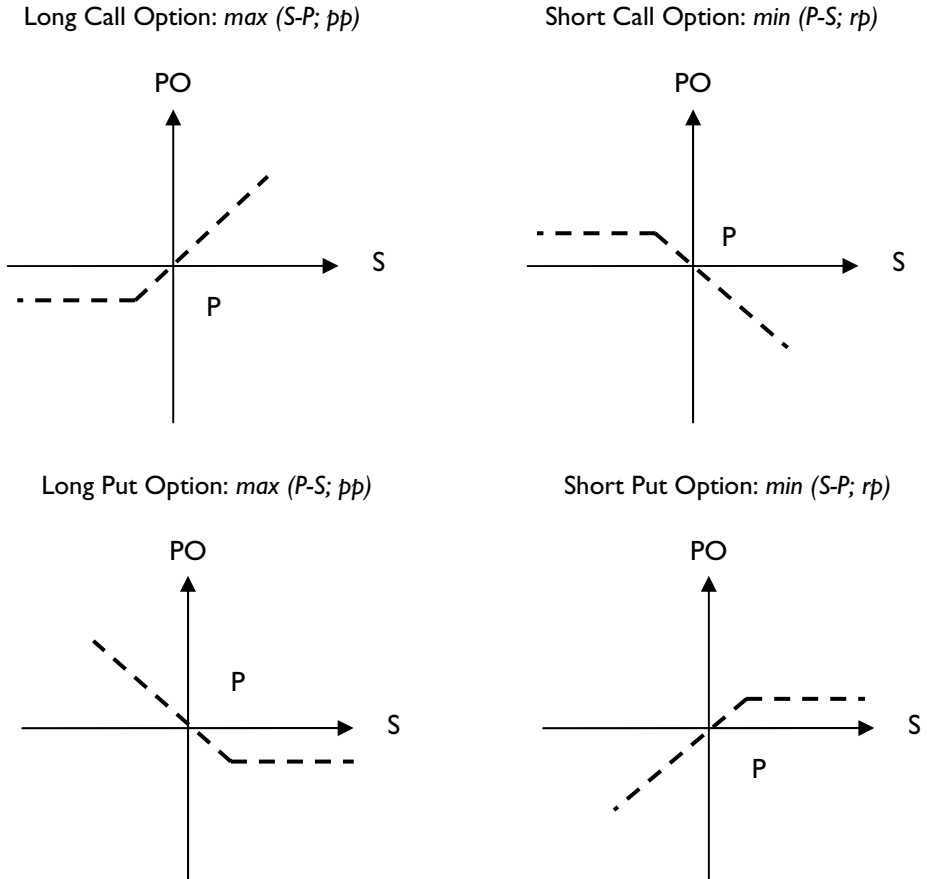


Figure 2.5 The four payoff profiles of options

PO is the payoff from the option, S is the spot price of the underlying, P (in the origin of coordinates) is the strike price of the option, pp is paid premium, and rp is received premium. The horizontal line in the payoff profile indicates the value of the premium of the option.

2.5.2 Using Price-Insurance Derivatives to Transfer Risk

2.5.2.1 Upside Risk

As is illustrated in Section 2.5.1.2, a long position in a call option is a right to purchase the underlying of the option at a fixed price in the future. Any unexpected change in the value of the underlying will influence the value of the

option. However, if the unexpected change in the underlying means that the value of the asset, and thus the option, will decrease, the holder of the call option may choose not to exercise it. Thus the payoff from a long position in a call option equals the increase in value of the underlying asset resulting from unexpected events. In comparison with a long forward, a long call option is exposed only to the upside risk of the underlying asset, whereas the forward is exposed to the total risk of the underlying asset.⁶³ Consequently, a call option can be considered as a contract that transfers the upside risk of the underlying asset from the party in a short position to the party in a long position of the option. A party in a short position of a call option is thus exposed to a risk that is the reverse to the upside risk of the underlying asset; the value of the position decreases if the value of the underlying asset increases.

2.5.2.2 Downside Risk

The downside risk of the underlying asset is the same as the risk of a short position in a put option because a short put option generally involves an obligation to purchase the underlying asset if the holder of the option so wishes. The put option will be exercised if the strike price of the option is greater than the spot price of the underlying. As a result, the put option will be exercised if the value of the underlying unexpectedly falls and the decrease in value will thus eventually hit the party having a short position in a put option on the underlying. Therefore, the party having a long position in a put option is exposed to a risk that is the reverse of the downside risk of the underlying. In other words, the value of the long position will increase if the value of the underlying decreases. Consequently, a long position in a put option may be used to transfer the downside risk of an asset from one party to another.

2.5.2.3 Total Risk

A call option is a derivative that transfers the upside risk of its underlying from the party in a short position of the contract to the party in a long position. A put option is a derivative that transfers the downside risk of the underlying asset from the party in a long position of the contract to the party in a short position. Consequently, by simultaneously taking a long position in a call option and a short position in a put option, it is possible to achieve the total risk exposure of the underlying asset. Therefore, the payoff from such a portfolio equals the payoff of a long forward contract. Likewise, by taking a long position in a put option and simultaneously taking a short position in a call option, it is possible to obtain the same risk exposure as a position in a short forward contract. To summarize, different positions in options can be used to transfer the upside risk, the downside risk, or the total risk of an underlying. In that way, options are more flexible than price-fixing derivatives, when it comes to risk management.

⁶³ See Section 2.2.2.1 on the meaning of upside risk and total risk.

2.6 Financial Engineering

2.6.1 No-arbitrage

2.6.1.1 The Modigliani-Miller Proposition

Financial engineering is about combining or dividing different financial instruments in order to achieve a required financial position.⁶⁴ In this study, the basic principles of financial engineering will be used to illustrate how financial instruments that challenge the Swedish income tax system are created.

Fundamental to financial engineering is the no-arbitrage assumption.⁶⁵ In the finance literature, this assumption is generally said to originate from the classic work of Modigliani and Miller (MM).⁶⁶ MM showed that if the market value of two companies whose only difference is their financial policy is not equal, pricing arbitrage would exist. Consequently, on a capital market in equilibrium, there are no differences in price between two such companies. MM underlines this point by a famous analogy:

*...under perfect markets, a dairy farmer cannot in general earn more for the milk he produces by skimming some of the butter fat and selling it separately, even though butter fat per unit weight, sells for more than whole milk. [...] ... the price per gallon of thinned milk falls continuously as more butter fat is skimmed off.*⁶⁷

The point made in the analogy is that the price of one gallon of whole milk is the same, no matter whether it is presented as whole milk or as thinned milk and butter fat. Similarly, on the basis of the MM theorem, it is possible to conclude that, on a capital market in equilibrium, the price of a financial instrument (A) that is in substance a combination of the financial instruments (B) and (C), equals the total price of the two separate instruments (B) and (C). Therefore, a no-arbitrage assumption entails that financial positions with the same economic substance are of equal worth.⁶⁸

Besides the presumption of a capital market in equilibrium, the no-arbitrage assumption requires an environment with no transaction costs, no taxes, no information asymmetry, and no bankruptcy costs. Consequently, the assumption does not mirror the financial market as it works in reality. However, as the assumption explains the economic relationships between various financial

⁶⁴ See, for example, McDonald, R. L. (2003, p. 463). See also Neftci, S. N. (2004).

⁶⁵ See, for example, Neftci, S. N. (2004, pp. 30-31).

⁶⁶ Modigliani, F. and Miller, M. H. (1958, pp. 261-297). See Varian, H. R. (1987, p. 56). About subsequent contributions to the no-arbitrage assumption, see, for example, Nau, R. F. and McCradle, K. F. (1991, p. 200).

⁶⁷ Modigliani, F. and Miller, M. H. (1958, pp. 279-280).

⁶⁸ See, for example, Varian, H. R. (1987, pp. 60-62); and Dybvig, P. H. and Ross, S. A. (1992, pp. 43-44).

positions independent of taxes, it is well suited for use in an analysis concerning the effect of tax rules when applied to these economic positions.

2.6.1.2 Pricing Derivatives

The reasoning in Sections 2.4 and 2.5 on price-fixing and price-insurance derivatives is based on a no-arbitrage assumption. For example, the conception that a long position in a forward contract is exposed to the total risk of its underlying is correct only under a no-arbitrage assumption.⁶⁹ Similarly, without a no-arbitrage assumption, it is not possible to conclude that a long call option and a short put option equal the position of a long forward contract.⁷⁰ Consequently, as a basis for the previous argument, it has been necessary to presume that all transactions are carried out in a non-arbitrage environment – on a capital market in equilibrium.

The use of the no-arbitrage assumption is in line with the general principles of derivative pricing.⁷¹ This study does not analyze the actual pricing of derivatives.⁷² However, to facilitate the understanding of how derivatives are used to transfer risk, some fundamental concepts concerning the pricing of derivatives are presented. The basis for these concepts is that derivatives are used to replicate a financial position of a contractually different financial instrument. In that way, the value of the derivative can be derived from the value of the replicated position, a value that, in many situations, is relatively easy to establish.

2.6.1.3 The Relationship Between Spot Prices and Forward Prices

In Section 2.4.1.2 it is argued that the exercise price of a forward is the spot price plus remuneration equal to the cost of carry of the underlying. By setting the cost of carry equal to the interest expense of a risk-free bond, it is possible to establish the value of a forward position with reference to the spot price of its underlying, and a risk-free bond with a principle amount equal to the present value of the delivery price of the forward:

$$(2.15) \quad \text{long forward contract} = S - De^{-rT}$$

and

$$(2.16) \quad \text{short forward contract} = De^{-rT} - S.$$

The validity of the relationship between spot prices and forward prices can be illustrated by a number of examples. First, let us assume that the one-year

⁶⁹ See Section 2.4.4.

⁷⁰ See Section 2.5.2.3.

⁷¹ See, for example, Sengupta, A. N. (2005, pp. 9-11 and 23-37).

⁷² On the basics of how to value derivatives see, for instance, Hull, J. C. (2006, pp. 99-121 (forwards and futures), 161-171 (swaps), 205-219 (options)).

2. The Economic Substance of Derivatives

forward price of an asset with a spot price of 100 is 110.52 if the risk-free interest rate is 10 percent.⁷³ If the forward price were to be set to something other than 110.52 (e.g. 105.52), an arbitrageur could make a risk-free gain of 5 by taking a long position in a forward, short-selling the underlying and investing the money in a risk-free one-year bond. At the end of the year, the arbitrageur would receive 110.52 from the risk-free investment in the bond, would use 105.52 to purchase and return the underlying, and would still have 5 left. Similarly, if the forward price was set at, for example, 115.52, an arbitrageur would make the risk-free profit of 5 by taking a short position in a forward and issuing a (risk-free) bond of 100 to purchase the underlying. At the end of the year, the arbitrageur would exercise the forward to sell the asset at the price of 115.52, use 110.52 to return the principle amount of the bond plus accrued interest, and still have 5 left.

To summarize, on the basis of a no-arbitrage assumption, it is possible to establish the value of a forward with reference to the spot price of its underlying and a risk-free bond. Because, in most cases, it is relatively uncomplicated to establish the values of these securities, the valuation of forwards is also relatively straightforward.

2.6.1.4 Interest-Rate Parity

The relationship between spot prices and forward prices is evident in the case of currency. The interest rate parity entails that the difference between the spot price and the forward exchange rate of two currencies equals the difference between the interest rates in the same currencies.⁷⁴ If this were not the case, and the interest rate in foreign currency was proportionally greater, an arbitrageur could make a risk-free profit simply by investing in a foreign bond and similarly taking a long position in a forward contract on the principle amount of the bond.⁷⁵ Consequently, the no-arbitrage assumption entails that the spot foreign exchange rate, the forward foreign exchange rate, and the credit market prices must be mutually consistent.⁷⁶

In a similar way, because the forward exchange rates of currencies are established to eliminate pricing arbitrage possibilities, forward interest rates are functions that hamper pricing arbitrages. For example, if the net payoff of the one-year forward interest rate and the one-year spot interest rate does not equal the payoff from the two-year spot interest rate, arbitrage opportunities would occur.

⁷³ $100e^{0.1}$.

⁷⁴ See, for example, Smithson, C. W. (1998, pp. 64-65); or Copeland, L. S. (2000, pp. 82-91).

⁷⁵ For illustrative examples of the arbitrage situations, see, for example, Copeland, L. S. (2000, pp. 83-85).

⁷⁶ Smithson, C. W. (1998, p. 65).

2.6.1.5 Put-Call Parity (revisited)

In Section 2.5.1.7, put-call parity was described as a principle for option pricing. However, the same principle is useful to illustrate the fundamentals of financial engineering and is therefore revisited in this section.

In Section 2.2.2.4, it is noted that a risk-free investment provides expected income, and an investment that provides income only if something unexpected happens provides windfall gains or losses. On the basis of this division of income, it is possible to argue that the payoff from a portfolio involving a long position in a call option and a long position in a risk-free, discounted debt instrument is partly expected income and, possibly, windfall gains.⁷⁷ This portfolio is not exposed to the downside risk of the underlying of the option.⁷⁸

Similarly, the payoff of a portfolio involving a long position in a put option and a long position in the underlying (asset) of the option comprises partly expected income and, possibly, windfall gains. As in the situation described in the previous paragraph, this portfolio is not exposed to the downside risk of the underlying.

The financial resemblance between the two portfolios can be explained in the following way: (1) The expected income provided by the discounted debt instrument in the first portfolio is replicated by the long position in the underlying in the second portfolio. (2) The possible windfall gains provided by the long call option in the first portfolio is replicated by the long position in the underlying asset in the second portfolio. Furthermore (3), the lack of the downside risk on the underlying in the first portfolio is replicated in the second portfolio by the long put option, which eliminates the downside risk of the long position in the underlying.

In the above example, the two portfolios provide identical payoffs. Consequently, on the basis of a no-arbitrage assumption, the values of the portfolios must be equal. The relationship between the two portfolios is better known as put-call parity.

$$(2.17) \quad C + B = P + A$$

Put-call parity entailing the value of a call option (C) and a bond (B) equalling the value of a put option (P) and an asset (A).

Put-call parity is useful for purposes of financial engineering, as it illustrates that it is possible to replicate any position in the different securities in the “put-call parity formula” simply by taking long and/or short positions in the other three securities.

2.6.1.6 The Relationship Between Options and Forwards

The relationships illustrated here, primarily used for derivative pricing, demonstrate how derivatives can be used to replicate various financial positions.

⁷⁷ See Section 2.2.2.4 on expected income and windfall gains.

⁷⁸ See Section 2.2.2.1 on downside risk.

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For example, the relationship between spot prices and forward prices entails that a long position in a forward is financially equal to a portfolio involving a short position in a bond and a long position in the underlying of the forward.⁷⁹ Using the equation of put-call parity shows that a portfolio entailing a short position in a bond and a long position in an underlying (asset) is financially equal to a long call option and a short put option:

$$(2.18) \quad C - P = A - B$$

Similarly, the relationship between spot prices and forward prices implies that a short forward contract is financially equal to a portfolio of a long position in a bond and a short position in the underlying (asset). Consequently, put-call parity verifies that a short forward contract can be replicated by a long put option and a short call option:

$$(2.19) \quad P - C = B - A$$

2.6.2 Basic Building Block Financial Instruments

2.6.2.1 Two Types of Building Blocks

In Section 2.2 I make the point that income can be divided into expected income (or expenses) and windfall gains (or losses). A windfall gain is a result of unexpected events that change an investment's possibility of providing income – a result of risk. On the contrary, expected income is the total income of an investment that has not been subject to any unexpected events that may change its possibilities of providing income. Consequently, the division of income into two categories is based on risk.

In Sections 2.4.4 and 2.5.2, I discuss how derivatives can be used to transfer the risk of any type of underlying. In a no-arbitrage environment, derivatives can be used to replicate any financial position, providing windfall gains or losses. Consequently, together with credit-extension instruments that generally provide expected income, derivatives can be used to replicate any financial position. For this reason, derivatives and credit-extension instruments are jointly referred to as basic building block financial instruments.⁸⁰

2.6.2.2 Derivatives

The nature of derivatives has been thoroughly analyzed in Sections 2.3 – 2.5. From this examination, it follows that a price-fixing derivative transfers the

⁷⁹ See Section 2.6.1.3.

⁸⁰ This “building block approach” originates from the works of Charles W. Smithson; see Smithson, C. W. (1987, pp. 16-28). See also, for example, Edgar, T. (2000, pp. 4-19); and the Swedish Tax Agency (1996, p. 29).

entire risk of its underlying, whereas a price-insurance derivative transfers either upside risk or downside risk of its underlying.

2.6.2.3 Credit-extension Instruments

A credit-extension instrument is an instrument in which a long position involves the advance of capital for a defined period in consideration of compensation for the capital. The party in a short position of a credit-extension instrument has to pay compensation for being allowed to use the invested capital.

Credit-extension instruments are generally divided into the following four categories: level-coupon instrument, zero-coupon instrument, floating-rate instrument, and amortizing instrument.⁸¹ However, in this study only level-coupon instruments and zero-coupon instruments are considered.

Level-coupon instruments and zero-coupon instruments are characterized by the fact that the total cash flow of such instruments can be predicted at their inception, because the payoff is based on a fixed rate in relation to the principle amount of the instrument. For example, a long position in a zero-coupon instrument with duration of 18 months and a principle amount of 100 will cost 86 if the fixed interest rate is 10 percent.⁸² Thus at the duration of the contract, the party in a short position has to pay to the party in a long position an amount of 100, of which 86 is return of the initial payment and 14 is expected income.

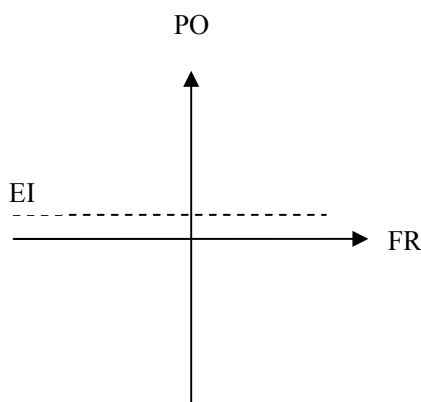


Figure 2.6 The payoff from a zero-coupon bond

If a zero-coupon bond is held to maturity, its payoff (PO) is perfectly predictable – it is expected income (EI). Consequently, the payoff does not change because of unexpected changes in, for example, the floating interest rate (FR).

⁸¹ See Edgar, T. (2000, p. 6).

⁸² $100e^{-(0.1 \times 1.5)}$.

2. The Economic Substance of Derivatives

The way in which level-coupon instruments and zero-coupon instruments work implies that their payoff is perfectly predictable – that it can be classified as expected income. In principle, the only way such an instrument does not pay expected income is if the debtor (the party in a short position of the contract) defaults. However, the default risk of these contracts is generally low. Therefore, in this study, level-coupon instruments and zero-coupon instruments are considered to be instruments providing expected income to the party in a long position of the contract.

2.6.3 Synthetics

2.6.3.1 Replicating Payoff

In Section 2.6.2.1 I argue that the basic building block financial instruments (derivatives and credit-extension instruments) can be used to replicate the payoff from any financial position. A replicating position is generally referred to as a synthetic investment – a synthetic. Thus a portfolio of basic building block financial instruments, the payoff of which is identical to a share, is generally referred to as a synthetic share.

In a no-arbitrage environment, the payoff from a financial instrument is determined by its risk exposure. Thus a synthetic is constructed by creating a portfolio with a risk exposure identical to the replicated position.

There are innumerable ways in which synthetic positions may be created by means of the basic building block financial instruments. However, to illustrate the principles of how to create synthetics, the following sections portray synthetic positions in four investments that are usually considered to be quite different: These are positions in a regular capital asset, an equity, a debt, and a derivative.

2.6.3.2 Synthetic Capital Assets

A rational investor who invests in a capital asset such as gold expects the value of the gold to increase at least as much as the value of a risk-free investment such as a credit-extension instrument. Thus from the perspective of an investor, a capital asset pays an expected income that is at least as great as the expected income from a credit-extension instrument. Furthermore, as a capital asset is exposed to risk, it is possible that the asset also pays windfall gains or losses. Consequently, to replicate a long position in gold, it is necessary to take a long position in a credit-extension instrument such as a zero-coupon bond, because such an instrument provides expected income. Furthermore, it is necessary to enter into a derivative that transfers the total risk of gold to its holder. Such derivative position is typically a long forward contract. As a result, instead of

investing in gold, it is equally valuable to invest in a zero-coupon bond and, simultaneously, to take a long position in a forward with gold as its underlying.⁸³

2.6.3.3 Synthetic Equity

A common share is typically equity, and it gives its holder a certain influence on the governance of the company, as well as a residual right in the assets of the company after company debts have been settled. These characteristics seem to make people think of common shares as standard capital market instruments with unique cash flows. As with cash flows of any other capital asset, however, it is possible to replicate the payoff from a common share by means of the basic building block financial instruments.

In principle, a share evidences interest in a portfolio involving certain corporate assets, and sometimes also corporate debt. Consequently, when replicating a common share, it is in fact the net payoff of the corporate assets and the corporate debt that is to be replicated. It is important therefore to differentiate between the payoff profiles of leveraged companies and companies that are financed solely by their owners.

In the case of a solely equity-financed company, a synthetic share is created by a portfolio of long positions in the corporate assets. Another way of creating such a synthetic share is to enter into long positions in synthetic corporate assets.⁸⁴ However, for a leveraged company, the case is a little different.

In principle, a share in a leveraged company is a combination of a long position in the corporate assets and a short position in the corporate debt. From the concept of put-call parity, it follows that such a position equals a position involving a long call option and a short put option, which, in fact, equals the position of a long forward.⁸⁵ Consequently, in principle, the payoff of a share can be replicated by taking a long position in a forward on the corporate assets. However, unlike a position in a forward contract, which has an unlimited exposure to the downside risk of its underlying assets, shareholders have a limited exposure to the downside risk of the corporate assets because, due to corporate legislation, the shareholders risk only the money they invest. Consequently, the position of a shareholder is more like the position of a holder of a call option. This means that instead of holding a share, it is equally good to take a long position in a call option with the corporate assets and the corporate debt as its underlying. In fact, this means that the payoff of a share is equal to the payoff of a long call option on that share.⁸⁶

In theory it is also possible to replicate the payoff of shares without references to the actual share. Instead of purchasing a share in a leveraged

⁸³ This principle example requires that there be no costs of carrying gold, except for the cost of the capital invested. To learn more about cost of carry, see Section 2.4.1.2.

⁸⁴ Cp. Section 2.6.3.2.

⁸⁵ In cases in which the principle amounts of the debt and the assets are not similar, the difference is adjusted by the forward price (cf. Section 2.4.1.2).

⁸⁶ This synthetic position is illustrated in, for example, Edgar, T. (2000, pp. 17-18); and Ross, S. A., Westerfield, R. W. and Jaffe, J. (1996, pp. 591-597).

2. The Economic Substance of Derivatives

company, it is possible to short credit-extension instruments and to use the capital to finance the purchase of corporate assets. In that way, it is possible to mirror the balance sheet of a company, and thus also track its possible payoff. However, because a share involves limited liabilities – limited downside risk of the corporate assets – it is also necessary to take a long position in a put option on the corporate assets. Thus instead of purchasing a share in a leveraged company, it is equally good to short credit-extension instruments, purchase corporate assets, and purchase a put option with the corporate assets as its underlying.

2.6.3.4 Synthetic Debt

The total payoff of a debt instrument (a credit-extension instrument) is considered to be expected income.⁸⁷ Consequently, synthetic debt is a financial position exposed to a minimum of risk. To achieve such a position, a company may transfer away the total risk of an asset (e.g. a common share) that it possesses. Thus a long position in synthetic debt is accomplished by taking a long position in, for example, a share, and a short forward with the share as its underlying. It is also possible to accomplish synthetic debt by using options to create a synthetic long forward at one price and a synthetic short forward at a different price.⁸⁸

An important difference between a synthetic forward and a real forward is that it is possible to attribute the delivery price of the synthetic forward to something other than the forward price of the underlying asset.⁸⁹ This is so because the strike price of an option is not the forward price of the underlying; rather the price is decided in accordance with the regulations on the exchange where it is traded; or if traded on the OTC market, on basis of the intention of the contracting parties. Thus by using two synthetic forwards, it is possible to enter into a long forward contract and to enter simultaneously into a short forward contract with the same underlying asset and the same duration, but with different delivery prices. Such a combination is generally referred to as a box spread, and it provides exactly the same payoff as a debt instrument.⁹⁰

With an interest rate of 5 percent, for example, a one-year zero-coupon bond with a principle amount of 100 provides a total payoff of approximately 5.⁹¹ However, instead of taking a long position in such instruments, it is equally good to take a long position in a synthetic forward with a delivery price of 5 and to enter simultaneously into a short position in a forward contract, the only difference between the contracts being that the delivery price in the latter is 10.

⁸⁷ See Section 2.6.2.2.

⁸⁸ See Section 2.6.1.6 on how to use options to create a synthetic forward.

⁸⁹ See Section 2.6.1.3. In principle, on the OTC market it is possible to set the delivery price of a forward in accordance with the intention of the contracting parties, and not necessarily on the basis of the relationship between spot and forward prices. Such forwards are generally called *off-market forwards*.

⁹⁰ See, for example, McDonald, R. L. (2003, pp. 70-72).

⁹¹ $100 - 100e^{-0.05} = 4.88$.

Independent of the value of the underlying of the synthetic forwards, the net payoff of the positions will always be 5, as illustrated below:

Table 2.1 Payoff from a box spread

Independent of the value of the underlying (see the ten different scenarios below), the payoff from a box spread is always constant.

	Scenarios									
	I	II	III	IV	V	VI	VII	VIII	IX	X
Value Underlying	3	4	5	6	7	8	9	10	11	12
Payoff Long Forward	-2	-1	0	1	2	3	4	5	6	7
Payoff Short Forward	7	6	5	4	3	2	1	0	-1	-2
Net Payoff of Synthetic Debt	5	5	5	5	5	5	5	5	5	5

If the delivery price of the long forward is greater than the delivery price of the short forward, the net payoff of the synthetic debt is always negative. In that way, it is possible to replicate a short position in debt.

2.6.3.5 Synthetic Derivatives

Finally, derivatives may be replicated by positions in other derivatives. Section 2.5.2.3 illustrates how a long call option and a short put option equals a long forward, and how a short forward can be replicated by a combination of a long put option and a short call option. However, it is also possible to create synthetic options. Considering that a long forward carries the total risk of its underlying and a long call option carries only the upside risk of its underlying, it is possible to conclude that, if the downside risk of a long forward is transferred away, it will replicate the position of a long call option. Thus a portfolio with a long forward and a long put option equals a long call option. Furthermore, a portfolio with a long forward and a short call option equals a short put option. A long put option can be replicated by a short forward and a long call option; and, finally, it is possible to replicate a short call option by using a short forward and a short put option.

2.7 Non-Traditional Financial Instruments

2.7.1 Financial Innovations

Besides replicating the payoffs from existing financial instruments (*i.e.* creating synthetics), basic building block financial instruments are used to create positions with net payoffs that have no equivalence in traditional financial instruments; these are called non-traditional financial instruments. Together with synthetics, such positions are sometimes referred to as financial innovations.⁹²

It is possible to create a financial position with no equivalence by disaggregating an existing financial instrument. For example, it is possible to separate and sell the dividend rights of a share and retain the capital appreciation component of it, thereby creating two non-traditional financial instruments. Alternatively it is possible to combine a number of basic building block financial instruments in a way that makes the net payoff from the combination unique. In this study, focus is on the latter type of financial innovation – composite contracts.

2.7.2 Composite Contracts

2.7.2.1 *Raising Capital and Managing Risk*

Composite contracts are either combinations of credit-extension instrument and derivatives or a combination of derivatives. The former type of composite contract, generally used for purposes of raising capital, is thoroughly examined in Chapters 5 and 6. Because the latter type of composite contract is a combination of derivatives, it entails a proportionally low initial investment and is therefore unsuited for raising capital. Rather, this type of composite contract is often used for risk management purposes. Among the most popular instruments of this type are caps, floors, and collars.

2.7.2.2 *Caps*

Interest rate caps are generally used to hedge against unfavorable fluctuations in a floating interest rate. An interest rate cap can be used to hedge a short position in a floating rate (debt) instrument, for instance. If the floating interest rate rises above a specified level (*i.e.* the cap rate), the cap provides a payoff to compensate for interest rate costs exceeding the principal amount multiplied by the cap rate.

An interest rate cap can be viewed as a portfolio with a number of interest rate call options (caplets) settled on regular basis.⁹³ The strike price of these options is equal to the cap rate and they are therefore in the money when the

⁹² For instance, see Edgar, T. (2000, pp. 25-29).

⁹³ For instance, see Hull, J. C. (2006, pp. 619-621).

floating interest rate exceeds the cap rate. Options in the money are settled net in cash, and thus provide a payoff corresponding to the interest rate expenses in excess of the sum of the principle amount and the cap rate. Consequently, taking a long position in an interest rate cap ensures that the interest rate costs of a floating rate (debt) instrument never exceed the principle amount of the instrument multiplied by the cap rate.

2.7.2.3 Floors

As for an interest rate cap, an interest rate floor is a composite derivative instrument designed to hedge against unfavorable movement in a floating interest rate. Analogous to caps, floors can be viewed as a portfolio of regularly settled options (floorlets), that is, interest rate put options. Setting the strike price of put options equal to the floor rate (cf. cap rate), the options are in the money when the floating interest rate is below the floor rate. Consequently, a long position in an interest rate floors provides a payoff when the interest rate falls below the floor rate. Thus a floor can be used to hedge a long position in a floating rate (debt) instrument.

2.7.2.4 Collars

A portfolio involving a long position in a cap and a short position in a floor is known as a collar or a floor-ceiling agreement. A collar may be used to ensure that the interest rate cost of a floating interest rate note stays between two levels – the cap rate and the floor rate. Usually the price of the cap is initially set at the same level as the price of the floor, and therefore the cost of entering into a collar is zero.⁹⁴

⁹⁴ Hull, J. C. (2006, p. 621).

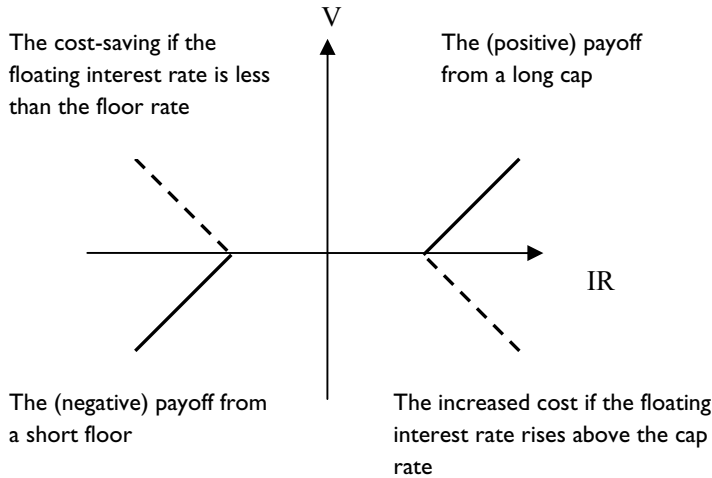


Figure 2.7 The function of a collar

The figure shows how a collar can be used to guarantee that the floating interest rate cost stays between two levels. V is value of the company and IR is interest rate.

Analogous to the picture above, a short position in a cap and a long position in a floor can be used to make sure floating interest income stays between specified levels. In this study, such an arrangement is referred to as an inverted collar.⁹⁵

2.8 Conclusions

This chapter presents the analytical framework of this study – the economic substance of derivatives. As a basis for presentation of the analytical framework, the general concepts of income and risk have been used. Furthermore, the conclusions presented in this chapter are valid under a no-arbitrage assumption, which entails that the financial instruments dealt with are presumed to be traded on a market that is in perfect equilibrium.

Disregarding corporate income tax, a company's income is defined as the largest amount the company can distribute to its shareholders during a period,

⁹⁵ See Section 6.3.8.1.

and end up as well off as it was in the beginning. This concept is generally referred to as the Haig-Simons concept of income.

Risk is the possible deviation from the expected return of an investment. Income generated from an investment for which the return does not deviate from the expected is generally referred to as expected income. However, if something unexpected happens to make the return of an investment deviate from the expected, the difference between the total return and the expected income from that investment is referred to as windfall gains or windfall losses. Consequently, expected income is the total income of a risk-free investment. Windfall gains or losses are changes in the value of an investment that could not be anticipated at inception of the investment – changes in value because of risk.

Derivatives are instruments that transfer risk between the contracting parties. Thus the income that derivatives provide is windfall gains or losses. On the contrary, credit-extension instruments, such as zero-coupon bonds or level-coupon bonds are exposed to low risk, and therefore their payoff is, as a general rule, expected income. As derivatives and credit-extension instruments represent two different types of income, they can be combined to replicate the return from any capital investment. Derivatives and credit-extension instruments are generally referred to as the basic building block financial instruments.

In a no-arbitrage environment, the return of an investment is entirely reliant on its risk exposure. Thus to replicate a financial position entails the construction of a portfolio exposed to a risk identical to the financial position that is replicated. It is possible to construct such a portfolio by taking long and/or short positions in the basic building block financial instruments. A portfolio that replicates a financial position is generally referred to as a synthetic.

Combinations of building block instruments that do not replicate the payoff of an already existing financial instrument are referred to in this study as composite contracts. These financial instruments are generally constructed for purposes of raising capital or for purposes of risk management. These contracts are characterized by their payoff profile, which has no equivalence among the traditional financial instruments, and, are often referred to as financial innovations.

3 Tax Arbitrage and the General Structure of the Swedish Income Tax System

3.1 Legal Framework

Chapter 2 establishes the economic substance of financial instruments, in order to examine whether or not the Swedish income tax system provides tax arbitrage opportunities in relation to these instruments. That examination is conducted in Chapters 4, 5, 6, and 7, in which the income tax treatment of derivatives, composite contracts, and synthetics is examined. In order to facilitate that examination, it is necessary to identify the general provisions of the Swedish income tax treatment of financial instruments – more specifically, to establish the legal framework of the Swedish corporate income tax system. Therefore, most of this chapter deals with the basic structure of the Swedish income tax system. In Section 3.3 I discuss the fundamental income tax provisions relevant for non-financial companies. In Section 3.4, I present the general classification of income provided by financial instruments that are held by non-financial companies.

Whether or not the legal framework of the Swedish income tax system provides tax arbitrage opportunities cannot be appropriately analyzed, however, unless the contents of the term “tax arbitrage” is established. Thus before the examination of the legal framework, Section 3.2 provides a general discussion on the contents of “tax arbitrage” and the types of tax arbitrages that are relevant for this study. As a basis for this discussion, I examine the fundamentals of the concept of “income” as used in the Swedish income tax system. The conclusions of this chapter are presented in Section 3.5.

3.2 Tax Arbitrage

3.2.1 Defining Tax Arbitrage

Like any income tax system, the Swedish system changes constantly. In principle, these changes are either modifications of the way income is established or alterations to the income tax rate. As the income tax rates used in

the Swedish income tax system seldom change, it can be generally concluded that changes in the Swedish income tax system concern the way taxable income is established – the contents of the legal concept of income.

In relation to the economic concept of income, which is theoretically coherent and thus static, every change in the income tax system alters the relationship between the legal concept and the economic concept of income. Thus this relationship is highly dynamic and continuously generates new inconsistencies.

If the same types of income, as defined in an economic context, are treated inconsistently in the Swedish income tax system, the inconsistency has a value. In other words, there is an arbitrage opportunity.¹ For example, if the risks of assets X and Y are equal, but the payoff from asset X is tax exempt, while the payoff from asset Y is taxed at a flat rate of 50 percent, a rational investor would choose to invest in asset X, which provides a greater payoff at the same cost. As Miller argues, if an income tax system remained unchanged for a generation or more, equilibrium could emerge, in which the gains possible from exploiting arbitrages would be neutralized by the cost of the investment.² More specifically, the income tax system would be a no-arbitrage environment.³ Because the income tax system changes constantly, however, it will always provide opportunities for arbitrages – that is, opportunities for tax arbitrage.

Based on this line of reasoning, a tax arbitrage can be defined as the use of economic equivalencies in order to exploit inconsistencies in the income tax system.⁴ Kane refers to the existence of regulatory arbitrages such as tax arbitrages as a regulatory dialectic, the driving force of which is: "...the inherent conflict between attempts to regulate and attempts of regulated parties to lessen the burden of whatever regulations apply to them..."⁵ For Swedish non-financial companies, there are no inconsistencies in the rate at which income is taxed: All income is taxed at a flat rate of 28 percent.⁶ Consequently, the arbitrage opportunities occur according to the way the taxable income is established. We now examine how taxable income is defined in the Swedish income tax system and the types of tax arbitrage opportunities provided by the system.

3.2.2 Realization vs. Fair-value

In Section 2.2.1, Chapter 2, the Haig-Simons concept of income is defined as the maximum *amount* a company can distribute to its shareholders yet be *as well off* at the end of a period as it was at the beginning. How to establish the worth of the distributed amount or the capital of the company at the end of a period is not implicit in the concept. In practice two approaches to establish the worth have

¹ Cf. Section 2.6.1.1.

² Miller, M. H. (1986, p. 461).

³ See Section 2.6.1.1.

⁴ See, for instance, Edgar, T. (2000, pp. 29-30).

⁵ Kane, E. J. (1988, pp. 63).

⁶ Chapter 65, Section 7 in the Swedish Income Tax Act, ITA.

3. Tax Arbitrage and the General Structure of the Swedish Income Tax System

been developed: the realization approach and the fair-value approach.⁷ The principal difference between these two approaches is the amount of judgment allowed when establishing the income. According to the realization approach, only worth that is a result of realization constitutes income. Thus by solely recognizing the surplus of an arm's length business transaction as income, the realization approach limits the subjectivity connected to valuation. The fair-value approach, on the other hand entails the recognition of any change in the value of a company's assets. Thus the amount of income recognized is dependent on the application of various valuation methods, which, by their nature, involve a great deal of subjectivity.

The reason these two approaches have developed so differently can be explained in the context of financial accounting, in which both approaches are commonly used. Financial accounting is a process that produces selected financial information about a company. The process is instrumental, which implies that it does not have a function in and of itself, but is used to fulfil certain purposes.⁸ Consequently, it is the requests from users of the financial reports that set the purposes for financial accounting.

There are several users of financial reports, which are generally divided into two principal groups: creditors and capital investors. Because the two principal groups require different information from the financial reports, different accounting systems have developed.

As the greatest concern for creditors is to protect their investments – the company's debt – from falling in value, creditors are interested in financial information that presents the value of a company's assets and its distributable profit in a prudent and reliable way.⁹ Consequently, it is not in the interest of creditors to allow representatives of the debtors – the companies – to estimate the value of their assets without restrictions; and it is not in the interest of the creditors to allow the owners of the companies to distribute as much profit as they like. Instead, creditors benefit from regulations that clearly deprive debtors of the right to estimate the worth of their assets and make them recognize them in a predictable and prudent way. It is also in the interest of the creditors to restrict the debtors' possibilities for recognizing income in the profit and loss account; because profit may be distributed and thereby lower the worth of the credits. Consequently, accounting systems supporting the interests of creditors generally limit possibilities for judgments. Thus fundamental principles in accounting systems that focus on creditors' protection are prudence and realization.

The situation in accounting systems that support investors' interest is, in some respects, the opposite. Investors receive their compensation in the form of dividends or from capital gains resulting from appreciation of the value of their

⁷ These "approaches" are often referred to as, for example, the continental European tradition and the Anglo-Saxon tradition (see *e.g.* Nobes, C. (1998, p. 168)). However as the examinations conducted in this study are not intended to contribute to the understanding of the conventional terminology, a different, unconventional terminology is used.

⁸ Artsberg, K. (2003, p. 124); and Jönsson, S. (1991, p. 543).

⁹ Nobes, C. (1998, p. 169).

shares in the company. The size of the dividend and the appreciation of the value of the shares are directly dependent on the profit of the company. Consequently, an investor needs information to predict the future earnings of the company. To satisfy the needs of investors, financial reports must reflect the commercial reality of the company, including the facts that the structure, value, and profit of a company changes from time to time. Such accounting systems must allow a certain degree of judgement; otherwise it would be impossible to create financial reports that reflect commercial reality. Thus accounting systems that serve an investor's perspectives support a fair-value approach to valuation.

To summarize, the Haig-Simons concept of income appears to be different, depending on whether it is established on the basis of a realization approach or on the basis of a fair-value approach. The realization approach has developed as a concept to limit subjectivity in establishing income; whereas the fair-value approach has developed as a concept that provides the most relevant perspective of income from a commercial or economic viewpoint.

3.2.3 The Ability to Pay Income Taxes

*The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state.*¹⁰

This citation expresses the first maxim of taxation in Adam Smith's *An Inquiry into the Nature and Causes of the Wealth of Nations*. This maxim is often used as a reference to the ability-to-pay principle, which is the basis for most income tax systems around the world, including that of Sweden.¹¹ In Sweden, the essence of this maxim appears in two principles – horizontal equity and vertical equity. Usually they are explicitly referred to in the preparatory works to the tax legislation.¹²

To appreciate the Adam Smith citation, it is necessary to establish the contents of the term “revenue” as used therein. The contents of the citation are different if “revenue” is a reference to income as established on the basis of a realization approach versus a fair-value approach. In principle, both alternatives are possible, and are used in different contexts to legitimate the taxation of income (and wealth).¹³ However, in the Swedish income tax system, the ability-to-pay principle means that the ability to pay income taxes occurs when the tax

¹⁰ Smith, A. (1776, p. 825).

¹¹ For instance, see Lindencrona, G. (1984, p. 337); and the following Swedish Government Official Reports: (*SOU:er*) 1964:25 (pp. 62-63); 1989:33, Part 1 (pp. 50-53); and 2002:47 (p. 70).

¹² For instance, see Lodin, S-O. *et al.* (2007, pp. 24-25); Lindencrona, G. (1984, pp. 338-339); and the Swedish Government Official Report (*SOU*) 1989:33, Part 1 (p. 50).

¹³ For further information on different approaches to determining a tax subject's ability to pay, see, for instance, Musgrave, R. A. (1959, pp. 90-115).

3. Tax Arbitrage and the General Structure of the Swedish Income Tax System

subject has converted capital into cash or cash equivalents.¹⁴ More specifically, it occurs after the tax subject has realized capital investments (or manpower). Thus in the Swedish income tax system, the term “revenue”, as used in the Adam Smith citation, generally refers to income established on basis of a realization approach.

3.2.4 Income

On the basis of the Haig-Simons concept of income, the realization approach, and the ability-to-pay principle, it appears that the concept of income as used in the Swedish income tax system is a theoretically coherent concept, the contents of which is the surplus of realized (manpower or) capital investments.¹⁵ However Sweden’s use of the income tax system as a means of accomplishing various political considerations has made it impossible to maintain a theoretically coherent concept of income. Therefore, it is politics rather than economic theories that eventually decide the concept of income.¹⁶

Sweden’s inclusion of political considerations has resulted in an economically inconsistent concept of income, in that both the realization approach and the fair-value approach are used as a basis for income recognition.¹⁷ Using these two approaches in the same income tax system challenges the equity of the system and provides tax arbitrage opportunities. More specifically, it provides timing arbitrage opportunities.

3.2.5 Timing Arbitrage

3.2.5.1 Defining Timing Arbitrage

Whether income is established on the basis of a realization approach or a fair-value approach, it is defined as an increase in value during a certain period – the income period. Thus the principal difference between the two approaches is not the contents of income, but the fact that they favour different methods of recognizing it.

The two approaches differ in the sense that the fair-value approach involves the recognition of income every income period, whereas the realization approach implies recognition of income only at the time of realization. Consequently, if a company holds an asset during two income periods, the amount of income attributable to that company will differ depending on which

¹⁴ See, for example, Lindencrona, G. (1984, p. 344). However, the realization principle as it occurs in the context of good accounting practice is somewhat different; see Section 3.3.5.3 in this chapter.

¹⁵ See Sections 3.2.2 and 3.2.3 in this chapter. For further discussion on the concept of income from a Swedish income tax perspective, see, for example, Mutén, L. (1959); Hellner, Å. (1959); Meltz, P. (1986); and Hultqvist, A. (1995).

¹⁶ See Mutén, L. (1959, p. 23).

¹⁷ See Section 3.3.5 in this chapter.

approach is applied when the income is established. The following example illustrates this point:

Example:

A company purchases an asset for 100 in Year 1. At the end of Year 1, the fair-value of the asset is 150. In Year 2 the company disposes of the asset at a price of 200.

If the income is established on the basis of the realization approach, the company must recognize an income of 100 ($200 - 100$) in Year 2, when the asset is realized. However, if the income is established on the basis of a fair-value approach, the company must recognize an income of 50 ($150 - 100$) in Year 1 and an income of 50 ($200 - 150$) in Year 2.

This example illustrates that income may be recognized in different periods depending on the approach used to establish it. Generally, if something is treated differently independent of its character, but solely on the basis of the context in which it is subject to treatment, the different treatment is referred to as an arbitrage.¹⁸ Thus if a company may choose which of the two approaches to apply for income recognition, it has an arbitrage opportunity, and may choose the more favourable of the two possible approaches. An arbitrage that presents an opportunity to choose which income period is used for income recognition is generally referred to as a timing arbitrage.

3.2.5.2 Tax Credit

A timing arbitrage may create tax benefits for a tax subject. For example, a rational tax subject with the opportunity to choose whether income is to be taxed in year X1 or year X2 would prefer taxation year X2. This is so because the deferred income tax can be invested for an additional income period (one year) and in that way generate income that otherwise would have been impossible to make.

In principle, an opportunity to defer taxation, like in the example presented above, can be seen as the state offering the tax subject a one-year, interest-free loan, the principal amount of which equals the deferred income tax. Thus a tax subject that has taken advantage of the opportunity of deferred taxation is generally said to have utilized a tax credit.

As is pointed out in Section 3.2.1, tax arbitrage opportunities may arise when the payoffs from two economically equal financial positions are classified, and thereby taxed, differently. By investing in the financial position in which the payoff is taxed most favorably, it is possible to utilize the tax arbitrage and to receive a tax credit. In principle, such action does not challenge the income tax

¹⁸ For more information about the term “arbitrage”, see Section 3.2.1.

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provisions. However, if the intention of the action is to avoid taxation, it can be argued that it is contrary to the tax provisions anyway, and that the action constitutes tax avoidance.¹⁹

3.2.5.3 Tax Avoidance and Recharacterization

The decision about whether or not the employment of a tax arbitrage is to be considered as tax avoidance must eventually be made on the basis of the Swedish Tax Avoidance Act.²⁰ According to this act, transactions shall be discarded from income tax assessment if the following four conditions are fulfilled: (1) the transaction results in essential tax advantages; (2) the tax subject is directly or indirectly involved in the transaction; (3) the general purpose of the transaction is to achieve the tax advantages; and (4) a tax assessment based on the form of the transaction would contradict the purpose of the relevant tax rules, as interpreted from the relevant rules and the statutory tax rules in general.²¹ Few cases have been examined against the Tax Avoidance Act, probably because it is difficult to establish that all four conditions have been fulfilled.²²

Other than through the application of the Swedish Tax Avoidance Act, tax-motivated transactions can be prevented with reference to the general principle of recharacterization²³. This principle entails that it is the “real” substance of a transaction, rather than its designation by the tax subject that decides its income tax treatment.²⁴ As a basis for such recharacterization, the character of the transactions in accordance with civil law is imperative.²⁵ Thus the core issue of recharacterization is to identify the possibilities and the limits of reaching another characterization in tax cases than in civil law cases.²⁶

It is uncertain if the principle of recharacterization is effective in preventing tax arbitrage opportunities related to a financial instrument. Recharacterizing a financial instrument in accordance with civil law does not necessarily entail that

¹⁹ See, for example, Cases *RÅ 1998 referat 19* and *RÅ 2004 referat 27*. See also, for instance, Bergström, S. (2004, p. 771-774); Hultqvist, A. (2005, p. 305-306); and Simon Almendal, T. (2005, p. 23).

²⁰ In Swedish, *Lag (1995:575) mot skatteflykt*.

²¹ Section 2 in the Swedish Tax Avoidance Act. See also Melz, P. (2004, p. 112).

²² See, for instance, Melz, P. (2004, p. 112); and Hultqvist, A. (2005, pp. 309-320) criticizing the fourth condition in the Swedish Tax Avoidance Act.

²³ In Swedish, *genomsyn*.

²⁴ See, for example, Cases *RÅ 1998 referat 19*, *RÅ 1999 notis 18* and *RÅ 2004 referat 27*.

²⁵ See, for instance, Melz, P. (2004, p. 112); Hultqvist, A. (2005, pp. 305-306); and Bergström, S. (2003, pp. 11-12), (2003, pp. 645-646), and (2004, p. 773). See also Möller, L. (2003, pp. 574-575) arguing that the “real” substance of a transaction does not necessarily have to be the substance of the transaction as it is construed by civil law.

²⁶ Zimmer, F. (2002, pp. 21 and 33).

its character mirror its economic substance. If it does not, the arbitrage opportunities will remain.²⁷

3.2.5.4 Establishing Legal Form

As noted previously in this chapter, tax arbitrage opportunities arise when the payoff from two economically equal financial positions are treated differently because their legal form differs. The way in which the legal form of a payoff is decided in the income tax system creates interdependence among three elements: the legal form of the tax subject, the legal form of the asset that generates the payoff, and the character of the payoff itself. Thus to establish and analyze the situations in which financial instruments create tax arbitrage opportunities, it is necessary to examine the legal framework in which the legal form of the payoffs is established. That examination is conducted in the remainder of this chapter.

3.3 Fundamentals on the General Structure of the Swedish Corporate Income Tax System

3.3.1 Income from Business

The basis for classifying income in the Swedish income tax system was originally the source principle.²⁸ Income was defined with reference to a durable income source, and the payoff from one income source was treated separately from the payoffs from other income sources. Thus although a tax subject could hold several different income sources, the net payoff – the income – from the different sources was computed separately. Today, the income source principle has limited relevance to the way income is established according to the Swedish income tax system; instead of income sources, the income of a tax subject is classified into income tax schedules²⁹. The income earned by a company is considered to be within the income tax schedule, *Income from business*.³⁰

3.3.2 Ordinary Business

Although jointly considered as income from business, a company's income is treated differently depending on whether it is a result of the company's ordinary

²⁷ For further reading on the Swedish income tax treatment of tax-motivated transactions, see, for example, Simon Almedal, T. (2005, pp. 22-43); and Hulqvist, A. (1995, pp. 373-516) and (2007, pp. 229-235).

²⁸ For instance, see the Swedish Government Official Report (*SOU*) 1989:33, Part 1 (p. 54); and Lodin, S-O. *et al.* (2007, pp. 32-33).

²⁹ In Swedish, *inkomstslag*.

³⁰ Chapter 13, Section 2 ITA. See also Melz, P. (2004, pp. 106-107).

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business or a result of the company's capital management.³¹ The concept of ordinary business has its origin in the Municipal Tax Act of 1928, in which the income source Business³² was introduced, and defined as a professional and independent activity for the purpose of making profit.³³ Furthermore, the influence of the source principle signifies that an activity within its scope had to be continuing.³⁴ These characteristics are still relevant when deciding whether or not income is regarded as being derived from a company's ordinary business.³⁵

In the literature of today, a company's ordinary business is defined as any activity that is aimed at generating a commercial exchange – a profit – and is conducted on a regular basis.³⁶ By “regular basis”, it is meant that the activity shall be carried out over a period of time and involve a certain number of transactions. However, if the activity is of an extensive character, it may be considered an ordinary business even if the transaction is not conducted over a period of time.³⁷ Furthermore, it is eventually the market that decides whether or not the activity carried out by a business is a value-generating activity. Thus an activity that generates value, like an ordinary business, is normally aimed at an interested external party – normally customers.³⁸

3.3.3 Financial Instruments and Ordinary Business

The nature of financial instruments signifies that the only way they can be used in a value-generating activity is if they are offered for sale on a public market.³⁹ Thus financial instruments are considered to be part of a company's ordinary business only if they are subject to trading and the trade corresponds to what is defined as an ordinary business.⁴⁰ An ordinary business involving trading with financial instruments is generally referred to as a security business⁴¹.⁴² In most situations, security businesses are operated by companies classified as, for instance, banks or insurance companies – financial companies – that are treated

³¹ The income tax treatment of a company's income from capital management is thoroughly examined in Section 3.4.

³² In Swedish, *rörelse*.

³³ For example, see Hellner, Å. (1959, pp. 276-278).

³⁴ See Hellner, Å. (1959, pp. 25-26 and 277-278).

³⁵ See Chapter 13, Section 1 ITA. See also the Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 161).

³⁶ See, for example, Lodin, S-O. *et al.* (2007, pp. 240-245); Melz, P. (2001, pp. 477-478); and Arvidsson, R. and Gunne, C. (2001, pp. 554-557).

³⁷ See, for instance, Lodin, S-O. *et al.* (2007, p. 242); and Arvidsson, R. and Gunne, C. (2001, p. 555).

³⁸ Lodin, S-O. *et al.* (2007, p. 242); and Melz, P. (2001, pp. 477- 478).

³⁹ Cf. Melz, P. (2001, p. 477).

⁴⁰ See Section 3.3.2.

⁴¹ In Swedish, *värdepappersrörelse*.

⁴² The term “security business” is not defined in the income tax legislation. Instead its contents have been established in case law. The relevant case law has been summarized and discussed in, for instance, Tivéus, U. (1988); Melz, P. (2001); Arvidsson, R. and Gunne, C. (2001); and Arvidsson, R. (2004). See also the Swedish Government Official Reports (*SOU:er*) 1977:86 (pp. 549-551) and 2005:99 (pp. 309-325).

in accordance with special provisions for income tax purposes.⁴³ However, there are situations in which businesses that are not operating as financial companies have been considered as operating a security business.

3.3.4 Security Business

Whether or not a tax subject operates a security business cannot usually be established with reference to the actual activity – security trade – because any business may carry out such activity, for purposes of capital management, for example. Instead, with reference to the definition of ordinary business, a distinction is made on the basis of the circumstances in every special case. The focus is on the value of the traded securities, the frequency of the trade, and the time securities held by the tax subject.⁴⁴ Furthermore, in establishing whether or not a tax subject is to be treated as a security business, differences are recognized between individuals and limited companies. The security trade of an individual must aim at customers in order for that individual's activity to be classified as a security business. A limited company can be classified as a security business even though its entire security trade is conducted in relation to an exchange.⁴⁵ Thus in principle, it is not possible for individuals to constitute a security business.⁴⁶

Court decisions concerning the concept of a security business generally deal with individuals and limited companies. How to classify legal persons that are not limited companies cannot be satisfactorily established on the basis of the case law, however. Thus a current issue in the Swedish income tax system is the classification of foundations and non-profit associations that manage their capital in a professional way, but deal with an exchange as their only counterpart.⁴⁷ One possible way of classifying security businesses has been presented in a government report. The suggested classification signifies that, in order to be classified as a security business, a subject must be licensed to conduct such business by the Swedish Financial Supervisory Authority^{48, 49} Whether or not this suggestion will influence the legal situation of the concept of security business has not yet been resolved. Whether the suggestion put forward in the governmental report will be approved or whether the legal situation will continue to be established in case law, however, the vast majority

⁴³ See Chapter 39 ITA. See also Norberg, C. (2005, pp. 415-419).

⁴⁴ See, for instance, Cases *RÅ 1986 referat 53*, *RÅ 1988 referat 45* and *RÅ 2003 referat 49*.

⁴⁵ See, for example, Cases *RÅ 81 referat 1:4*, *RÅ 81 notis Aa 12*, and *RÅ 1988 referat 45*.

⁴⁶ A similar conclusion is presented in the Swedish Government Official Report (*SOU*) 2005:99 (p. 316).

⁴⁷ The common opinion in the literature appears to be that the classification of foundations and non-professional associations should be conducted in a way that is more similar to how individuals are classified than to how limited companies are classified. See Melz, P. (2001); Arvidsson, R. and Gunne, C. (2001); and Arvidsson, R. (2004).

⁴⁸ In Swedish, *Finansinspektionen*.

⁴⁹ The Swedish Government Official Report (*SOU*) 2005:99 (p. 322). See also Norberg, C. (2005, pp. 434-436).

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of companies are not to be considered to be security businesses; *i.e.* they are non-financial companies.

3.3.5 Income from Ordinary Business and Income from Capital Management

3.3.5.1 Recognition of Income

Because financial instruments are considered as part of a company's ordinary business only if the business is conducting a security business, it is possible to conclude that a financial instrument provides income from capital management when held by a non-financial company. The principle difference between the income tax treatment of income from a company's ordinary business and income from its capital management is the way in which the income is recognized: Whereas income from a company's capital management is recognized on the basis of a realization approach, the income from a company's ordinary business is, as a general rule, recognized on the basis of good accounting practice.⁵⁰

3.3.5.2 Good Accounting Practice

Income from a company's ordinary business is recognized in accordance with good accounting practice because of the connection between the Swedish income tax system and financial accounting.⁵¹ The connection generally entails that the income recognition, as carried out in a company's financial reports, is also adequate for income taxation if it is consistent with good accounting practice.⁵²

Good accounting practice is a legal standard complementing the relatively indistinct Swedish accounting legislation.⁵³ Thus the contents of good accounting practice develop outside the traditional legal sources.⁵⁴ However, only *practice* and sources that fulfil the requirements of being *good* can be used to establish good accounting practice.⁵⁵ *Practice* refers to an actual applied accounting practice, and it is *good* if it is compatible with the accounting legislation and is theoretically and practically satisfactory. There is a strong presumption in Swedish financial accounting that, as a general rule, accounting

⁵⁰ Chapter 25, Sections 2-4 ITA; and Chapter 14, Section 2 ITA.

⁵¹ The connection between Swedish income taxation and financial accounting has been thoroughly discussed in the literature. See, for example, Artsberg, K. (1996, pp. 795-814); Norberg, C. (2003, pp. 508-518); Bjuvberg, J. (2006, pp. 191-269); and Norberg, C. and Thorell, P. (2007, pp. 19-29).

⁵² Chapter 14, Section 2 ITA. The contents of the connection are discussed in greater depth in Norberg, C. (2003, pp. 325-344).

⁵³ See the Swedish Government Bill (*Proposition*) 1995/96:10, Part 2 (p. 181); and Norberg, C. and Thorell, P. (2007, pp. 34-36).

⁵⁴ Norberg, C. (1991, p. 131).

⁵⁵ Thorell, P. (1984, pp. 52-53).

standards fulfil these requirements.⁵⁶ Consequently, although not legally binding as such, accounting standards have become imperative sources when establishing the contents of good accounting practice.⁵⁷

Income recognition in accordance with good accounting practice is carried out in many situations on the basis of a realization approach.⁵⁸ This is the case because the Swedish accounting system traditionally focused on creditors' protection.⁵⁹ During the last decades, however, significant growth in the capital market has shifted the focus of the accounting standard setters somewhat from creditors' protection to investor-oriented information.⁶⁰ The shift in focus entails that good accounting practice involves income recognition not only on the basis of realization, but also on the basis of a fair-value approach. As a result, the extent to which the connection between Swedish income taxation and financial accounting can remain has been questioned.⁶¹

3.3.5.3 Accrual Recognition

In the context of good accounting practice, the realization approach, including the related matching principle, is often applied on services and assets that are used in a company's ordinary business. If the services are conducted over more than one income period, the realization approach must establish the extent to which the service is realized over the different income periods.⁶² Similarly, if an asset is held over more than one income period, the matching principle must establish the extent to which the asset is consumed: the amount that can be recognized as an expense. In other words, the realization approach is used to establish accrued income and expenses. The judgments necessary to carry out an accrual recognition make the realization approach somewhat subjective as applied according to good accounting practice. This subjectivity does not exist when the realization approach is applied to financial instruments used by a company for capital management – that is, financial instruments that are considered outside a company's ordinary business. In such a case, the realization approach entails income recognition only when a financial instrument is disposed of.⁶³ Compared to the realization approach applied on financial instruments, therefore, a realization approach applied under good accounting practice may require more judgment, as it must establish accrued income.

⁵⁶ Norberg, C. and Thorell, P. (2007, p. 38).

⁵⁷ Norberg, C. and Thorell, P. (2007, pp. 37-38).

⁵⁸ See, for example, Paragraphs 14 and 20 *RR 11*; and Paragraphs 23-24 *RR 22*.

⁵⁹ Cf. Section 3.2.2. See also, for instance, Jönsson, S. and Marton J. (1994, pp. 9-15); and Norberg, C. (2005, p. 329).

⁶⁰ See, for example, Norberg, C. and Thorell, P. (2007, p. 48).

⁶¹ See Section 8.2.2.3.

⁶² See, for example, Paragraphs 20 - 28 *RR11*.

⁶³ See Section 3.4.2.2.

3.3.5.4 Accrual Recognition and Financial Instruments

In line with the general structure of the Swedish income tax system, income from financial instruments that are part of a company's ordinary business – a security business – is to be recognized on an accrual basis. Recognizing income from financial instruments on an accrual basis involves the application of a fair-value approach.⁶⁴ Thus the treatment of a financial instrument for income tax purposes differs fundamentally when it is considered as part of a company's ordinary business and when it is held for capital management. This difference in tax treatment illustrates the inconsistency in the concept of income as it occurs in the Swedish income tax system.⁶⁵ Furthermore, in relation to this study, it makes it necessary to limit the examination of the income taxation of these instruments to either the financial instruments that are considered to be part of the ordinary business or the financial instruments that are used for capital management. A comprehensive examination entailing both types of financial instruments is considered to be too broad for a doctoral thesis. Thus the remainder of the study focuses on the income tax treatment of financial instruments held by non-financial companies – companies that do not conduct a security business – and on income from capital management attributable to non-financial companies.

3.4 Income from a Company's Capital Management

3.4.1 Scope

Income from a company's capital management refers in this study to a company's taxable income that is not a result of that company's ordinary business. Therefore, any payoff from a financial instrument held by a non-financial company is classified as income from capital management.

In principle, a financial instrument may provide payoff either before maturity, or/and at maturity/disposal. Payoff provided before maturity/disposal is generally classified as interest or dividends, whereas payoff resulting from the disposal of a financial instrument is classified as capital gains or losses.

3.4.2 Capital Gains and Capital Losses

3.4.2.1 Defining Capital Gains and Capital Losses

In an economic context, a capital gain may be defined as an increase in value of an asset in which the increase is not related to improvements or real changes in

⁶⁴ Chapter 17, Section 20 ITA. See also the Swedish Government Bill (*Proposition*) 2003/04:28 (p. 29).

⁶⁵ Cf. Section 3.2.4.

the asset.⁶⁶ If the value of an asset changes independent of improvements or deteriorations in the asset, the change must be a result of unexpected events – a result of risk.⁶⁷ Consequently, in an economic context, capital gains or losses equal what in this study is referred to as windfall gains or losses.

However, in the Swedish income tax system, the economic definition of capital gains or losses is of limited practical use. Rather, capital gains or losses are used as a reference to gains or losses that is a result of the disposal of assets, not as part of a company's ordinary business.⁶⁸ Classifying income that is not generated in a company's ordinary business as a capital gain or loss appears to be common in most income tax systems.⁶⁹ Thus it is likely that it is not only in Sweden that gains or losses from the disposal of financial instruments held by non-financial companies are typically classified as capital gains or losses.

3.4.2.2 *Income Tax Treatment*

A capital gain or loss is established as the difference between the cost of obtaining an asset and the remuneration received when it is sold.⁷⁰ Capital gains are part of a company's taxable income, and are taxed, like any business income, at a flat rate of 28 percent.⁷¹ However, when it comes to capital losses, the situation is a little more complicated.

The income tax treatment of capital losses attributable to non-financial companies differs between capital losses from assets classified as debt instruments⁷² or non-financial items and capital losses from assets classified as equity instruments⁷³. Capital losses from equity instruments can be offset only against capital gains from equity instruments; whereas any other capital loss can be offset against any taxable income.⁷⁴ Capital losses from equity instruments are treated differently from other kinds of capital losses because the goal is to tax the payoff from capital investments in equity equally for individuals and non-financial companies.⁷⁵

3.4.2.3 *Equity, Debt, and Non-Financial Items*

As discussed in the preceding section, the income tax treatment of capital losses is dependent on the character of the asset from which the capital loss originates. All assets are classified as equity instruments, debt instruments, or non-financial

⁶⁶ For instance, see Melz, P. (1986, pp. 8-11).

⁶⁷ Cf. Section 2.2.2.4.

⁶⁸ Chapter 25, Sections 3-5 ITA. See also Melz, P. (1986, p. 9).

⁶⁹ See, for instance, Ault, H. J. and Arnold, B. J. (2004, p. 198), who compare income taxation in the following countries: Australia, Canada, France, Germany, Japan, the Netherlands, Sweden, the United Kingdom, and the United States of America.

⁷⁰ Chapter 25, Section 2 ITA; Chapter 44, Sections 13-14 ITA; and Chapter 48, Sections 7-18 ITA.

⁷¹ Chapter 15, Section 1 ITA; and Chapter 65, Section 14 ITA.

⁷² In Swedish, *fordringsrätt*.

⁷³ In Swedish, *delägar rätt*.

⁷⁴ Chapter 48, Sections 25-26 ITA.

⁷⁵ Cf. the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (pp. 543-546).

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items. The definition of an equity instrument generally covers all contracts giving its holder a residual interest in the asset of a company after deducting all its liabilities.⁷⁶ In addition, contracts with payoffs that are related to the payoff from an equity instrument are to be treated as equity instruments for income tax purposes.⁷⁷

A debt instrument is generally defined as a claim of a certain amount of currency. If the amount is stipulated in SEK, the claim is classified as a Swedish debt instrument; if it is stipulated in any other currency, it is considered a foreign debt instrument.⁷⁸ The contents of the expression, *debt*, are not defined; nor are they exemplified in the legislation or in its preparatory works.⁷⁹ Thus the expression is to be interpreted on the basis of its ordinary meaning.⁸⁰

The term “non-financial item” is not used in the income tax legislation. However, because any asset not within the scope of the terms “equity instrument” and “debt instrument” is, in fact, non-financial, it is reasonable to designate these assets as non-financial items. Examples of non-financial items are copper, grain, corn, or art held as capital investments outside a company’s ordinary business.

Derivatives are not covered by the scope of any of the three categories of assets previously mentioned. However, on the basis of the character of the underlying of a derivative, capital losses from a derivative shall be treated in accordance with the provisions relevant for the underlying of the derivative.⁸¹

3.4.3 Dividends

Besides capital gains or losses, an equity instrument may provide a payoff classified as dividends. A dividend is not explicitly defined in the Swedish income tax legislation, but is generally considered to be the distribution of value between a company and its owner(s).⁸² In what manner of instrument the value is distributed is eventually decided by the general meeting of the company, in accordance with the provisions in the Swedish Company Act.⁸³ As dividends are distributed on the basis of the net results of the company, they do not entail any deductions that reduce a company’s taxable income.

⁷⁶ Chapter 48, Section 2, Paragraph 1, ITA. See also the Swedish Government Bills (*Propositioner*) 1999/2000:2, Part 2 (pp. 572-573); and 1990/91:142 (p. 142).

⁷⁷ The Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (p. 430).

⁷⁸ Chapter 48, Sections 3-4 ITA.

⁷⁹ See the Swedish Government Bills (*Propositioner*) 1989/90:110, Part 1 (pp. 458-467); 1999/2000:2, Part 2 (pp. 573-574); and 1990/91:142 (p. 142); as well as the Swedish Government Official Report (*SOU*) 1986:37 (pp. 73-83), in which examples of debt instruments are mentioned.

⁸⁰ A forward is contractually similar to what is generally known as a debt instrument, in that one party of the contract is obliged to transfer a certain amount of money to the other party at a specific future date. However it has been stated in case law that forwards and swaps are not to be considered debt instruments for purposes of income taxation; see Case *RÅ 2006 referat 70*.

⁸¹ Chapter 48, Sections 2-4 ITA. The reason for this classification is discussed in Section 4.3.1, in relation to the thorough examination of the income tax treatment of derivatives.

⁸² For instance, see Tivéus U. (2006, pp. 65-70).

⁸³ Chapters 17-18 in the Swedish Company Act of 2005.

The concept of dividends is of minor importance in this study. Therefore, this concept is left without further examination, as I focus on payoff classified as interest.

3.4.4 Interest

3.4.4.1 Defining Interest

The concept of interest, as used in the Swedish income tax system, is not defined in the legislation. Thus guidance on how to establish the concept must be found in case law and preparatory works to the income tax legislation.

In the preparatory works, interest is generally regarded as payoff from debt instruments. More specifically, interest is defined as any payoff from a debt instrument that is not defined as a capital gain or a capital loss. Thus interest is negatively defined on the basis of the definition of capital gains or losses.⁸⁴ However, case law on the income taxation of interest illustrates that, in many situations, it is difficult to decide if the payoff from a financial instrument is to be classified as interest or as capital gains or losses.⁸⁵ Furthermore, case law on the income tax treatment of financial instruments indicates that interest is provided, not only by debt instruments, but also by the holding of an equity instrument.⁸⁶ Thus case law does not give an unambiguous answer to the question of how to define interest, and therefore the interest definition is uncertain.⁸⁷

When dealing with the concept of interest as used in the Swedish income tax system, references are generally made to an economic concept of interest and to a formal concept of interest. The economic concept of interest can be defined as the price paid for the use of capital.⁸⁸ A formal concept of interest focuses solely on the way income is classified. In principle, such a concept signifies that only income that is designated to be interest can be taxed as such.⁸⁹

3.4.4.2 Interest – the Economic Concept

In the previous section of this chapter, the economic concept of interest is defined as the price paid for the use of capital, a definition that is established from a debtor's perspective. This is so because all payments made by a debtor

⁸⁴ See the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (p. 459). See also the Swedish Government Official Reports (*SOU:er*) 1986:37 (pp. 63-66) and 1997:27 (pp 108-111).

⁸⁵ For instance, see Cases *RÅ 1972 referat 51*, *RÅ 82 notis Aa 152* and *RÅ 1987 referat 102*.

⁸⁶ Cases *RÅ 2001 referat 21 I* and *RÅ 2003 referat 48* are thoroughly examined in Sections 6.3.5 and 6.3.8. Prior to these cases, it seems that the only equity instruments that provided income classified as interest were traditional convertible bonds; see Section 6.2.3.

⁸⁷ See, for example, the Swedish Government Official Report (*SOU*) 1986:37 (p. 66); and Grönlund, J. (2003, pp. 622-623).

⁸⁸ See for example, Keynes, J. M. (1936, pp. 175-176); and Thorell, P. (1988, pp. 73-74).

⁸⁹ See, for instance, the Swedish Government Official Report (*SOU*) 1986:37 (p. 64); and Rutberg, A. (1993, p. 88).

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on the basis of a debt instrument are expenses paid for the right to use the principle amount of the instrument.⁹⁰ Thus from a debtor's perspective, it is possible to conclude that any payoff connected with a debt instrument is covered by the economic definition of interest. Furthermore, as the payoff paid by a debtor is always a product of the principle amount of the debt instrument, its interest rate, and its duration, the payoff is predictable.

The payoffs paid by a debtor to a creditor constitute, by definition, interest income in the hands of the creditor. From a creditor's perspective, however, interest is not the only possible payoff connected to a debt instrument. In cases in which a debt instrument is subject to trading, the creditor may utilize any changes in the value of the instrument. Such possibilities arise in relation to debt instruments with a fixed interest rate, as the value of such instrument changes in relation to changes in the market price of capital: the market interest rate. Consequently, if two identical debt instruments are purchased at different prices, they will provide different amounts of income, although the amount of interest they generate is the same. Therefore, from a creditor's perspective, it is not possible to conclude that any payoff connected with a debt instrument is covered by the economic definition of interest. Some of the payoff may be other types of income in the form of capital gains.

Furthermore, it is important to emphasize that, according to the economic definition of interest, it is only remuneration for the use of capital that is covered. The price of capital is eventually decided by the market. Thus if the amount of payoff paid by a debtor to a creditor differs substantially from the amount that would have been paid if the payoff from the debt instrument were established on the basis of the market interest rate, the payoff is not interest in an economic sense.⁹¹

To summarize, the economic concept of interest covers any remuneration from a debtor to a creditor for the use of capital. From a debtor's perspective, this means that all payoffs from a debt instrument are interest. From a creditor's perspective, however, this is not the case, because some of the payoffs attributable to a creditor may be a result of unexpected changes in the price of capital. Consequently, if the economic concept of interest were to be applied in the Swedish income taxation, the payoffs from debt instruments would cause difficulties for creditors, as they would have to separate the payoffs from every single debt instrument into interest and capital gains.⁹² Thus in the Swedish income taxation system, the content of interest is established from a formal point of view.⁹³

⁹⁰ Two exceptions are instalments and annuities, but because such cash flows are not income, they are of no importance in discussing the concept of interest.

⁹¹ See also Virin, N. (2002, p. 602).

⁹² These difficulties are illustrated in examples presented in the opinion of the dissenting judges in Case *RÅ 1997 referat 44*. See also, for instance, the Swedish Government Official Report (*SOU*) 1986:37 (pp. 209-219); Roupe, J. (1993, pp. 453-461); and Rutberg, A. (1996, pp. 159-160).

⁹³ See, for example, the Swedish Government Official Report (*SOU*) 1986:37 (p. 64); Roupe, J. (1993, p. 449); and Rutberg, A., Rutber, J. and Molander, L. (1997, pp. 142-143). See also Virin,

3.4.4.3 Interest – the Formal Concept

The formal concept of interest, as used in the Swedish income tax system, focuses on whether or not the payoff that is designated to be interest is predictable.⁹⁴ As argued in the previous section, predictable payoff connected with a debt instrument is covered by the economic interest definition if it is paid by the debtor to the creditor. However, the formal concept of interest cover any predictable payoff connected with any kind of debt instrument, whether or not the payoff is remuneration for the use of capital. Whether or not the payoff received by the creditor of a discounted bond is compensation for the use of capital, for example, it is to be considered as interest as long as it is predictable.⁹⁵ Furthermore, cash flows computed according to the principle amount of a debt instrument and its duration, as well as changes in an inflation index are considered to be interest, although such cash flows are more or less unpredictable.⁹⁶

In line with the economic concept of interest, the formal concept of interest states that only payoffs paid by a debtor to a creditor may be considered interest.⁹⁷ Thus if a debt instrument is assigned to a third party, the remuneration paid for the contract is not considered interest; rather it is considered to be capital gains or losses.

In summary, the formal concept of interest covers any predictable payoff connected with debt instruments, presupposing that the instrument is not disposed of. If it is disposed of, the entire payoff is classified as capital gains or losses. Such a concept is easy to understand and apply, and is primarily in accordance with the economic concept of interest. However, recent case law on the income tax treatment of financial instruments has challenged this concept.

3.4.4.4 Two Recent Cases

A financial instrument that is, in substance, a combination of several basic building block financial instruments, is referred to in this study as a composite contract.⁹⁸ Prior to 2001, the taxation of composite contracts was carried out on a net basis, entailing that in cases in which a debt instrument was implanted in a composite contract – in an index-linked bond, for instance – the predictable payoff connected with the debt instrument was not considered to be interest. Rather, the payoff was considered as part of the unpredictable net payoff from

N. (2002, p. 606), who appears to advocate and argue on the basis of the economic concept of interest.

⁹⁴ The concept of interest as used in the Swedish income tax system has been thoroughly analyzed in legal doctrine; see, for instance, Rutberg, A., Rutberg, J. and Molander L. (1997, pp. 136-148); and Grönlund, J. (2003, p. 603). Thus the purpose of this examination is not to present any new facts about the issue, but merely to establish the concept of interest as presently used within the Swedish income tax system.

⁹⁵ See, for example, Cases *RÅ 1988 referat 2* and *RÅ 1997 referat 44*.

⁹⁶ See Cases *RÅ 1995 referat 71*, *RÅ 1943 referat 19*, and *RÅ 1943 Fi 379*. See also Rutberg, A. (1993, pp. 90-91); and Virin, N. (1996, pp. 89-95).

⁹⁷ Case *RÅ 1997 referat 44*.

⁹⁸ Composite contracts are thoroughly examined in Chapter 6.

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the composite contract,⁹⁹ and, consequently, in principle, it was not possible to separate the payoff from composite contracts and tax some of it as interest.¹⁰⁰

However, in subsequent case law on composite contracts, the Swedish Supreme Administrative Court has decided that the net payoffs from the financial instruments are to be divided into expected and unexpected payoffs, and that the expected payoff is to be considered interest.¹⁰¹ In principle, this approach is contrary to previous case law in which composite contracts have been treated as indivisible contracts, only providing one type of income: capital gains.¹⁰² In the new cases, the interest-generating instruments are classified as equity instruments. From these cases, it follows that not only do debt instrument provide interest, but that the payoff from equity instruments other than regular convertible bonds may also be treated as interest.

In principle, the outcome of the two new cases may be understood as a desire on the part of the Supreme Administrative Court to move toward a concept of interest that is more similar to the economic concept of interest. That is, investing capital in a financial instrument entails that the issuer of the instrument has at its disposal the invested capital for the duration of the financial instrument. Therefore, part of the payoff from the investment can be considered as remuneration for the use of the invested capital – that is, interest. If this was the ambition of the Supreme Administrative Court, however, it has not succeeded. When examining the financial instruments dealt with in the cases, it is evident that the payoff that the Supreme Administrative Court has designated as interest is compensation for risk taking; it is a risk premium rather than remuneration for the use of capital.

Another way to interpret the two cases is to consider that the Supreme Administrative Court has moved away from the economic concept of interest. More specifically, the decisive criterion for the classification of income is whether or not it is possible to predict the payoff, or part of the payoff, from an instrument in relation to the principal amount of the instrument.

In my view, the latter interpretation of the two cases is reasonable, but as it is in conflict with prior case law, it constitutes a change in the previous concept of interest.¹⁰³ Consequently, interest covers any payoff that is possible for one to compute based on the principle amount of a financial instrument. However, the concept excludes payoffs that are not explicitly separated from the gross cash flow of the instrument.¹⁰⁴ Therefore, the formal concept of interest covers any payoff from a financial instrument that is designated as interest and can be computed based on the principle amount of the financial instrument.

⁹⁹ See, for example, Cases *RÅ 1994 referat 26* and *RÅ 1999 referat 69*. These cases are thoroughly discussed in Sections 6.3.2 and 6.3.4.

¹⁰⁰ This conclusion is supported by Case *RÅ 2001 notis 160*. However, see Cases *RÅ 2001 referat 21 I* and *RÅ 2003 referat 48*, discussed in Sections 6.3.5 and 6.3.8.

¹⁰¹ Cases *RÅ 2001 referat 21 I* and *RÅ 2003 referat 48*.

¹⁰² Cf. Cases *RÅ 1994 referat 26* and *RÅ 1999 referat 69*.

¹⁰³ See especially Case *RÅ 1994 referat 26*.

¹⁰⁴ Similar conclusions are presented in Virin, N. (2002, pp. 602-603); and Grönlund, J. (2003, p. 622).

3.4.4.5 Income Tax Treatment

In Section 3.3, it is illustrated that the general structure of the Swedish income tax system requires that income from capital management is recognized differently than is income generated in a company's ordinary business. This logic implies that interest from financial instruments held by non-financial companies is to be treated differently than is income generated in the company's ordinary business. However, this is not the case. Interest is treated uniformly, whether it derives from the company's capital management or ordinary business; interest is always treated as if it were generated within the ordinary business of a company. As a result, interest expenses are always fully deductible against income from capital management, as well as against income from ordinary business.¹⁰⁵

The exceptional treatment of interest that is income from capital management generally gives rise to a major inconsistency in income taxation. This inconsistency is a result of the connection between Swedish income taxation and financial accounting.¹⁰⁶ The accrual recognition of income this connection involves entails that all interest attributable to a company is subject to leveled allocation, over the duration of the interest generating instrument.¹⁰⁷ Consequently, interest is recognized as an income or an expense, whether or not the interest is paid. For this reason, the recognition of interest is more similar to a fair-value approach than to the realization approach, which is the general approach for recognizing income from a company's capital management.

3.4.5 Income from Non-Financial Items

In situations in which a financial instrument, such as a derivative, has a non-financial item as its underlying – for instance, gold – the derivative is treated as if it were a non-financial item.¹⁰⁸ Thus the income tax treatment of non-financial items is also relevant in relation to financial instruments.

Income from non-financial items is usually treated in the same way as income from debt instruments is treated.¹⁰⁹ That is, income is treated the same way as business income, and it is possible to offset expenses or losses against any income attributable to the company.¹¹⁰

3.4.6 Expected Income or Expenses and Windfall Gains or Losses

In Section 2.2.2.4, Chapter 2, it is argued that, from an economic point of view, the payoff from financial instruments can be divided into expected income or

¹⁰⁵ Chapter 16, Section 1 ITA.

¹⁰⁶ See Section 3.3.5.2 in this chapter.

¹⁰⁷ See, for example, Paragraphs 29-34 *RR 11*; and *BFN U 92:3*.

¹⁰⁸ See Section 2.6.3.2.

¹⁰⁹ See Section 3.4.2.2.

¹¹⁰ Chapter 42, Section 1 ITA. However, see Chapter 52 ITA, on some tax relief in relation to the disposal of certain non-financial items.

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expenses on the one hand and windfall gains or losses on the other. An expected income or expense is the total payoff of a financial instrument, the value of which has not been subject to any unexpected changes over the duration of the instrument. Thus risk-free instruments provide expected income or expenses. However, if the value of a financial instrument unexpectedly changes, the difference between its expected income/expense and its total payoff is a windfall gain or loss. More specifically, windfall gains or losses are payoffs due to the risk to which an instrument is exposed.

The classification of payoffs into expected income or expenses and windfall gains or losses differs from the legal classification of payoff as presented in this chapter. However, similarities can be identified. In Section 3.4.4.4 in this chapter, the formal (legal) concept of interest is established as the payoff from a financial instrument that is designated to be interest, a payoff that can be computed based on the principle amount of the instrument. Thus the legal concept of interest is similar to what is referred to as expected income or expenses. However, as the legal concept of interest requires payoff to be designated as interest in order to be classified as such, expected income or expenses that are not specifically referred to as interest most likely fall outside the scope of the legal concept of interest. In such cases, expected income or expenses are classified as capital gains or losses. When it comes to windfall gains or losses, it is unlikely that such payoff can be classified as interest, and the payoff is generally classified as capital gains or losses, therefore.

In summary, in many situations the payoff that is designated to be interest is identical to what is referred to as expected income or expenses: the payoffs from most credit-extension instruments, for example.¹¹¹ In other situations, expected income or expenses are legally classified as capital gains or losses. As the payoff from capital assets is classified as capital gains or losses in its entirety, for instance, any expected gain or loss from such an asset is covered by that legal classification. Finally, windfall gains or losses are generally referred to as capital gains or losses in the Swedish income tax system.

3.4.7 Inconsistencies

3.4.7.1 Tax Arbitrage Opportunities

In Section 3.2, I made the point that tax arbitrage opportunities may arise in cases in which two economically equal financial positions are treated differently for income tax purposes. Furthermore, the different treatment is a result of inconsistencies in the income tax system; that is, the payoffs from economically equal investments are treated inconsistently when they are taxed.

The examination of the taxation of income from a company's capital management illustrates two major inconsistencies in the regulations dealing with such income. First, a distinction is made between capital losses from debt

¹¹¹ About credit-extension instruments, see Section 2.6.2.3.

instruments and non-financial items on the one hand, and capital losses from equity instruments on the other. Second, a distinction is made between income classified as interest and capital gains or losses. Whether or not these inconsistencies provide tax arbitrage opportunities is examined below.

3.4.7.2 Debt and Non-financial Items vs. Equity

The different tax treatment of capital losses from debt instruments and non-financial items on the one hand, and capital losses from equity instruments on the other, entails that it is always as favorable or more favorable to realize a loss from a debt instrument or a non-financial instrument than from a loss from an equity instrument. This is so because losses from the former type of instruments can always be fully set off; whereas losses from equity instrument can only be set off against gains from equity instruments.

In principle, it is not possible to replicate the economic substance of an asset classified as an equity instrument with an asset classified as a debt instrument or a non-financial item.¹¹² Therefore, the inconsistent treatment of capital losses does not constitute tax arbitrage opportunities as such. However, the inconsistent treatment presents possibilities of utilizing tax benefits in connection with transactions carried out for the purpose of generating a capital loss. An example of such a transaction is a *straddle transaction*, which is dealt with in Section 7.3.3, Chapter 7. It illustrates that a rational tax subject, given the opportunity to classify a capital loss, will choose to classify it as being derived from either a debt instrument or a non-financial item.

3.4.7.3 Interest vs. Capital Gains or Losses

The classification of income from capital management as interest or as capital gains or losses is vital because interest is recognized on the basis of a fair-value approach, whereas capital gains or losses are recognized on the basis of a realization approach. Therefore, in situations in which a tax subject may choose between classifying income as interest or as capital gains or losses, tax arbitrage opportunities arise.¹¹³

Tax arbitrage opportunities arising from expected income are classified in some situations as interest and in other situations as capital gains or losses. Thus the typical tax arbitrage opportunity arises when two economically equal positions provide expected income, but when the payoff from one position is classified as interest and the payoff from the other position is simultaneously classified as capital gains or losses.

In the examination of the income tax treatment of derivatives and more complex financial instruments in Chapters 4, 5, 6, and 7, it is illustrated that a rational tax subject will always choose to have income classified as capital gains rather than interest, and will choose losses/expenses to be classified as interest

¹¹² See Chapter 48, Section 3, paragraph 2 ITA; and Chapter 52, Section 1 ITA.

¹¹³ See Section 3.2.5.

rather than capital losses. This occurs because, in that way, it is possible for the tax subject to utilize a tax credit.¹¹⁴

3.5 Conclusions

A tax arbitrage opportunity is an opportunity for a tax subject to utilize a tax benefit without acting contrary to the income tax legislation. Such opportunities occur if the payoff from two economically equal positions is treated differently in the income tax system. In such a case, the tax subject has the opportunity to invest in the position that is treated most favorably, and, in that way, the tax subject utilizes the tax benefit.

Regarding financial instruments held by non-financial companies, the Swedish income tax system provides tax arbitrage opportunities by recognizing income in accordance with two different approaches: the realization approach and the fair-value approach. The realization approach generally defers the recognition of income/gains and expenses/losses in comparison with the fair-value approach. Thus if a rational tax subject has the possibility of choosing whether income/gains are to be recognized in accordance with the realization approach or the fair-value approach, the subject would choose the former. Similarly, in regard to expenses/losses, a rational tax subject would choose recognition in accordance with the fair-value approach. As the tax arbitrage opportunities concern the timing of the income recognition, the arbitrages are generally referred to as timing arbitrages.

In the Swedish income tax system, payoffs from financial instruments held by non-financial companies are, as a general rule, classified as interest or as capital gains or losses. The classification is conducted on the basis of the legal form of the payoff rather than on its economic substance. Accordingly, the income tax system is structured in a way that makes it possible for the payoffs from two economically equal positions to be classified as interest and capital gains/losses, respectively. Furthermore, a payoff classified as interest is recognized on the basis of a fair-value approach, whereas a payoff classified as capital gains or losses is classified on the basis of a realization approach. Consequently, tax arbitrage opportunities occur in situations in which payoff classified as interest has the same economic substance as payoff classified as capital gains or losses. In general, the economic substance of such payoff is referred to as expected income.

Besides the inconsistency in the recognition of payoff classified as interest or as capital gains or losses, the Swedish income tax system is inconsistent in the way capital losses from financial instruments are treated. Whereas capital losses from assets classified as debt instruments or as non-financial items can be fully set off against any taxable income, capital losses from assets classified as equity instruments can be set off only against gains from such instruments. In a situation in which a tax subject wants to recognize a capital loss, the difference

¹¹⁴ See Section 3.2.5.2.

in tax treatment entail that a rational tax subject will choose to recognize a capital loss classified as if derived from a debt instrument or a non-financial instrument, rather than classifying it as if it were derived from the disposal of an equity instrument.

4 Derivatives

4.1 Taxation on the Basis of Legal Form

Basic derivative contracts can generally be divided into five groups: forwards, futures, swaps, call options, and put options.¹ These derivatives are traded on a stand-alone basis or are used as components in various financial structures, such as composite contracts or synthetics.²

In the Swedish income tax system, the income tax treatment of financial instruments is based on the legal form of the instrument. Derivatives that are used as components in structured financial instruments are usually not treated as stand-alone contracts, but as integrated parts of the financial instruments. Thus such implanted derivatives are, for income tax purposes, different types of contracts than stand-alone derivatives. The income tax treatment of the payoff from implanted derivatives is eventually decided upon the basis of the legal form of the financial instrument in which the derivative is a part. Therefore, when examining the income tax treatment of derivatives, it is necessary to differentiate between stand-alone derivatives and derivatives being implanted in, for example, composite contracts or synthetics. This chapter deals exclusively with the income tax treatment of stand-alone derivatives, whereas the income tax treatment of derivatives implanted in composite contracts, as well as synthetics, are examined in Chapters 5, 6, and 7. Consequently, the term “derivative”, as used in this chapter, is a reference to stand-alone derivatives.³

Section 4.2, following this introduction, describes how derivatives are defined according to the Swedish income tax system. As derivatives are taxed on the basis of their legal form, defining these contracts is crucial for income tax purposes. Section 4.3 deals with the income taxation of the payoff from contracts defined as derivatives. The examination is exhaustive, establishing the income tax consequences that any position in a derivative entails. Section 4.4 focuses on the way in which derivatives challenge the Swedish income tax system by providing tax arbitrage situations. The basic principles making it possible to use derivatives in tax-motivated structures are illustrated. Conclusions are presented at the end of the chapter, in Section 4.5.

¹ See Chapter 2.

² See Chapters 6 and 7.

³ See Section 1.4.2.

4.2 Defining Derivatives

4.2.1 Derivatives – Financial Instruments or Wagering Contracts?

In Section 2.3.1, Chapter 2, a derivative is defined as a financial instrument, the value of which is derived from the value of an underlying variable, such as an asset or an index. Furthermore, derivatives generate no value, entailing that the net payoff of the two positions in a derivative contract is always zero.⁴ It appears in the literature that these characteristics have sometimes prompted writers to refer to derivatives as wagering contracts.⁵ Such a reference is unfortunate because, according to fundamental principles in Swedish contract law, wagering contracts are considered unethical, and therefore lacking any legal effect.⁶ More specifically, it is not possible to take legal measures against a party that defaults the obligations of a wagering contract. Consequently, referring to derivatives as wagering contracts entails an indirect reference to the (Swedish) derivative market as anarchical.

However, as noted in Section 2.3.2, Chapter 2, the trade with derivative financial instruments is conducted in accordance with relatively extensive regulations. The trade with exchange-traded derivatives is conducted in accordance with the regulations of derivative exchanges; and, in the case of tailor-made derivatives, the trade is conducted on the basis of regulatory documentations established by professional market associations. Consequently, derivative trade is, as a general rule, connected with contractual regulations that make it possible for the parties of a derivative to take legal measures against its counterparty in case of default.⁷ Thus unless derivatives are considered to be unethical contracts in general, it appears from a legal standpoint that derivatives are not to be considered wagering contracts.⁸

The term “derivative” is not used in the Swedish income tax system, but contracts referred to as derivatives in Chapter 2 are, in the Swedish income tax legislation, designated to be forwards (*terminer*), options (*optioner*), or “similar contracts”.⁹ The next section presents a thorough examination of the meaning of each of these terms.

⁴ See Section 7.4.2.2.

⁵ See especially Virin, N. (2000, p. 323), (2002, pp. 200-201) and (2002, pp. 605-606). See also, for example, the opinion of the Swedish Tax Agency (*Skatteverket*) in Case *RÅ 2001 notis 160*, or the dissident opinion in the ruling from the Board for Advanced Tax Ruling in Case *RÅ 1990 referat 32*.

⁶ Salcic, Z. (2006, p. 116)..

⁷ See, for instance, Berggren, H. (1996-97, pp. 565-576); and Usher, G. (2006, pp. 25-39).

⁸ The contractual differences between derivative financial instruments and wagering contracts are thoroughly examined in Salcic, A. (2006, pp. 115-122).

⁹ The Swedish word, “*termin*”, as used in the Income Tax Act, ITA, has no equivalent in the English language. Thus when referring to derivatives designated to be a *termin* in the Swedish Income Tax Act, references are made to: “forwards (*terminer*)”.

4.2.2 Forwards

The contents of the expression, “forward” (*termin*), has not been decided upon in precedent-setting court decisions.¹⁰ Consequently, when establishing the meaning of this term, much attention must be given to the preparatory works of the legislation.¹¹

The general meaning of forward (*termin*) is a reference to forwards as well as future derivative contracts, as they are defined in Chapter 2 of this study.¹² Therefore, the relatively wide scope of the income tax definition of the term is not surprising:

...a contract, suited for public trading, concerning

- *the purchase of shares, bonds, or other assets at a certain future date at a fixed price or*
- *a future settlement, the amount of which is decided upon the basis of the value of the underlying asset, an exchange index, or similar.”¹³*

To be classified as a forward (*termin*) contract, the definition generally requires that the contract have an underlying, and that it is settled at a future date. Furthermore, it requires the contract to be an obligation for both contracting parties.¹⁴ The contract should also be “suited to public trading”.¹⁵

The phrase “suited to public trading” replaced the term “financial instrument”, which was a part of the forward (*termin*) definition until it was discarded from Swedish income tax legislation in 1999.¹⁶ However, the replacement was not intended to change the contents of the definition. Accordingly, the phrase “suited to public trading” generally fulfils the same

¹⁰ Case law dealing with forward (*termin*) contracts is poor. To my knowledge, only three cases deal explicitly with the income tax treatment of forward (*termin*) contracts: Cases *RÅ 1990 referat 32*, *RÅ 1991 referat 106* and *RÅ 1997 referat 5 I*. However, none of these cases deal with the forward (*termin*) definition. Concerning the definition of forward (*termin*) contracts, Cases *RÅ 2000 notis 8* and *RÅ 2001 notis 160* are of interest, although they do not explicitly deal with the income tax treatment of forward (*termin*) contracts.

¹¹ The income tax literature on the issue is meager. However, see Tivéus, U. (2006, pp. 142-144); and Rutberg, A., Rutberg, J. and Molander, L. (1997, pp. 179-184).

¹² See, for example, the Swedish Government Bills (*Propositioner*) 1991/92:113 (p. 173) and 1990/91:142 (p. 144). See also the Swedish Government Official Report (*SOU*) 1988:13 (p. 78); Tivéus, U. (2006, p. 143); and Rutberg, A., Rutberg, J. and Molander, L. (1997, p. 179).

¹³ My translation of: *...ett avtal, lämpat för allmän omsättning, om*

- *förvärv av aktier, obligationer eller andra tillgångar vid en viss framtida tidpunkt och till ett bestämt pris, eller*
- *en framtida betalning vars storlek beror på värdet av underliggande tillgångar eller av kursindex eller liknande.*

¹⁴ The Swedish Government Bill (*Proposition*) 1989/90:110, Part 1, (p. 447) and Case *RÅ 2000 notis 8*.

¹⁵ My translation of: *lämpat för allmän omsättning*.

¹⁶ On the contents of the term “financial instrument”, see, for example, Cases *RÅ 2002 referat 105*, *RÅ 2002 referat 106* and *RÅ 2004 referat 142*. See also Persson-Österman, R. (2006, pp. 217-219); and Section 2.3.1.2.

purpose as the term “financial instrument” did.¹⁷ That is, it excludes regular purchase or sales contracts from the scope of the definition.¹⁸

4.2.3 Options

Not until the income tax reform of 1990 was the term “option” defined for the first time in Swedish income tax legislation. From the preparatory works, it follows that the contents of that definition correspond with the way in which the term “option” is defined in Section 2.5.1, Chapter 2 of this study: it principally covers all basic price-insurance derivatives.¹⁹

The present option definition refers to an option as²⁰:

...a right for the holder to

- *purchase or sell shares, bonds or other assets at a fixed price or*
- *receive payments of the amount based on the value of underlying assets, exchange index, or similar.*²¹

The present definition, like the option definition of 1990, covers all types of options, whether they are standardized or traded on the OTC market.²²

A principle difference between an option and a forward is that the former gives its holder a right to exercise, whereas the latter obliges its holder to execute the contract.²³ However, in some situations, the right connected with an option contract is restricted by additional requirements, such as limitations in terms of exercise or alienation before a certain date. Such options are generally referred to as employee stock options in the Swedish income tax system²⁴.²⁵ Consequently, the principal difference between employee stock options and options within the scope of the income tax definition of “option” is the fact that options involve an absolute right, whereas the right in an employee stock option is restricted in one way or the other.²⁶

¹⁷ The Swedish Government Bill (*Proposition*) 1999/2000:2, Part 1 (pp. 508-511).

¹⁸ See the Swedish Government Bills (*Propositioner*) 1990/91:54 (p. 312); 1999/2000:2, Part 1 (p. 510); and 1999/2000:2, Part 2 (pp. 519 and 528). See also Section 2.3.1.

¹⁹ The Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (pp. 439-440 and 713).

²⁰ Chapter 44, Section 12 ITA.

²¹ My translation of: *...en rätt för innehavaren att*

- *förvärva eller avyttra aktier, obligationer eller andra tillgångar till ett bestämt pris, eller*
- *få betalning vars storlek beror på värdet av underliggande tillgångar, eller av kursindex eller liknande.*

²² The Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 529).

²³ See Sections 2.4.1.1 and 2.5.1.1.

²⁴ In Swedish, *personaloptioner*.

²⁵ The income tax treatment of employee stock options is beyond the scope of this study.

²⁶ See Cases *RÅ 1994 notis 41*, *RÅ 1994 notis 733*, *RÅ 1997 referat 71*, *RÅ 2000 notis 47*, *RÅ 2003 notis 41* and *RÅ 2004 referat 35*. See also Case *RÅ 82 referat 1:21*. Readers interested in this area may find the following cases interesting: Case *RÅ 1986 referat 36* (on the income tax treatment of employee stock options past legislation); Case *RÅ 1998 notis 114* (on the income tax treatment of

4. Derivatives

The right of an option may be challenged not only by contractual obligations, but also by the character of its underlying. An example is real estate as the underlying asset. According to the Swedish Code of Land Law²⁷, call options on real estate are not legally binding.²⁸ It has been established in case law that options with real estate as underlying constitute a different type of contract than do options on chattel such as shares.²⁹ Thus options having real estate as the underlying are not within the scope of the option definition, as they do not actually involve a right for the holder of the option.³⁰

To summarize, the income tax definition of “option” generally covers all basic price-insurance derivatives. However, a contract can never be classified as an option unless it involves an absolute right for its holder to exercise and/or sell it.

4.2.4 Similar Contracts

The joint scope of the forward (*termin*) and option definitions does not cover all possible variations of derivatives. For example, it appears like most tailor-made price-fixing derivatives are outside the forward (*termin*) definition.³¹ Therefore, a large number of derivatives are most likely to be outside the scope of the definitions and, in principle, treated differently for income tax purposes.

However, when the forward (*termin*) and option definitions were introduced in 1990, regulations applicable to contracts defined as forwards (*terminer*) and options were, as a general rule, also applicable to “...other similar liabilities”³².

employee stock options not being exercised); Cases *RA 2000 notis 47* and *RA 2002 notis 20* (on whether or not options used in an incentive scheme within a company group is considered within a business activity); Case *RA 2003 notis 108* (on how to consider changes in the conditions of an employee stock options scheme); Cases *RA 2004 referat 50*, *RA 2004 notis 134*, *RA 2004 notis 135* (on international issues connected with employee stock option schemes); Case *RA 2005 notis 129* (on how to establish the “purchase price” of shares underlying employee stock options); Case *RA 2006 referat 60* (on how to treat employee stock options that are changed for an occupation pension insurance); and Cases *RegR 4220-2002* and *RegR 4221-2002* (on several issues connected to employee stock option schemes). Examples of legal literature in which the Swedish income taxation of employee stock options schemes and personal incentive schemes are discussed are found in: Virin, N. (1995); Lombach, J. and Cederlund, J. (1995); Rutberg, J. (1995); Rutberg, A. and Rutberg, J. (1998); Rutberg, A. and Rutberg, J. (1999); Tivéus, U. (1999); Liljeborg, P. (2000); Rutberg, J. and Mäenpää, A. (2001); Lousseief, N. (2001); Edvardsson, L. (2002); Holmgren, M. (2002); Rutberg, A. and Edhall, K. (2003); Robertsson, H. and Törner Richardsson, A. (2004); Melbi, I. (2004); Carlsson, S. (2005); Roupe, J. (2005); Lindberg, L. and Horvath, A. (2006 and 2007).

²⁷ In Swedish, *Jordabalk 1970:994*.

²⁸ Chapter 4, Section 1 Swedish Code of Land Law.

²⁹ Case *RA 1990 referat 80*. See also Case *RA 1991 notis 474*.

³⁰ However, in situations in which real estate is the underlying of an “option”, the right to exercise it has, in some cases, been connected with a right to claim large damages if the issuer of the “option” refuses to fulfil his or her part of the contract (see e.g. Cases *RA RRR R74 1:46* and *RA 1989 referat 62*).

³¹ See Section 4.2.2.

³² My translation of: “...andra därmed jämförliga förpliktelser”. See, for example, Section 3, Paragraph 1 of the obsolete *Lag (1947 :576) om statlig inkomstskatt*.

The expression “other similar liabilities” is not defined; nor is it discussed in the preparatory works of the legislation. However, looking at the general reasoning in the preparatory works, the aim of the income tax legislation is uniform income taxation – that economically comparable transactions are to be treated equally, regardless of formal differences.³³ Thus the awareness of the rapidly growing capital market, involving the development of new derivative financial instruments, put pressure on the legislator to create legislation that could meet the future kinds of derivatives and other financial instruments, and tax the income from these instruments in a uniform way.³⁴ Considering this, one may conclude that the legislator used the wording “...options and forwards (*termin*) and other similar liabilities...” to increase the judicial discretion, and to leave the classification of different financial securities to the courts.³⁵

In the current income tax legislation, the expression “options and forwards (*termin*) and other similar liabilities” has been replaced with “...forwards (*termin*), call or put options and similar contracts...”³⁶ The first draft of the legislation did not involve “...and similar contracts...”, but referred only to forwards (*termin*) and call or put options.³⁷ In the remittance procedure, it was argued that such formulation would make it unclear if derivatives not within the definition of forward (*termin*) or option would be covered by the scope of the provision. Consequently, the wording “and similar contracts” was added in the legislation.³⁸

The amendment entails that the judicial discretion within the definitions be preserved. Consequently, derivatives explicitly covered by the forward (*termin*) and option definitions, are, in principle, merely a few examples of all the derivatives covered by provisions dealing with “similar contracts”.³⁹ On the basis of the preparatory works to the legislation, for instance, it can be argued that swaps are a type of derivative considered as a similar contract.⁴⁰

4.2.5 Option-Like Contracts

To manage the equity of companies, several option-like contracts have been developed. An example of such a contract is the conversion right⁴¹, which is a

³³ See, for example, the Swedish Government Bill (*Proposition*) 1989/90/110, Part 1 (pp. 296 and 388); and the Swedish Government Official Report (*SOU*) 1989:33, Part 2 (p. 24).

³⁴ See the Swedish Government Bill (*Proposition*) 1989/90/110, Part 1 (pp. 424-425).

³⁵ Because the payoff from any assets held by companies is subject to taxation (Chapter 13, Section 2 ITA), the judicial discretion does not challenge the principle of *nullum tributum sine lege*. The extensive room for interpretation solely concerns the classification of these assets.

³⁶ My translation of: “*terminer, köp- eller säljoptioner och liknande avtal*”. See Chapter 25, Section 4 ITA.

³⁷ See the Swedish Government Official Report (*SOU*) 1997:2, Part 1 (p. 128).

³⁸ The Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 327).

³⁹ See, for example, Chapter 25, Section 4 ITA; Chapter 44, Section. 4 ITA; and Chapter 48, Sections 3-4 ITA.

⁴⁰ The Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 327). See also Case *RÅ 2007 referat 3*.

⁴¹ In Swedish, *omvandlingsrätt*.

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right to convert one class of shares to another class: B-shares to A-shares, for example. According to case law, a conversion right is considered to be an option under the Swedish income tax system.⁴² However, there are other types of option-like contracts used for equity managements that, for one reason or another, are treated separately from options according to the income tax system. Examples of such contracts are redemption rights⁴³ and selling rights⁴⁴. These various rights fulfill all the requirements to allow them to be classified as options according to the general option definition, but are treated as independent contracts.⁴⁵

Another example of a basic option, treated separately in the income tax system, is bonus share rights⁴⁶. Whether or not bonus shares rights fulfill all option characteristics has never been decided in case law, but according to the preparatory works, it is likely that they do.⁴⁷

One of the most common option-like contracts developed to manage the equity of a company is the uncovered warrant⁴⁸. The principal difference between a call option on shares and an uncovered warrant is the call option's existing shares as the underlying; an uncovered warrant, on the other hand, has shares to be issued as the underlying.⁴⁹ However, just as in the cases with the other types of option-like contracts, uncovered warrants fulfill all the requirements to allow them to be classified as option.⁵⁰

In several situations, the income tax treatment of options and some of the previously mentioned option-like contracts differ. Thus, hypothetically, the option-like contracts may be subject to two different tax treatments simultaneously. Naturally, this is possible only in theory. However, the hypothetical reasoning triggers the question of whether or not the option-like contracts are covered by the general option definition in a situation in which they are not treated separately, or if they are never to be treated as an option.

In a case on the income tax treatment of uncovered warrants, Justice Hulgaard elaborated on this issue.⁵¹ Hulgaard argued that because uncovered warrants are mentioned separately from options in several provisions of the Swedish income tax act, it cannot have been the intention of the legislator to include uncovered warrants in the option definition. Therefore, the option

⁴² Case *RÅ 2004 notis 139*.

⁴³ In Swedish, *inlösenrätter*.

⁴⁴ In Swedish, *säljrätter*.

⁴⁵ Redemption right – Cases *RÅ 1997 referat 43 II* (and *RÅ 2000 notis 209*), Selling rights – Case *RÅ 2000 notis 209*.

⁴⁶ In Swedish, *fondaktierätt*.

⁴⁷ The Swedish Government Bill (*Proposition*) 2005/06:39 (p. 56) and the Swedish Government Bill (*Proposition*) 2004/05:85 (p. 72).

⁴⁸ In Swedish, *teckningsrätt*.

⁴⁹ A covered warrant is a call option on shares owned by the issuer of the warrant. Furthermore, just like uncovered warrants, covered warrants have a relatively long duration. Thus as the general option definition does not require any time limit to be fulfilled, covered warrants are likely within its scope.

⁵⁰ Case *RÅ 2002 referat 92*.

⁵¹ Case *RÅ 2002 referat 92*

definition excludes uncovered warrants; instead they are to be treated as contracts similar to options. Applying Hulgaard's reasoning on all option-like contracts subject to separate treatment within the income tax legislation entails that all such contracts be classified as contracts similar to options – similar contracts – unless explicitly referred to in the legislation. I find this reasoning to be persuasive, and it constitutes the basis for the treatment of option-like contracts in this study.

4.3 Taxing Income from Derivatives

4.3.1 Similarities in the Income Tax Treatment of Capital Assets and Derivatives

In principle, gains and losses from the alienation of derivatives held by non-financial companies are treated as gains and losses from the alienation of capital assets – as capital gains and capital losses.⁵² As capital assets, by definition, are outside the business of a non-financial company, their values do change, not because of value-generating activities, but as a result of unexpected changes in their market value. Being a share, a capital asset typically generates a capital gain if its market value rises unexpectedly, for example. As the value of capital assets and derivatives changes on the basis of the same cause – unexpected events – a long position in a capital asset is easy to replicate by taking a long position in a derivative with the capital asset as the underlying variable.⁵³ Thus an identical capital gain, as generated by the share, is possible to achieve by taking a long position in a forward on the share. In order not to facilitate tax arbitrage opportunities, it is therefore necessary to tax income from derivatives in the same way income from the underlying of the derivative is taxed.⁵⁴ This is, in principle, how the Swedish income tax system works.⁵⁵

Derivatives having an equity instrument or a share index as its underlying is, for income tax purposes, treated the same way as a stand-alone equity instrument would be treated.⁵⁶ Furthermore, derivatives with a non-financial underlying asset are treated like any capital asset that is not a financial instrument.⁵⁷ Following the same pattern, gains and losses from derivatives with a debt instrument or an interest rate index as its underlying variable is treated in the same way as capital gains and capital losses from a debt instrument.⁵⁸ Similarly, derivatives having foreign debt instruments or a foreign exchange

⁵² Chapter 25, Sections 3-4 ITA. See also Section 3.4.

⁵³ See Section 2.6.3.

⁵⁴ However, see Virin, N. (2002, p. 201), who appears to be of a different opinion.

⁵⁵ See the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (pp. 430-431 and 459-460).

⁵⁶ Chapter 48, Section 2, Paragraph 2 ITA. Case *RÅ 2004 notis 97* states that electricity derivatives are not to be treated as equity instruments.

⁵⁷ Cf. Section 3.4.2.3.

⁵⁸ Chapter 48, Section 3 ITA.

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index, as its underlying variable are treated like stand-alone foreign debt instruments.⁵⁹

4.3.2 Capital Gains and Capital Losses

Capital gains and capital losses are usually computed as the difference between the remuneration of the sold or issued instrument and the cost of obtaining it.⁶⁰ Recognition of capital gains and capital losses follows the principle of realization.⁶¹

When deciding whether a derivative is realized or not, the derivative may be looked upon as an independent instrument or as part of a larger transaction also involving the underlying.⁶² If the derivative is considered as an independent instrument, any gains or loss it generates are taxed independently from its underlying. However, in cases in which a derivative is settled by delivery, it may be considered as part of a larger transaction. As such, a derivative is not subject to income taxation, but the value of the derivative is subsumed into the underlying, delivered asset, and taxed when that asset is sold. In the Swedish income tax system, derivatives settled by terms of delivery are not considered to be realized, but as a part in a transaction to purchase or sell the underlying asset. If a derivative is sold, or settled in any way other than through delivery, it is considered to be an independent instrument realized on the day of settlement.

The income tax provisions on capital gains and losses from derivatives focus primarily on derivatives defined as forwards (*terminer*) or options. Some of these provisions are also applicable to contracts similar to forwards (*terminer*) and options. However, in other cases, the provisions dealing with forwards (*terminer*) and options are not applicable to similar contracts. In such cases the general rules on capital gains and losses apply; or in some cases, the legislation does not deal with similar contract at all. In the following section, these various income tax treatments are examined more extensively.

4.3.3 Forwards⁶³

4.3.3.1 Disposing of Forwards

A forward (*termin*) that is not subject to clearing can, in principle, be purchased or disposed of any time before it expires. The income tax treatment of gains and losses from the trading of such forwards (*terminer*) likely follows the general

⁵⁹ Chapter 48, Section 4 ITA.

⁶⁰ Chapter 44, Sections 2, 13-14 ITA.

⁶¹ Chapter 44, Section 26 ITA.

⁶² See, for example, Plambeck, C., Rosenbloom, D. and Ring, D. (1995, pp. 667-668).

⁶³ In this section, references to forwards (*terminer*) also cover contracts similar to forwards (*terminer*) unless otherwise explicitly stated.

rules on capital gains and capital losses.⁶⁴ However, forwards (*terminer*) subject to clearing cannot be transferred to another party before they mature.⁶⁵ Thus if a company enters into a standardized forward contract, for example, it remains a party to that contract until the contract ceases to exist. If a party to such contract wants to secure a gain or a loss of the contract, however, it may enter into a reverse position of the contract; it closes out the position before maturity.⁶⁶ At maturity, the contract is settled either by delivery of the underlying asset or by cash settlement.⁶⁷

Whether forwards (*terminer*) subject to clearing are settled by means of a closing out position, by cash settlement, or by delivery, the derivatives are always held until the day they expire; they are never sold. Therefore, the provisions on capital gains and capital losses cannot be applied without additional rules stating when the derivatives should be considered to be sold. These rules were established, to a great extent, in a 1990 court decision on standardized equity index forwards, but are currently stated in the Swedish Income Tax Act, ITA.⁶⁸

4.3.3.2 Closing out Transactions

A closing out transaction entails the holder of, for example, a standardized forward, securing a gain or a loss by taking an opposite position in an identical derivative. However, the closing out transaction does not make the derivative expire, but it will be in the possession of the holder until the maturity of the contract. Consequently, the holder of the derivative is obliged to exercise it at maturity. Therefore the disposal of forwards (*terminer*) subject to clearing is possible only in connection with cash settlement, or delivery, at maturity of the contracts.

4.3.3.3 Disposal by Cash Settlement or Delivery

The Swedish ITA explicitly states that any forward (*termin*) that is settled net in cash is to be considered disposed of by both contracting parties.⁶⁹ Consequently, forwards (*terminer*) with indexes as the underlying variable (e.g. foreign exchange derivatives) are always considered to be disposed of at the maturity of the contract.

Concerning the income tax treatment of price-fixing derivatives settled by terms of delivery, a difference is made between forwards (*terminer*) and contracts similar to forwards (*terminer*). If a forward (*termin*) is settled by terms

⁶⁴ Chapter 44, Section 3 ITA. See also the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (p. 447).

⁶⁵ See Section 2.4.1.3.

⁶⁶ See, for example, Hull, J. (2006, p. 23).

⁶⁷ See, for example, Hull, J. (2006, pp. 35-36).

⁶⁸ Case *RÅ 1990 referat 32*. See also Rydin, U. (1990).

⁶⁹ Chapter 44, Section 4, Paragraphs 5-6 ITA. See also the Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 523).

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of delivery, it is not to be considered as sold.⁷⁰ A short position in a forward (*termin*) contract settled by terms of delivery is not subject to any income tax action, but when the underlying is delivered, it is the delivery price of the forward that constitutes the remuneration for disposing of the underlying asset.⁷¹ A long position in a forward (*termin*) settled by terms of delivery, entails that the delivery price of the forward is transferred to the underlying and constitutes its cost of obtaining when it is being disposed of at a future date.⁷² Consequently, the forward (*termin*) does not actually cause any income tax consequences.

How to deal with contracts similar to forwards (*terminer*) settled by terms of delivery is not stated in the legislation. Thus in principle, such derivatives are not subject to taxation. However, when the underlying asset of the derivative is delivered, the value of the derivative is, in principle, transferred to the parties by means of the delivered asset. In cases in which the derivative has a value at inception, it is likely that any payments related to entering into the contract are subsumed into the exercise price or the cost of obtaining the delivered asset.⁷³ Consequently, the effects of the transaction are, in practice, similar to the effects resulting from the legislation dealing with forwards (*terminer*).

The reason for making a distinction between forwards (*terminer*) and contracts similar to forwards (*terminer*) is not perfectly clear. As it seems to have no practical effects; however, I leave this issue without further comment.

4.3.3.4 The Cost of Obtaining

Establishing the cost of obtaining a forward (*termin*) is relatively uncomplicated. The character of the contract implies that its value is always zero at inception⁷⁴; thus in principle, there are no costs when obtaining a forward (*termin*) contract. However, contracts similar to forwards (*terminer*), such as tailor-made forwards, can be constructed in a way that gives them a value at inception.⁷⁵ It is likely that the drafting of such a contract is connected with additional expenses. Similarly, additional expenses may occur when entering into exchange-traded derivatives. In any case, expenses related to entering into a price-fixing derivative are likely considered to be the cost of obtaining the derivative.⁷⁶

If forwards (*terminer*) are to be treated as equity instruments or debt instruments, the averaging method⁷⁷ is applicable when computing the cost of obtaining the derivative contracts.⁷⁸ This method requires that the average

⁷⁰ Chapter 44, Section 10 ITA.

⁷¹ Cf. Chapter 44, Sections 2, 13-14 ITA.

⁷² Chapter 44, Section 20 ITA.

⁷³ See Section 4.3.3.4.

⁷⁴ See Section 2.4.1.3.

⁷⁵ See, for example, Section 2.6.3.4.

⁷⁶ Chapter 44, Section 14 ITA. See also the Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (pp. 530-531).

⁷⁷ In Swedish, *genomsnittsmetoden*.

⁷⁸ Chapter 48, Section 7 ITA.

purchase price of the derivatives be considered the price of the contracts if the same type of derivative is purchased at different prices.

4.3.3.5 Recognition of Gains and Losses

The taxation of capital gains and losses generally follows the principle of realization, entailing that capital gains are to be taxed in the period during which they occur and that capital losses are deductible when they are definite.⁷⁹ The principle of realization is mirrored in the income tax treatment of forwards (*terminer*). As forwards (*terminer*) are considered to be disposed of the day they are settled –at the maturity of the contract – the income taxation of gains and losses is conducted during the period in which they are settled or cease to exist – when they are sold.⁸⁰

4.3.3.6 Losses

The Swedish income tax system treats losses from forwards (*terminer*) differentially, depending on the underlying of the derivative. Generally, capital losses from derivatives are treated the same way as capital losses from assets of the same type as the underlying asset of the derivative. Thus losses from derivatives with equity as their underlying can be offset only by gains from equity instruments; whereas losses from derivatives with any underlying other than equity can be offset by company income.⁸¹ The differences in income tax treatment among the various assets are examined in greater depth in Section 3.4.2.2, Chapter 3.

4.3.3.7 Short Selling

Short selling⁸² is a transaction similar to a position in a forward (*termin*).⁸³ Therefore, although not a forward (*termin*) by definition, the income tax treatment of short-selling transactions are examined in this section.

Short selling principally entails that a company borrow an asset of another party and sell it to a third party.⁸⁴ The company lending the asset is compensated by means of interest. On a specific future date, the borrowing company repurchases the asset and returns it to the party from which it was originally borrowed. If the price of the asset has decreased when returned to its original owner, the company conducting the short selling typically makes a gain. In principle, the only difference between a short-selling transaction and a short position in a forward (*termin*) is that the short-selling transaction contains the

⁷⁹ Chapter 44, Section 26 ITA.

⁸⁰ Chapter 44, Sections 26 and 30 ITA.

⁸¹ Chapter 48, Sections 25-26 ITA.

⁸² In Swedish, *blankning*.

⁸³ Short selling is discussed thoroughly in Gunne, C. (1992, pp. 163-175) and (2006, pp. 341-352). See also Rutberg, A., Rutberg, J. and Molander, L. (1997, pp. 185-189).

⁸⁴ See, for example, Hull, J. (2006, pp. 99-101) and Gunne, C. (2006, p. 341).

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lending and delivery of assets at the inception of the transaction.⁸⁵ However, this difference elicits a tax treatment that differs from the tax treatment of forwards.

When a company relinquishes its right to dispose an asset and transfer it to another party, the asset is generally considered to be sold.⁸⁶ Thus short selling usually means that the party lending the asset is considered to be selling it, and the party borrowing the asset is considered to be purchasing it. Likewise, when the asset is returned, the party returning the asset is considered to be selling it and the party receiving the asset is considered to be purchasing it. Consequently, parties lending an asset in a short-selling transaction must recognize a capital gain in the income period during which they lend the asset. Thus besides receiving some interest, there are no incentives to lend assets to someone planning to carry out a short-selling transaction; thus the possibility of conducting such transactions are usually limited. However, short selling is considered propitious for the liquidity of the market in which the underlying is traded.⁸⁷ Therefore, special provisions on the short selling of equity instruments and debt instruments have been introduced in the Swedish income tax legislation.⁸⁸

The special provisions establish that if an equity instrument or a debt instrument has been lent for purposes of short selling, it is not to be considered sold.⁸⁹ Furthermore, when a borrowed equity instrument or debt instrument is sold to a third party, the remuneration from that sale is not taxed until the borrowed asset is returned to its original owner. However, the special provision presupposes that the assets are returned within a year from the date they are disposed of to a third party.⁹⁰ Furthermore, the provision is applicable only in situations in which the borrowing party does not own the type of asset it borrows.

In summary, the income tax legislation limits the possibilities for conducting short-selling transactions on assets other than those classified as equity instruments and debt instruments. In a short-selling transaction on equity instruments or debt instruments, the party borrowing the asset is usually not subject to taxation until the borrowed asset is returned, and the party lending the asset is, in regard to the short-selling transaction, subject to no taxation other than the taxation of interest. Consequently, the taxation of assets disposed of by a short-selling transaction is equal to the taxation of assets disposed of by means of a forward (*termin*).

⁸⁵ See also Rutberg, A., Rutberg, J. and Molander, L. (1997, p. 186).

⁸⁶ See, for example, Cases *RA 1965 referat 19* and *RA 1987 referat 119*; the Swedish Government Official Report (*SOU*) 1989:33, Part 3 (p. 373); and the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (pp. 449-452).

⁸⁷ The Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (p. 450).

⁸⁸ Chapter 44, Sections 9 and 29 ITA. See also the Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (pp. 526-527 and 539-540).

⁸⁹ Chapter 44, Section 9 ITA.

⁹⁰ Chapter 44, Section 29 ITA.

4.3.4 Options⁹¹

4.3.4.1 Disposing of Options

The parties of an option have different contractual positions: the party in a long position has a right, whereas the party in a short position is obliged to fulfill the contract if the other party so wishes.⁹² Therefore, the option is considered to be in the possession of the party having the long position in the contract. Consequently, it is only the party having a long position in the option that can sell the contract. However, just as in the case of forwards (*terminer*), both parties of an option have the possibility of closing out their positions by entering into an opposite contract.⁹³

Options may be settled net in cash or by delivery of the underlying. Moreover, it is possible to dispose of options not subject to clearing before their maturity. Finally, if an option has no value – if it is out of the money – the holder of the derivative may choose not to exercise it. Consequently, in addition to the settlements of forwards (*terminer*), an option may be “settled” simply by neglecting to exercise it.

Similar to the rules on the income tax treatment of forwards (*terminer*), the rules about how to treat gains and losses from options were, in principle, established in a number of precedent-setting court decisions from the 1980s.⁹⁴ These rules are examined in the next section.

4.3.4.2 Disposal by Cash Settlement or by Neglecting Exercise

The possibility of exercising an option is eventually dependent on the type of option. Whereas European options can be exercised only at maturity, American options can be exercised any day until maturity, and the possibility of structuring the exercise possibilities for exotic options are limitless.⁹⁵ Disregarding the exercise possibilities for exotic options, which cannot be systemized, the exercise possibilities for European options and American options do differ.

An American option can be settled net in cash any time during its lifetime; and once settled, it is considered as sold.⁹⁶ Because cash settlement of European options cannot be carried out until the maturity of the contract, the option is, in principle, not possible to dispose of if not sold to another party.⁹⁷ However, just

⁹¹ In this section, references to options also cover contracts similar to options unless otherwise explicitly stated. However, the contracts referred to as option-like contracts in Section 4.2.5 in this chapter are not considered options, but are treated as an independent group of derivatives in Section 4.3.5.

⁹² See Section 4.2.3.

⁹³ Cf. Section 4.3.3.2.

⁹⁴ See especially Cases *RA 83 referat 1:90* and *RA 1986 referat 182*, analyzed in Edvardsson, L. and Bjerrek, L. (1987, pp. 405-416). See also Case *RA 80 notis Aa 151*.

⁹⁵ See Section 2.5.1.2.

⁹⁶ Chapter 44, Section 4, Paragraph 2 ITA.

⁹⁷ However, See Section 4.3.4.4.

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like forwards (*terminer*) that are settled net in cash, European options are considered disposed of when they are subject to cash settlement at maturity.⁹⁸

Furthermore, options that are held to maturity without being exercised are considered to be disposed of at maturity.⁹⁹ It is pertinent to note that it is only possible to dispose of options that are considered independent instruments. In a precedent-setting court decision, it was stated that an option used as an interest-rate guarantee connected to a future debt instrument was lacking independence to such an extent that it could not be considered disposed of when its duration expired.¹⁰⁰

Finally, if the conditions of an option essentially change, the option is to be considered sold. An example of such change occurs when the duration of an option is extended. It has been established in case law that whether or not the exercise price of an option is adjusted in order to maintain the value of an option because of extended duration, an extended duration is such a vital change in the condition of an option that the option must be considered to be sold.¹⁰¹

4.3.4.3 *The Disposal of Options Settled by Delivery*

When an option is settled by delivery, it is not considered to be sold.¹⁰² Possible gains and losses from such options are incurred on the underlying asset, and taxed when that asset is sold.¹⁰³

Derivative contracts similar to options are left without notice by the income tax legislation. However, the value of the derivatives are, in practice, transferred to the delivered, underlying asset; and the actual income tax consequences are therefore identical to that of options.¹⁰⁴

4.3.4.4 *Disposing of Options by Transferring Them to Another Party*

Although most options are subject to clearing, and thus not tradable between two independent parties, tailor-made options can be traded. When options are traded, any gain or loss from such transactions is taxed in accordance with the general provisions on capital gains and capital losses.¹⁰⁵

4.3.4.5 *The Cost of Obtaining*

The cost of obtaining an option is the price paid – generally its premium.¹⁰⁶ In cases in which options are to be treated as equity instruments or debt

⁹⁸ Chapter 44, Section 4, Paragraph 3 ITA.

⁹⁹ Chapter 44, Section 4, Paragraph 4 ITA.

¹⁰⁰ Case *RÅ 1997 referat 63*.

¹⁰¹ Case *RÅ 2003 notis 107*.

¹⁰² Chapter 44, Section 10 ITA.

¹⁰³ Chapter 44, Sections 19-20 ITA (and Chapter 44, Sections 2, 13-14 ITA). Cf. Section 4.3.3.3 in this chapter dealing with the income tax treatment of forwards (*terminer*) settled by delivery.

¹⁰⁴ Cf. Section 4.3.3.3.

¹⁰⁵ Chapter 44, Section 3 ITA.

¹⁰⁶ Chapter 44, Section 14 ITA.

instruments, the averaging method is applicable when establishing the cost of obtaining the derivatives subject for disposal.¹⁰⁷

4.3.4.6 Recognition of Gains and Losses

The gain or loss of a long position in an option is the difference between the premium, which is negative, and the amount received when the derivative is sold.¹⁰⁸ The gains and losses from a short position of an option are computed opposite to long positions.¹⁰⁹ That is, if the received premium is greater than a possible amount paid when the derivative is settled, the issuer of the option receives a gain. In other cases, the short position involves a loss.

For a party that has a long position in an option, the premium of the contract is considered to be the price for obtaining the derivative. Therefore, the payment has no income tax consequences until the gain or loss of the derivative is computed – in principle at maturity of the contract, or, in the case of delivery, when the underlying of the derivative is sold. Thus following the general rules on capital gains and capital losses, the net payoff from the derivative is taxed at realization.¹¹⁰

For the party in a short position of an option, the premium constitutes remuneration for the issued derivative. Thus in principle, the derivative is realized and the remuneration is to be taxed immediately.¹¹¹ However, if the derivative is exercised, the net gain of the short position is reduced or even turned into a loss. In such cases the negative payoff is usually taxed immediately, that is, at realization. Consequently, if the duration of an option covers more than one income period, the party in a short position generally has to recognize the gain (the premium) and loss (the negative payoff occurring if the derivative is exercised) from the derivative in different income tax periods.¹¹²

However, there is an exception to the general rule. The income tax reform of 1990 made a change in which options suited to public trading, and with durations of less than one year were to be treated differently than other options, insofar as the taxation of the party involved in a short position of the derivative.¹¹³ These provisions are still valid. For options settled net in cash, the provisions state that if a party issues an option suited to public trading, and with a duration of less than one year, the premium is taxed at maturity of the

¹⁰⁷ Chapter 48, Section 7 ITA. See also Section 4.3.3.4.

¹⁰⁸ Chapter 44, Sections 13-14 ITA.

¹⁰⁹ Chapter 44, Section 15 ITA.

¹¹⁰ Chapter 44, Section 26 ITA.

¹¹¹ Chapter 44, Section 26 ITA.

¹¹² Chapter 44, Sections 13-15, 26 and 31 Paragraph 2 ITA.

¹¹³ See the Swedish Government Official Report (*SOU*) 1989:33, Part. 2 (pp. 137-138); and the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (pp. 441-442). See also Case *RÅ 1986 referat 182*; and the Swedish Government Bill (*Proposition*) 1986/87:150, Appendix 3 (pp. 9-12).

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option.¹¹⁴ In all other cases, the premium is taxed immediately, in accordance with the general rule.¹¹⁵

When an option suited to public trading and with duration of less than one year is settled by terms of delivery, the party having a short position in that contract is allowed to defer the taxation of the premium until the result of the underlying asset is taxed.¹¹⁶ Furthermore, a premium received for issuing put options suited to public trading operative for more than one year, and with the possibility of exercising before maturity (*e.g.* an American option) is considered to be part of the cost of obtaining the underlying of the option in cases in which the derivative is exercised the same year it is issued.¹¹⁷ Similarly, the premium received when issuing a call option suited to public trading, operative for more than one year, and with the possibility of exercising before maturity is considered to be part of the remuneration when disposing of the underlying of the option – presupposing that the derivative is exercised in the same income period it is issued.¹¹⁸

In summary, the premium paid to obtain a long position in an option can be offset at the maturity of the derivative, or in the case of settlement by terms of delivery, when the underlying is sold. However, the income tax treatment of the premium received by the party in a short position of an option is more complicated. Generally if the derivative is an option suited to public trading, and with duration of less than one year, the taxation of the premium is deferred until the option is settled. In any other case, the premium is taxed immediately, and any possible negative payoff that may occur when the derivative is exercised is taxed when the result of the derivative transaction is definite.

4.3.4.7 Offsetting Losses

The treatment of capital losses from options is decided on the basis of the character of the underlying of the option.¹¹⁹ Because these different tax treatments are examined in Section 3.4.2.2, Chapter 3, the issue is not discussed further here.

4.3.5 Option-Like Contracts

The option-like contracts dealt with in Section 4.2.5 differ from regular options in that they are always settled by delivery. Similar to forwards (*terminer*) and options, when an option-like contract is settled by delivery, any gain or loss of the contract is subsumed into the underlying asset and taxed when that asset is

¹¹⁴ Chapter 44, Section 31, Paragraph 1 ITA. An option suited for public trading is in this context a reference to a quoted option; cf. Section 4.2.2 in this chapter.

¹¹⁵ Chapter 44, Section 31, Paragraph 2 ITA.

¹¹⁶ Chapter 44, Section 32, Paragraphs 1-2 ITA.

¹¹⁷ Chapter 44, Section 32, Paragraph 3 ITA.

¹¹⁸ Chapter 44, Section 32, Paragraph 3 ITA.

¹¹⁹ See also Section 4.3.1 in this chapter about the classification of derivatives on the basis of their underlying.

realized.¹²⁰ However, it is possible in many situations to sell the option-like contracts – to dispose of them before maturity. In such a case, the gain of the contract is computed in accordance with the general rules on capital gains and capital losses: as the difference between the remuneration of the sold contract and the cost of obtaining it.¹²¹

Option-like contracts such as redemption rights and selling rights are generally issued to the shareholders of the issuing company, meaning that such contracts are initially obtained because of the holding of specific shares. Therefore, the cost of obtaining the option-like contract may usually be computed on the basis of the value of those shares. Although applicable in theory, such computation is not used because it is complicated and costly for the public authorities.¹²² Thus the cost of obtaining redemption rights, selling rights, bonus share rights, or uncovered warrant are always to be considered zero in cases in which the option-like contract is obtained as a result of the holding of shares of the issuing company.¹²³ However, if such a right is obtained in some other way – purchased from another party, for instance – the general rules on capital gains and capital losses are applicable.¹²⁴

4.3.6 Derivatives with the Issuing Company's Own Shares as the Underlying

According to Swedish company law, publicly listed companies may purchase their own shares under certain conditions.¹²⁵ Such purchases may be made for purposes of constructing or hedging employee stock option schemes or for purposes of managing equity. The gains and losses a company may receive from the dispose of its own shares or from the dispose of options, forwards (*termin*), or similar contracts with its own shares as the underlying, are tax exempt.¹²⁶ Furthermore, gains and losses from the dispose of shares from a parent company or derivatives with shares from a parent company as the underlying are tax exempt.¹²⁷ It is immaterial whether or not the company's own shares exist when the derivative is disposed of or if the shares are to be issued;¹²⁸ no difference is made between covered and uncovered warrants with a company's own shares as the underlying asset.

¹²⁰ Chapter 44, Sections 19-20 ITA (and Chapter 44, Sections 2, 13-14 ITA).

¹²¹ Chapter 44, Sections 2, 13-14 ITA.

¹²² The Swedish Government Bill (*Proposition*) 2005/06:39 (pp. 41-44).

¹²³ Chapter 48, Section 13 ITA. See also Case *RÅ 1994 referat 1*.

¹²⁴ Chapter 44, Sections 2, 13-14 ITA.

¹²⁵ Chapter 19, Sections 13-15 of the Swedish Company Act.

¹²⁶ Chapter 48, Section 6a ITA. See also the Swedish Government Bill (*Proposition*) 1999/2000:38 (pp. 28-31).

¹²⁷ Cases *RÅ 2001 referat 55* and *RÅ 2003 referat 16*.

¹²⁸ Case *RÅ 2001 referat 55*. See also, for example, Roupe, J. M. (2002, p. 13); and Lousseief, N. (2001, p.681).

4.4 Derivatives and Tax Arbitrage

4.4.1 Tax Arbitrage Opportunities

The income tax treatment of capital gains or losses, and interest, differs in the sense that the former type of payoff is recognized on the basis of realization, whereas interest is taxed on an accrual basis – on the basis of a fair-value approach.¹²⁹ It is noted in Section 3.2.5, Chapter 3 that the use of two different approaches for income recognition in the Swedish income tax system gives rise to tax arbitrage opportunities – more specifically timing arbitrages. These arbitrage opportunities generally occur when two economically equal financial positions are given different legal forms, and the payoff from the positions are classified on the basis of the legal form of the position. From the examination of the income tax treatment of derivatives conducted in this chapter, it follows that the payoff from these instruments is always taxed as capital gains or losses.¹³⁰ Therefore, in a situation in which the economic substance of a derivative and a typically interest-paying instrument such as a bond is similar, timing arbitrage opportunities exist.

These tax arbitrage opportunities can generally be divided into two categories. First, tax arbitrage opportunities exist in situations in which derivatives constitute or are part of *hybrid instruments*. Second, arbitrage situations may be utilized by using derivatives to create *synthetic instruments*. The significance of hybrid and synthetic instruments is presented next.

4.4.2 Hybrid Instruments and Synthetic Instruments

In this study, a hybrid instrument is a legally distinct contract, providing expected income as well as windfall gains and losses.¹³¹ Because expected income is, in principle, taxed as interest, and because windfall gains are, in principle, taxed as capital gains, the taxation of the payoffs from hybrid instruments should, theoretically, be taxed as part interest and part capital gains.¹³² However, this is not always the case. As a general rule, the payoff from a legally distinct capital investment is taxed as one, single type of income. Thus the payoffs from hybrid instruments are generally taxed either as interest, or as capital gains or losses. For example, in a situation in which a derivative contract constitutes a hybrid instrument, its entire payoff is taxed as a capital gain.¹³³

A synthetic instrument is a combination of long and short positions in legally distinct financial instruments that provide a net payoff equal or similar to the payoff from another, legally distinct financial instrument: the replicated

¹²⁹ See Section 3.4.

¹³⁰ See Section 4.3.1.

¹³¹ See also Edgar, T. (2000, p. 246).

¹³² See Section 3.4.6.

¹³³ Chapter 25, Section 4 ITA. See also Section 4.3.1 in this chapter.

instrument.¹³⁴ If the payoff of the replicated instrument is classified as interest – in the case of a bond, for instance – and the payoff of the building blocks of the synthetic instrument is classified as capital gains or losses, tax arbitrage opportunities exist.

The following two subsections examine the way in which derivatives may be used as hybrid instruments or as synthetic instruments in order to create tax arbitrage opportunities.

4.4.3 Derivatives as Hybrid Contracts

4.4.3.1 *Compensation for the Advance of Capital*

Section 2.6.2.2, Chapter 2, makes the point that the payoff from credit-extension instruments such as bonds is compensation for the advance of capital. Furthermore, compensation for the advance of capital is, as a general rule, expected income, as credit-extension instruments are usually exposed to low risk. Thus from an economic point of view it can be concluded that the advance of capital pays expected income.

On the basis of this conclusion, it is possible to argue that any capital investment entailing the advance of capital at inception generates expected income. Thus if derivatives, which typically generate windfall gains or losses, involve the advance of capital at inception, the payoff of the derivative is, in part, expected income. More specifically, a derivative that entails the advance of capital at inception is typically a hybrid instrument. The simplest example of such a hybrid derivative is a basic European option: a plain vanilla option.

4.4.3.2 *Plain Vanilla Options*

The forward price of an option is generally its spot price at inception plus its cost of carry until maturity.¹³⁵ Because the cost of carry of an option is, in principle, limited to the cost of capital, the forward price of an option can be established on the basis of a risk-free interest rate and the premium of the option. That is, the forward price of an option equals the premium of the option capitalized with the risk-free interest rate until maturity. Consequently, if the premium of a two-year European put option is 100, and the risk-free interest rate is 5 percent, the two-year forward price of the put option is 110.52.¹³⁶ The difference between the spot price and the forward price represents expected income for the party in a long position and an expected expense for the party in a short position, as illustrated by the following example.¹³⁷

¹³⁴ See, for example, Edgar, T. (2000, p. 313). See also Section 2.6.3.

¹³⁵ See Section 2.6.1.3 in Chapter 2 regarding the relationship between spot prices and forward prices.

¹³⁶ $100e^{(0.05*2)}$.

¹³⁷ See, for example, Edgar, T. (2000, pp. 248-258).

Example:

Company A acquires a European put option from Company B for the disposal of 100 shares in three years at a price of 10 per share. The price of the option is 50. At a risk-free interest rate of 5 percent, the forward price of the right to dispose of the shares is 58.1.¹³⁸ The difference between the spot price and the forward price (8.1) represents expected income for Company A and an expected expense for Company B.

If the spot price of the underlying is 9 at maturity of the option, Company A will realize an unexpected gain of 41.9.¹³⁹ Consequently, of the 100 Company A receives at maturity of the option, 50 are reimbursement, 8.1 are expected income, and 41.9 represent a windfall gain. Similarly, of the 100 paid by Company B at maturity of the contract, 50 are the repayment of the capital designated to be premium, 8.1 are an expected expense, and 42.12 represent a windfall loss.

If the spot price of the underlying shares is 11 at maturity of the option, the option will not be exercised. Company A will realize a windfall loss of 58.1, and Company B will realize a corresponding windfall gain.¹⁴⁰

4.4.3.3 Options that are “Deep-in-the-Money”

As illustrated in the previous section, the relationship between spot prices and forward prices entails that options can be considered hybrid contracts providing expected income or expenses as well as windfall gains or losses. However, because the value of options primarily depends on unexpected events, the majority of the payoffs from these contracts are windfall gains or losses.¹⁴¹ It is generally risky, therefore, to invest capital in options. However, it is possible to structure options, making their payoffs close to a risk-free investment. If the underlying of the option is close to risk free, and the option has a great intrinsic value at inception – is issued deep-in-the-money – the contract is, as illustrated by the following example, similar to a bond.

Example:

Company A acquires a European call option from Company B for the purchase of 100 units of a commodity in three years at a price of 8.38 per unit. Company A pays Company B 1000 for the option.

¹³⁸ $50e^{(0.05*3)}$.

¹³⁹ $100(10-9)-58.1$.

¹⁴⁰ Company A: The payoff of the option (0) minus the forward price of the option (58.1).
Company B: The payoff of the option (0) plus the forward price of the option (58.1).

¹⁴¹ See Section 2.5.1.

With a risk-free interest rate of 5 percent, Company A expects an income of 161.8 and Company B expects an equivalent expense.¹⁴² At the maturity of the contract, the spot price of the underlying asset is 20. Consequently, Company A exercises the option by cash settlement and receives 1162 from Company B.¹⁴³ The 1162 consists of repayment of the “premium” (1000), expected income (161.8), and a windfall gain (0.2).

By setting the strike price of the option in a way that makes the option deep-in-the-money, the premium paid for the option become relatively large. Consequently, by structuring an option deep-in-the-money, it is possible to advance capital from the party in a long position of the option comparable to the advance of capital when taking a long position in a bond. Similarly, if the asset underlying the option is close to risk free, the option can be structured to provide a payoff similar to a bond. Whereas the payoff from a bond is taxed as interest; on an accrual basis, the payoff from a long position in an option is taxed on the basis of realization. Thus the deep-in-the-money option provides a tax arbitrage opportunity.

4.4.3.4 Taxing the Payoffs from Options and Bonds

As illustrated in the previous section, an option can be structured in a way that makes its payoff similar to the payoff from a bond with the same principle amount as the premium of the option. Consequently, the two investments have similar economic substance. As the payoff from an option is taxed on the basis of realization and the payoff from a bond is taxed when it accrues, it is, from an income tax perspective, more favorable to take a long position in the option than to take a long position in the bond.¹⁴⁴ It is not readily apparent, however, if it is more favorable to take a short position in the option or a short position in the bond.

The party in a short position of the option must recognize the received premium as a capital gain the same income year it is paid.¹⁴⁵ Furthermore, when the option is exercised, a capital loss corresponding to the value of the option – the premium plus the expected expense and windfall loss – is recognized.¹⁴⁶ Thus in general, the short position in the option is less favorable than a short position in a bond, because the capital gain is taxed at inception of the contract and the possibility to offset the capital loss, recognized at maturity of the contract, may be limited.¹⁴⁷

¹⁴² $1000e^{(0.05*3)} - 1000$.

¹⁴³ $(20 - 8.38) * 100$.

¹⁴⁴ See Section 3.2.5.2.

¹⁴⁵ Chapter 44, Section 31 ITA. See also Section 4.3.4.6.

¹⁴⁶ Chapter 44, Section 26. See also Section 4.3.4.6.

¹⁴⁷ See Section 4.3.4.7.

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However, the party being in a short position of the option may be a preferred tax subject, or may be in a position that makes it possible to use the capital gain to utilize loss carry forwards, and/or to offset the capital losses. In such cases, it is possible that the short position in the option contract is more favorable than the short position in a bond. Consequently, it is not possible to come to any general conclusions concerning the tax efficiency of the short position in the option.

4.4.3.5 Prepaid Forward

As noted in previous section, the payoff of a long position in a deep-in-the-money call option is more favorably taxed than is the payoff of a long position in a bond. It is uncertain, however, if the taxation of the payoff of a short position in such an option is more favorable than a short position in a corresponding bond. Consequently, the possibility of taking a long position in such options may be limited. In such cases, it is possible to reach the same financial position by entering into a long position in a cash settled, prepaid forward.

On the basis of a no-arbitrage assumption, the exercise price of a forward is the forward price of the underlying of the derivative.¹⁴⁸ If the spot price of an asset is 1000 and the risk free interest rate is 5 percent, for instance, the exercise price of a three-year forward contract on the asset is 1161.8.¹⁴⁹ If the party in a long position of such contract – Company A – prepays the exercise price at inception, it must pay an amount equal to the spot price of the underlying asset: 1000. At the maturity of the contract, the party in a short position – Company B – pays an amount equal to the spot price of the underlying asset. If the spot price of the underlying asset is 1170 at the maturity of the contract, for instance, Company B must transfer 1170 to Company A. The payment is, in essence, a repayment of the principle amount (1000), expected income (161.8), and a windfall gain (8.2).

The fact that a forward contract is prepaid does not appear to influence its income tax character as a forward (*termin*).¹⁵⁰ Thus the income tax treatment of a prepaid forward is similar to a regular forward (*termin*) contract or a contract similar to a forward (*termin*). Consequently, at the maturity of the contract, Company A recognizes a capital gain of 170 and Company B recognizes a corresponding capital loss.

The income tax treatment of prepaid forwards entails that the party in a long position can defer taxation of the expected income in the same way as a party having a long position in the call option above. That is, the income tax treatment is more favorable in this situation than in a long position in a bond. However,

¹⁴⁸ See Section 2.6.1.3.

¹⁴⁹ $1000e^{(0.05*3)}$.

¹⁵⁰ Case *RÅ 1986 referat 51* deals with a financial instrument designated to be a “gold-bond”, in substance being a prepaid forward. In the decision, the Swedish Supreme Administrative Court, SAC, states that the payoff from the prepaid forward – the gold-bond – is to be taxed on the basis of realization.

the party in a short position is, in principle, treated less favorably than a party in a short position in a bond. This is so because the loss of the short forward cannot be offset until the contract matures. Furthermore, the possibility to offset the loss may be restricted.¹⁵¹

In the case of a prepaid forward, and a deep-in-the-money call option, both parties of the contract must agree on structuring the contracts in a way that makes its payoff similar to that of a bond. Because the short positions in these contracts are, in principle, less favorably treated for income tax purposes than are financially equal positions in a bond, however, the availability of these contracts may be limited. In such cases, the same financial position and the same preferred income tax treatment can be achieved by using derivatives to take a long position in a synthetic bond. How this may be accomplished is further presented in the next section.

4.4.4 Using Derivatives in Synthetic Instruments

A synthetic instrument is a portfolio consisting of long and short positions in different financial instruments; the payoffs offset each other, making the net payoff of the portfolio similar or identical to the payoff from another, single financial instrument.¹⁵² Because the deep-in-the-money option and the prepaid forward, above, are single financial instruments, they are not to be considered synthetic bonds, although they replicate the payoff from a bond. Furthermore, although the payoffs of the building blocks of a synthetic instrument may be expected income and windfall gains or losses, the net payoff of the combination could either be expected income or windfall gains or losses. Therefore, synthetic instruments are not necessarily hybrid instruments. Just as in the case of the hybrid instruments, however, synthetic instruments are constructed on the basis of a no-arbitrage assumption.

In Section 2.6.3.4, Chapter 2 a synthetic bond is created by a long position in shares and a short position in a forward on the shares. The similarity between such investments and a long position in a bond can be illustrated as follows: A long position in a bond entails the advance of capital to the bond issuer.¹⁵³ In a synthetic bond, the same amount of capital is invested in shares (or any other underlying). Moreover, a long position in a bond entails expected income, computed on the basis of the principle amount of the bond. For a synthetic bond, expected income is the difference between the spot price of the shares, and the delivery price of the forward. As the delivery price is the forward price of the shares at the inception of the contract, the expected income of the synthetic bond is identical to the expected income of the bond, presupposing the forward price has been computed on the basis of the same interest rate as stated in the bond.¹⁵⁴

¹⁵¹ See Section 4.3.3.6.

¹⁵² See Section 7.2.1.

¹⁵³ See Section 4.4.3.1.

¹⁵⁴ See Section 2.6.1.3, Chapter 2, on the relationship between spot prices and forward prices.

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The income tax treatment of the synthetic bond is generally more favorable than the income tax treatment of a real bond. This is so because the expected income from the bond is taxed as interest, on an accrual basis, whereas the expected income from the synthetic bond is taxed as capital gains on the basis of realization.¹⁵⁵ Furthermore, as a synthetic instrument consists of positions in more than one financial instrument, there is not necessarily one single counterpart to the synthetic instrument. Therefore, when examining the income tax treatment of a synthetic instrument, it is only the replicated position that is relevant to benchmark.

Instead of entering into a short position in a forward contract, it is equally good to take a long position in a put option and simultaneously issue a call option with the same underlying asset, duration, and strike price as the put option.¹⁵⁶ Such combinations of options are generally known as “married put-and-call options”. The similarity between the two positions can be illustrated in the following way: If the exercise price of the forward is the same as the strike prices of the married put-and-call options, the value of the short forward and the long put option will increase if the spot price of the underlying falls below the exercise price/strike price. Similarly, the value of the short forward and the short call option will decrease if the spot price of the underlying rises above the exercise price/strike price.

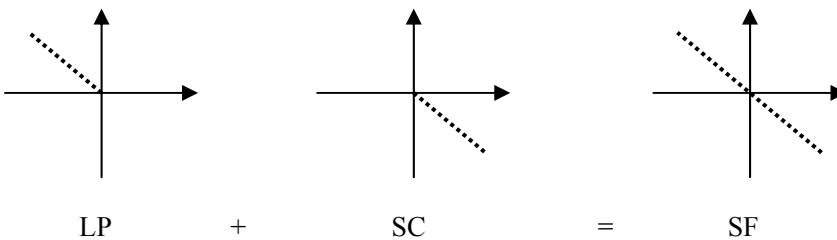


Figure 4.1 To structure a synthetic forward

The payoffs from a long put option (LP) and a short call option (SC) equal the payoff from a short forward (SF): a synthetic forward.¹⁵⁷ The vertical arrows represent the payoff of the derivatives, and the horizontal arrows represent changes in the value of their underlying.

¹⁵⁵ It does not matter whether the forward is settled net in cash or by terms of delivery. See Section 4.3.3.3 of this chapter.

¹⁵⁶ See Section 2.6.1.6.

¹⁵⁷ Just as a short forward can be replicated by a long put option and a short call option, a long forward can be replicated by a long call option and a short put option; see Section 2.6.1.6 in Chapter 2.

The income tax treatment of a synthetic bond, consisting of married options and a long position in their underlying, is more favorable than is the income tax treatment of a real bond.¹⁵⁸ This is so because the premium received when issuing the call option can be offset by the premium paid for the long position in the put option; therefore no taxes are paid at inception of the synthetic bond. At the maturity of the synthetic bond, the options and the shares are disposed of, and their respective payoff is taxed as capital gains or capital losses on the basis of realization. It is important, however, to ensure that the capital losses in the synthetic can be offset fully against its capital gains.¹⁵⁹

4.4.5 Expected-Return Taxation

The tax arbitrage opportunities presented in Sections 4.4.3 and 4.4.4 principally occur as a result of the payoff from two economically equal financial positions being treated differently for income tax purposes. For example, expected income from a derivative is always classified and taxed as a capital gain or loss; whereas expected income from a bond, as a general rule, is classified and taxed as interest. Consequently, in order to prevent the tax arbitrage opportunities, it seems necessary to disregard the legal classification of the payoffs from the financial positions, and to tax the payoff on the basis of its economic character. More specifically, the taxation could be carried out on the basis of whether the payoff is expected income or expenses or if it is windfall gains or losses. In the tax literature, this type of taxation is generally referred to as *expected-return taxation* or expected value taxation.¹⁶⁰

Introducing taxation on the basis of expected income or expenses and windfall gains or losses, as a method of preventing certain tax arbitrage opportunities in the Swedish income tax system would likely be extremely effective.¹⁶¹ However, as previously mentioned, such taxation is carried out irrespective of the legal form of the income. Furthermore, it involves the party to disregard the legal classification of the instruments providing the payoff. Whether expected income is designated to be interest or capital gains, for instance, is immaterial. Similarly, whether the instrument providing the payoff is classified as debt or equity is of no importance. Consequently, implementing expected-income taxation in the Swedish income tax system would require major changes of the tax system. Therefore, such taxation may be considered

¹⁵⁸ Case *RÅ 1989 notis 444* deals with a financial portfolio similar to what has been referred to as a synthetic bond in this section. However, the case deals with the income tax legislation prior to the income tax reform of 1990. Furthermore, the issue explicitly dealt with is not the income tax treatment of the portfolio, but addresses the decision about how long the shares in the portfolio have been in the possession of the person selling them (an imperative issue with regard to the income tax legislation at the time of the decision). Consequently, concerning the actual income tax treatment of the portfolio – the synthetic bond – the precedence status of the case is limited.

¹⁵⁹ See Section 3.4.2.2.

¹⁶⁰ See Edgar, T. (2000, pp. 119-120); and Shuldiner, R. (1992, pp. 285-287).

¹⁶¹ The effectiveness of expected-return taxation is illustrated in an example in Section 5.2.4.2.

unrealistic as a method of preventing tax arbitrages related to derivatives and other financial instruments.¹⁶²

4.5 Conclusions

The main purpose of this chapter is to reach conclusions on the ways in which stand-alone derivatives are treated under the Swedish income tax system, and if the treatment enables tax arbitrage. This chapter makes a critical point: The income tax treatment of derivatives is carried out on the basis of the legal form of the contract, rather than on the payoff from a derivative being expected or unexpected. Consequently, the income tax definition of derivatives is imperative.

The term “derivative” is not used in the income tax system, but references are made using the terms “forwards (*termin*)” and “options”. Moreover, because these terms do not cover all types of derivatives, they are supplemented by the expression “similar contracts” that, in principle, cover all derivatives not covered by the forward (*termin*) and option definitions. The relatively extensive room for judicial discretion provided by the expression “similar contracts” seems reasonable to prevent certain tax arbitrage opportunities. For example, although the forward (*termin*) definition likely excludes a large number of tailor-made price-fixing derivatives, such derivatives are considered to be similar to forwards (*terminer*) and thus treated the same way as if they were covered by that term. Consequently, it is not possible to circumvent the legislation by replicating a standardized forward by means of a tailor-made forward. Moreover, because new variations of derivative contracts are constantly being developed, certain room for judicial discretion in relation to the forward (*termin*) and option definitions is necessary in order to keep the legislation relevant.

This chapter explains how the payoff from any contract defined as an option, a forward (*termin*), or a similar contract is taxed. The income tax provisions dealing with derivatives could be considered relatively complex. They are scattered in several different chapters of the Swedish ITA, and within these chapters they appear in different places. However, when applying the rules, the income tax treatment is relatively straightforward. Gains and losses are generally computed as the difference between the exercise price and the cost of purchasing the contract, in accordance with the general rules on capital gains and capital losses. Furthermore, the recognition of gains and losses follows the general principles applicable to capital gains and capital losses: the principle of realization. Finally, when it comes to treating losses from derivatives, there are no differences between losses from derivatives and losses from regular capital assets; they are treated in accordance with the same principles. Consequently, although the rules on the taxation of derivatives may be considered difficult to

¹⁶² However, see Strnad, J. (1994, pp. 604-605), who argues that the only way to address comprehensively the problems with tax arbitrage opportunities connected to derivatives and other financial instruments is through a fundamental tax reform.

grasp, the outcome when applying them is logical. Thus to prevent legal uncertainty over the way to treat derivatives under the Swedish income tax system, it is desirable to make the provisions more lucid.

Making the income tax provisions on derivatives more lucid is not the only challenge that derivatives impose on the Swedish income tax legislator. This chapter illustrates how the present taxation of derivatives enables tax arbitrage opportunities. Generally, such tax arbitrages exist because the payoff from derivatives is classified on the basis of the legal form of the derivative, resulting in capital gains or capital losses. Because capital gains, in principle, are taxed more favorably than interest is, investments in derivatives are tax-preferred if the payoff from the investment is similar to payoff that is taxed as interest. These tax-preferred investments, generally referred to as hybrid instruments and synthetic instruments, are thoroughly examined in Chapters 5, 6, and 7.

5 Methods to Tax the Payoffs from Hybrid Instruments

5.1 Derivatives and Composite Contracts

Chapter 4 made the important point that derivatives that are hybrid instruments give rise to tax arbitrage opportunities in the Swedish income tax system.¹ These arbitrage opportunities commonly exist because the payoff from derivatives is taxed on the basis of realization, whether or not the payoff is expected income or expenses, or windfall gains or losses.

The tax arbitrage opportunities illustrated in relation to derivatives that are hybrid instruments also exist in relation to financial instruments that are not derivatives.² These instruments are, in substance, combinations of different types of basic building block financial instruments with different risk exposures.³ As these combinations are contractually indivisible, they are generally considered to be legally distinct instruments for income tax purposes as well. These instruments – indivisible contracts that in substance are combinations of two or several building blocks – are referred to as “composite contracts” in this study.

The Swedish income tax treatment of composite contracts and the possible ways they challenge the Swedish income tax system are thoroughly examined in Chapter 6. To facilitate the analysis of that examination, this chapter presents and analyses various methods for dealing with the taxation of hybrid instruments. In Section 5.2, three methods for taxing the payoff from hybrid financial instruments are presented, and their relative efficiency in preventing tax arbitrage opportunities is established. Section 5.3 examines the appearance

¹ In this study, a hybrid instrument is a financial instrument providing expected income/expenses as well as windfall gains/losses; see Section 4.4.2. It is common for the term “hybrid instrument” to be used as a reference to an instrument the economical substance of which is inconsistent with its legal classification; see, for example, Duncan, J. (2000, pp. 22-23). In principle, these definitions cover the same instruments. However, it seems that the term “hybrid instrument” is apprehended in many situations as a reference to a contract which, in substance, is a combination of two or more financial instruments, the legal form of which differs; see, for example, Paragraph 10 IAS 39. Such use of the term is not always in accordance with the way it is used in this study. As illustrated in Section 4.4.3 for example, a stand-alone instrument may be a hybrid instrument with reference to the use of the term in this study, but not with reference to the use of the term is used in IAS 39, for example.

² Hultqvist, A. (2000) deals with the Swedish income tax treatment of hybrid instruments in cross-border transactions. These issues are not covered in this study.

³ See Section 2.6.2 regarding the basic building block financial instruments.

of the three methods in the Swedish income tax system and Section 5.4 presents the conclusions.

5.2 Taxing the Payoff from Hybrid Instruments

5.2.1 Contingent Debt Instruments

Section 4.4.3, Chapter 4 illustrates how derivatives can be structured in a way that makes their payoff partly expected and partly unexpected. A stand-alone financial instrument, providing expected income as well as windfall gains or losses, is usually referred to as a hybrid instrument.

Instead of structuring a derivative in a way that makes its payoff part expected income and part windfall gains or losses, a hybrid instrument is possible to attain by combining a financial instrument that typically pays expected income with a financial instrument that typically pays windfall gains or losses. With reference to the basic building block financial instruments, for example, a hybrid instrument is created by combining a credit-extension instrument with a derivative, making the combination a distinct financial instrument: a composite contract.⁴ In case the long position in the composite contract guarantees the principle amount, the derivative building block is typically an option: a price-insurance derivative. Where the party in a long position of the composite contract risks the principle amount, the derivative building block is typically a forward: a price-fixing derivative. Consequently, the derivatives are used to transfer some or all of the risk of their underlying to the composite contract.⁵

A composite contract of this type is usually referred to as a *contingent debt instrument*, as it is, in form, a debt instrument; but its payoff is wholly or partly dependent on variables that change due to unexpected events.⁶ Examples of contingent debt instruments are index-linked bonds – currency index-linked bonds or equity index-linked bonds, for example.

5.2.2 Two Types of Hybrid Instruments

Structured derivatives and contingent debt instruments represent two types of hybrid instruments. Their principle difference is that a derivative is a single basic building block financial instrument, whereas a contingent debt instrument is a combination of building blocks.

In Section 2.6.2, Chapter 2 it is argued that the basic building block financial instruments are the *core elements* of any financial instrument. Thus from an economic perspective, these building blocks cannot be split into other types of

⁴ See Section 2.6.2 on the basic building block financial instruments.

⁵ See Sections 2.4.4 and 2.5.2.

⁶ See, for example, Edgar, T. (2000, p. 263); or Strnad, J. (1994, p. 570).

5. Methods to Tax the Payoffs from Hybrid Instruments

financial instruments, and the legal form of a basic building block financial instrument is that instrument's principal "legal identity". However, composite contracts like contingent debt instruments, which, in substance, are combinations of basic building blocks, can always be split into their stand-alone building blocks. Therefore, if a contingent debt instrument is considered to be a distinct legal instrument, it has, in principle, two legal identities. First, it is a combination of the basic building blocks of which it consists; therefore it is also a combination of their respective legal form. The second legal identity of a contingent debt instrument is the legal form given to that specific instrument.

On the basis of a no-arbitrage assumption, a financial instrument, with its two "legal identities", provides tax arbitrage opportunities in case the legal identities are not treated equally for income tax purposes. More specifically, a contingent debt instrument gives rise to tax arbitrage opportunities if the payoff from the instrument is treated differently compared to the net payoff of its building blocks. Consequently, in addition to the tax arbitrage opportunities related to stand-alone derivatives that are hybrid instruments, contingent debt instrument may provide other such opportunities because it has two legal identities. As a result, contingent debt instruments present a greater challenge to the Swedish income tax system than do hybrid instruments in the form of derivatives.

5.2.3 Three Methods

Chapter 4 makes the point that hybrid instruments give rise to tax arbitrage opportunities because expected income or expenses are classified and taxed as interest in some situations; and in other situations are classified and taxed as capital gains or losses.⁷ In other words, tax arbitrage opportunities arise when the economic substance of the payoff from an instrument is not reflected in the legal form of that payoff. Although the economic substance of the payoff from a financial instrument is not reflected in the legal form of that payoff, however, tax arbitrage opportunities can be prevented if the legal classification is carried out in a methodical and consistent manner, based on the economic substance of the instrument generating the payoff.

As illustrated in Chapter 3, the Swedish income tax system taxes the payoff from financial instruments as interest and capital gains or losses. The classification of the two types of payoff is made without reference to the economic substance of the payoff. Furthermore, the classification is made independent of the economic substance of the instrument providing the payoff; rather, it is based on the *legal form of the instrument generating the payoff*.⁸

As a method for preventing the tax arbitrage opportunities resulting from the legal classification and taxation of payoffs carried out in the Swedish income tax system, Section 4.4.5, Chapter 4 presents *expected-return taxation* – a method focusing on the economic substance of the payoff from a financial instrument.

⁷ See Section 4.4.3.

⁸ See Section 3.4.

More specifically, expected-return taxation involves the taxation of payoff based on the payoff being expected income or expenses versus windfall gains or losses.⁹

The third method presented to tax the payoff from hybrid instruments is applicable solely on instruments such as contingent debt instruments, which are composite contracts. The method entails taxation based on the legal form of the payoff from an instrument. However, the classification of the payoff is made on the basis of the economic substance of the instrument generating the payoff. Thus composite contracts are reduced to its building blocks, and the payoffs from the respective building blocks are taxed separately, based on the legal classification of the payoff. In the tax literature, this method is routinely referred to as *bifurcation*.¹⁰ More specifically:

*...bifurcation is the recharacterization of a financial instrument that is, in form, a single instrument as two or more fundamental financial instruments, and the sum of the taxes on the component instruments is equal to the tax treatment of the single instrument.*¹¹

The relative efficiency of the three methods, concerning their ability to preclude tax arbitrage opportunities, can be established on the basis of possible tax arbitrage opportunities under each method. If the application of a method entails that a hybrid instrument does not provide any tax arbitrage opportunities, the method is considered efficient. Thus the method that prevents most tax arbitrage opportunities is considered to be the most efficient method. To ascertain the relative efficiency of the three methods, the way in which they deal with a specific hybrid instrument can be determined. The specific hybrid instrument used for this purpose is a composite contract – specifically a contingent debt instrument.

5.2.4 The Efficiency of the Three Methods

5.2.4.1 The Payoffs from an Equity Index-Linked Bond and its Building Blocks

The contingent debt instrument, used to establish the relative efficiency of the three methods to tax the payoffs from hybrid instrument, is a *two-year equity index-linked bond that guarantees its principle amount*. Thus the basic building blocks of this equity index-linked bond are a two-year discounted bond: a zero-coupon bond, and a two-year European call option on a specific equity index.¹²

The following illustration presupposes that the two-year zero-coupon bond, which is a building block of the equity index-linked bond, has a principal value

⁹ See Section 2.2.2.4 regarding the difference between expected income or expenses on the one hand and windfall gains or losses on the other.

¹⁰ See, for example, Strnad, J. (1994, p. 570-571); or Shuldiner, R. (1992, p. 287).

¹¹ Edgar, T. (2000, p. 125).

¹² See Section 5.2.1.

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of 100. Thus on the basis of an interest rate of 5 percent, its value at inception is 90.5.¹³ As a result, at the maturity of the zero-coupon bond, its payoff is 9.5 (100-90.5).

The two-year European equity index-linked call option, which constitutes the other building block of the equity index-linked bond, has an initial total value of 9.5. Consequently, if the equity index, to which the option is linked, develops in the negative over the duration of the option, the possible negative payoff from the option is a loss of 9.5. However, if the index develops positively over the duration of the option, the possible positive payoff is limitless.¹⁴

The initial investment in the two building blocks of the equity index-linked bond is 100: 91.5 for the zero-coupon bond and 9.5 for the European call option. The no-arbitrage assumption entails that the initial investment in the equity index-linked bond is 100 as well. However, unlike its building blocks, which are considered to be two distinct financial instruments, the equity index-linked bond is considered to be a single instrument with a principal amount of 100. Therefore, the equity index-linked bond provides a positive payoff only if its value rises above 100. That, in turn, will happen only if the European call option has a value at maturity. If it has no value at maturity, the value of the equity index-linked bond equals 100 – the value of the zero-coupon bond. Consequently, the value of the equity index-linked bond never falls below its principal amount of 100, and therefore does not usually provide a negative payoff. However, the possible positive payoff from the equity index-linked bond is directly dependent upon the payoff from the option, being one of its building blocks. For that reason, any positive payoff from the equity index-linked bond is a result of an unexpected event, and therefore a windfall gain.¹⁵

The following sections examine the income tax treatment of the equity index-linked bond and its building blocks on the basis of the three methods, in order to establish the relative efficiency of the methods.

5.2.4.2 Expected-Return Taxation

At an interest rate of 5 percent, the expected income of the equity index-linked bond is 10.5.¹⁶ With regard to the building blocks of the equity index-linked bond, 9.5 of the expected income is attributable to the zero-coupon bond and 1.0 is attributable to the call option.¹⁷ Thus if the value of the equity index-linked bond is 150 at maturity of the contract, 10.5 is taxed as expected income and 39.5 is taxed as windfall gain. If the value of the bond is 100 at maturity, 10.5 is taxed as expected income, and an equal amount is recognized as a windfall loss.

¹³ $100e^{-(0.05*2)}$.

¹⁴ See Section 2.5.1.9 regarding the payoff profile of call options.

¹⁵ See Section 2.2.2.4.

¹⁶ $100e^{(0.05*2)} - 100$. Cf. Section 4.4.3.

¹⁷ As discussed in Section 4.4.3.3, the premium paid when taking a long position in an option is comparable to the advance of capital when taking a long position in a bond. Consequently, the premium paid for the long position in the equity-indexed call option provides an expected income of 1.0 ($9.5 e^{(0.05*2)} - 9.5$).

Consequently, the amount of expected income is the same whether the taxation is carried out on the basis of the equity index-linked bond or on the basis of its building blocks. Therefore, the expected-return taxation effectively prevents all tax arbitrage opportunities resulting from a difference in the taxation of a composite contract and its building blocks. Furthermore, Section 4.4.5, Chapter 4 illustrates that expected-return taxation also prevents tax arbitrage opportunities related to stand-alone instruments, which are hybrid instruments.

5.2.4.3 Bifurcation

As illustrated in Section 5.2.4.1, the equity-index bond is, in substance, a combination of a zero-coupon bond and a European equity index-linked call option. Thus applying bifurcation as a method of taxing the equity index-linked bond entails that the taxation is carried out on basis of the zero-coupon bond and the call option.¹⁸ If the value of the bond is 150 at maturity, 9.5 would be attributable to the zero-coupon bond and taxed as interest on an accrual basis.¹⁹ The remaining payoff of 40.5 would be attributable to the call option and taxed as a capital gain at maturity of the option.²⁰ If the value of the bond is 100 at maturity, 9.5 is taxed as interest and an equal amount is recognized as a capital loss. However, as capital losses from equity index-linked options are not possible to entirely offset against interest income, the tax treatment would entail the paying of taxes, although the net payoff from the equity index-linked bond is zero.²¹

There is a principle difference between expected-return taxation and bifurcation: the latter method entails the taxation based on legal form, whereas the former is based on the economic substance of the payoff. Thus tax arbitrage opportunities resulting from the legal classification of the payoff from the building blocks of a hybrid instrument cannot be addressed by bifurcation. In such cases, expected-return taxation appears to be the only suitable method.²²

5.2.4.4 Taxation on the Basis of the Legal Form of the Hybrid Instrument

The third method examined here is the taxation of hybrid instruments based on their legal form. In the Swedish income tax system, this method is typically applied to the taxation of derivatives, which are hybrid instruments.²³

To determine the legal form of a composite contract, it is necessary to disregard its building blocks. Thus in contrast to bifurcation, taxation based on the legal form of a hybrid instrument entails that a composite contract, like the equity index-linked bond, is considered to be an indivisible contract for income tax purposes.

¹⁸ See Section 5.2.3.

¹⁹ 4.64 is taxed in Year 1 and 4.86 is taxed in Year 2 (see Case *RÅ 1994 ref 19*).

²⁰ At the maturity of the option, its value is 50. Because the option was purchased at a price of 9.5, however, its net payoff is 40.5 (50-9.5).

²¹ This inconvenience is further discussed in Section 6.3.5.6, Chapter 6.

²² See Section 4.4.5.

²³ See Section 4.4.3.

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Taxing the payoff of the equity index-linked bond on the basis of its legal form gives an essentially different result compared to the previous methods. Considering the equity index-linked bond as an indivisible instrument, with a principle amount of 100, any payoff from the instrument is dependent on unexpected changes in the equity index.²⁴ Thus the possible payoff of the instrument is too unpredictable to be taxed as interest,²⁵ and the entire payoff from the instrument is taxed as capital gains.

If the equity index-linked bond provided expected payoff designated to be interest, and that payoff were possible to establish on the basis of the principal amount of the instrument, the payoff would be taxed as interest.²⁶ For example, if the building block of the equity index-linked bond – a zero-coupon bond – were to be exchanged for a discounted coupon bond, the taxation of such equity index-linked (coupon) bond would be similar to the taxation carried out on the basis of the previous methods. Thus if the coupon bond paid 4.75 at the end of each year, the taxation of the equity index-linked (coupon) bond would be as follows. In Year 1, 4.75 would be taxed as interest. Presupposing the value of the equity index-linked (coupon) bond to be 145.25²⁷ at maturity, the taxation in Year 2 would involve the taxation of 4.75 as interest and 40.5 as a capital gain. If the value of the bond is 95.25²⁸ at maturity, 4.75 is taxed as interest, and 9.5 is recognized as a capital loss.

5.2.4.5 Preventing Tax Arbitrages

From the examination of the three methods of taxing hybrid instruments, it follows that only expected-return taxation fully prevents possible tax arbitrages related to hybrid instruments. However, as is noted in Section 4.4.5, Chapter 4, the application of this method requires such major changes in the Swedish income tax system that it must be considered unrealistic.

Bifurcation is the second-best method for preventing tax arbitrage. This method has the disadvantage of not being able to be used to prevent the tax arbitrage opportunities arising in relation to stand-alone instruments, which are hybrid instruments.²⁹ However, in relation to composite contracts, it fully prevents tax arbitrage opportunities that would arise as a result of the composite contract being taxed differently compared to its building blocks. Finally, the least efficient method for preventing tax arbitrages related to hybrid instruments is taxation on the basis of the legal form of the instrument. This method requires the composite contract to be considered indivisible for income tax purposes. Thus income must be classified in relation to the composite contract, entailing that what is considered interest in relation to one of its building blocks is not necessarily considered interest in relation to the composite contract. Rather, this

²⁴ See Section 5.2.4.1.

²⁵ See Section 3.4.4 regarding the concept of interest as used in the Swedish income tax system.

²⁶ See Section 3.4.4.4.

²⁷ 150-4.75 (interest paid in Year 1).

²⁸ 100-4.75 (interest paid in Year 1).

²⁹ See Section 5.2.4.3.

method stimulates the creation of hybrid composite contracts in order to exploit tax arbitrages.

5.3 Bifurcation as an Exception in the Swedish Income Tax System

5.3.1 The “Residual Method”

As illustrated in Chapter 4, the taxation of derivatives is carried out on the basis of the legal form of the derivative. Thus the Swedish Income Tax Act (ITA) explicitly prescribes the least efficient of the three examined methods for derivatives, which are hybrid instruments. Chapter 6 illustrates that composite contracts, being hybrid instruments, are, as a general rule, treated in a similar way to derivatives. However, in regard to the taxation of hybrid instruments that are composite contracts, the Swedish ITA makes one explicit exception to this inefficient method. That is, the payoffs from bonds combined with covered or uncovered warrants³⁰ are to be taxed with reference to the building blocks of the instrument. In other words, the Swedish ITA prescribes the application of bifurcation.³¹

Under the Swedish income tax system, the method used when taxing bonds combined with warrants is generally referred to as the “residual method”³². The following sections examine the reason for this exception, and whether the method can also be applied to other composite contracts.

5.3.2 Income Tax Treatment of Units

For income tax purposes, bonds combined with warrants are generally referred to as “units”. Units can be issued as contractually indivisible instruments or as a combination of two contractually independent instruments: in principle, one bond and one warrant. However, in general, all units are issued as contractually separable instruments.³³

The first Swedish unit was issued in 1981.³⁴ In a precedent-setting court decision in 1983, the Swedish Supreme Administrative Court, SAC, established that the entire cost of obtaining a unit at inception was to be allocated to the bond within the unit.³⁵ Consequently, with reference to a no-arbitrage

³⁰ In Swedish, *optionslån*.

³¹ Chapter 48, Section 14 ITA.

³² In Swedish, *restvärdesmetoden*.

³³ See, for example, Kindlund, P. (1985, p. 326); and Tivéus, U. (2006, p. 159).

³⁴ Kindlund, P. (1985, p. 326).

³⁵ Case *RA 83 referat 1:77 II*. The decision is discussed in Herrlin, K. (1984, pp. 77-79); and Tivéus, U. (1984, pp. 196-200).

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assumption, the bond was attributed a value greater than its market value.³⁶ The decision left the door open for tax arbitrage opportunities, as an immediate disposal of the bond resulted in a capital loss corresponding to the value of the warrant. The capital loss, which, in principle, was fictitious, resulted in deferred taxation.³⁷ As a result of the judgment, an extraordinarily large number of units were issued.³⁸

To prevent this type of tax arbitrage, new legislation was launched in 1985.³⁹ The new legislation introduced the “residual method”, which prescribed the allocation of the value of a unit to the bond, as well as to the warrant. In principle the residual method signifies that the value of the bond is to be established on the basis of its principle amount and the market interest rate: at fair-value. The value of the warrant is the residual value of the unit after the value of the bond has been established. More specifically, the value of a warrant within a unit is the difference between the total value of the unit and the value of the bond.⁴⁰ When the residual method was introduced in 1985, it was applicable only to units being issued.⁴¹ As of 1991, however, the method is applicable to any unit.⁴²

The residual method implies that there is no difference in the income tax treatment of units, whether they are contractually indivisible or not. In any case, the building blocks of the unit – the bond and the warrant – are treated as separate contracts.⁴³ The bond is treated like a debt instrument providing payoff classified as interest, and the warrant as an equity instrument providing capital gains or losses.⁴⁴ Consequently, there is no principle difference between the residual method and the method I refer to as bifurcation.

5.3.3 Units in Relation to other Contingent Debt Instruments

There are two principle differences between a unit and other types of contingent debt instruments. First, the underlying of the option in a unit is always a share (or a share to be issued) of the company issuing the unit, whereas the underlying of the option in other contingent debt instruments can be something else – often an index. Second, the option in a unit is always settled by terms of delivery, whereas the option in other types of contingent debt instruments need not necessarily be settled by delivery; it can just as well be settled net in cash. However, neither of these differences influences the value of instruments.

³⁶ Cf. the reasoning on the contingent debt instrument in Section 5.2.4.1 in this chapter.

³⁷ See Section 3.2.5.2.

³⁸ The Swedish Government Bill (*Proposition*) 1984/85:97 (pp. 6-7); and Kindlund, P. (1985, p. 326).

³⁹ The Swedish Government Bills (*Proposition*) 1984/85:97 (p. 7) and 1984/85:193 (pp. 28-31).

⁴⁰ The Swedish Government Bill (*Proposition*) 1984/85:193 (pp. 27-33).

⁴¹ The Swedish Government Bill (*Proposition*) 1984/85:193 (pp. 27-33).

⁴² The Swedish Government Bill (*Proposition*) 1990/91:54 (pp. 216-218). The provision is stated in Chapter 48, Section 14 ITA.

⁴³ The Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 580).

⁴⁴ See Section 3.4.

Consequently, there is no principle difference between the economic character of the payoffs from units and other types of contingent debt instruments.

Furthermore, just like a unit, other types of contingent debt instruments can be contractually indivisible, or structured in a way that makes its building blocks possible to separate. Consequently, there are, in principle, no contractual differences between units and other types of contingent debt instruments.

In conclusion, the similarity between units and other types of contingent debt instruments makes it practically possible to apply the residual method in relation to any type of contingent debt instrument. As illustrated in Section 5.2.4.3, such an application would basically eliminate the tax arbitrage situations arising because of their hybrid character. However, it follows from case law that the SAC has chosen not to use this opportunity to prevent tax arbitrages. Instead, it seems that the SAC advocates the taxation of any composite contract, in the same way that derivatives are taxed: taxation on the basis of the legal form of the instrument generating the income. Relevant case law for drawing this conclusion is presented in next chapter.

5.4 Conclusions

Hybrid instruments provide tax arbitrage opportunities in case the legal classification and taxation of their payoff does not reflect the economic substance of the payoff. Thus the only way to eliminate tax arbitrage opportunities related to hybrid instrument is taxation based on the economic substance of the payoff from these instruments. Such taxation is generally referred to as expected-return taxation. However, the application of expected-return taxation would require such major changes in the Swedish income tax system that it must be considered as a theoretical solution rather than a possible alternative for preventing tax arbitrages. As a result, tax arbitrage opportunities resulting from the hybrid character of financial instruments that are stand-alone basic building blocks, are difficult to prevent.

Composite contracts that are hybrid instruments, for example contingent debt instruments, provide tax arbitrage opportunities in cases in which the payoff from their respective building blocks are taxed differently than the payoff from the composite contract. A method for preventing such tax arbitrage opportunities is bifurcation, which entails the taxation of composite contracts on the basis of the economic substance of its building blocks. In the Swedish income tax system, bifurcation is applicable only in regard to bonds combined with warrants. However, there appears to be no impediments other than political considerations to make bifurcation applicable in regard to other types of composite contracts as well.

Finally, at several points in this chapter, the Swedish income tax treatment of composite contracts was said to be conducted on the basis of the legal form of the instrument providing the payoff. The basis for these statements is not to be found in this chapter. Rather, the income tax treatment of composite contracts is thoroughly examined and analyzed in Chapter 6.

6 Composite Contracts

6.1 Composite Contracts – Combinations of Basic Building Block Financial Instruments

In Chapter 5, a composite contract is defined as a legally distinct financial contract: in substance, a combination of basic building block financial instruments.¹ A common type of composite contract is the contingent debt instrument.² Contingent debt instruments are combinations of credit-extension instruments and stand-alone derivatives, and are typically hybrid instruments, in that they provide a net payoff that is a combination of expected income and windfall gains or losses. However, composite contracts can also be structured by combining stand-alone derivatives. An example of such a contract is a regular swap.³ Just like contingent debt instruments, this type of composite contract generally provides payoffs that lead to their being classified as hybrid instruments. Thus composite contracts challenge the Swedish income tax system, in that they have the potential to provide tax arbitrage opportunities because of their character as hybrid instruments.⁴

Chapter 5 presents three methods of dealing with hybrid instruments.⁵ The methods are more or less efficient in the way they prevent tax arbitrage opportunities connected to hybrid instruments. With reference to these methods, this chapter examines the Swedish income tax treatment of composite contracts for the purpose of establishing if the income tax treatment provides tax arbitrage opportunities and if the tax treatment can be rendered more efficient for preventing tax arbitrage opportunities.

Composite contracts are, to a great extent, developed and issued by financial companies.⁶ However, certain types of composite contracts are commonly used by non-financial companies in order to raise capital. The latter have been institutionalized, in the sense that they are defined in the Swedish Company Act (CA)⁷ and dealt with in the Swedish Income Tax Act (ITA).⁸ In contrast, the

¹ See Section 5.1.

² See Section 5.2.1.

³ See Section 2.4.3.

⁴ For more information about tax arbitrage opportunities connected to hybrid instruments, see Sections 4.4.3 and 5.2.2.

⁵ See Section 5.2.3.

⁶ Banks and insurance companies regularly offer positions in new financial innovations, which, in substance, are composite contracts.

⁷ *Aktebolagslag (2005:551)*.

income tax treatment of non-institutionalized composite contracts is not defined in legislation; rather it is basically stated in case law.⁹ For this reason, case law on non-institutionalized contracts is more thoroughly examined in this chapter than is the case law on institutionalized contracts; the income tax treatment of the latter has been explicitly codified in the ITA.

From the perspective of non-financial companies, furthermore, institutionalized composite contracts are typically issued, whereas non-institutionalized contracts are typically purchased. Thus in the examination of these contracts, different perspectives are used to illustrate how the composite contracts are typically treated in the hands of a non-financial company.

The first part of the examination, conducted in Section 6.2, focuses on composite contracts that are institutionalized, in the sense that they are dealt with in the Swedish CA; these are composite contracts used by non-financial companies for the purpose of raising capital. Section 6.3 examines composite contracts that have not been institutionalized, in the sense that they are dealt with in the Swedish CA. These contracts are generally purchased by non-financial companies for purposes of capital management or risk management. Finally, Section 6.4 presents the conclusions.

6.2 Institutionalized Composite Contracts

6.2.1 Capital Raising Contracts

Composite contracts are developing constantly on the capital market. In some cases, the income tax treatment of these instruments is relatively uncertain until the instruments have been dealt with in case law.¹⁰ However, some composite contracts are institutionalized, in the sense that they are defined in legislation. Bonds combined with warrants are composite contracts, for instance, and are explicitly dealt with in the Swedish CA; furthermore they are subject to special regulations in the Swedish ITA.¹¹ Additional examples of institutionalized composite contracts are the various types of convertible bonds and debentures.

A general characteristic of the institutionalized composite contracts examined in this study is their use by non-financial companies, primarily for raising capital.¹² In the following section, therefore, the income tax treatment of institutionalized composite contracts is examined from the perspective of the issuer – the company that uses the contracts in order to raise capital.

⁸ See, for example, Chapters 14 and 15 in the Swedish CA; and Chapter 48, Sections 2, 13, and 14 ITA.

⁹ See Section 6.3.1 in this chapter.

¹⁰ See Section 6.3.

¹¹ See Section 5.3.2.

¹² Chapter 11, Section 1, Paragraphs 3-4; and Section 11 in the Swedish CA.

6.2.2 Bonds Combined with Warrants

Bonds combined with warrants¹³ have been an institutionalized capital-raising instrument since 1973.¹⁴ The instrument is typically a hybrid – a combination of a long position in a bond and a long position in a warrant.¹⁵ From the perspective of the company issuing the contract, the income tax treatment of bonds combined with warrants is similar to the way convertibles are treated. Therefore, the income taxation of bonds combined with warrants and convertibles is jointly examined in Section 6.2.4.

As of 2006, Swedish companies may issue warrants without combining them with a bond.¹⁶ Because warrants are not composite contracts, however, the way in which they are treated in the Swedish income tax system is not examined in this chapter; instead they are addressed in Chapter 4 on the income tax treatment of stand-alone derivatives.¹⁷

6.2.3 Convertibles

6.2.3.1 Traditional Convertible Bonds

Just like bonds combined with warrants, traditional convertible bonds have been institutionalized capital raising instruments since the beginning of the 1970s.¹⁸ A traditional convertible bond is usually an interest-paying contract that can be partly or entirely converted into the equity of the issuing company.¹⁹ The conversion is conducted in accordance with a fixed price, which makes the value of the convertible bond directly dependent on the value of the company issuing the bond. Consequently, a convertible bond is, in substance, a bond with an embedded long-call option on the equity of the issuing company: a contingent debt instrument.²⁰

Compared with a regular share of a company, a bond that can be converted into such a share is more attractive because, unlike the regular share, it pays interest. Furthermore, as the holder of a convertible bond may choose not to convert the bond into equity, the holder is not exposed to the downside risk of

¹³ In Swedish, *optionslån*.

¹⁴ The Swedish Government Bill (*Proposition*) 1973:93.

¹⁵ See Section 5.3.2. It is also possible to consider a bond combined with warrants as a deep-in-the-money call option on the equity of the issuing company (cf. Section 4.4.3.3). Tax arbitrage opportunities related to such a perspective are discussed in Section 6.3.3.4 in this chapter.

¹⁶ Chapter 14 in the Swedish CA. See also the Swedish Government Bill (*Proposition*) 2004/05:85 (p. 342).

¹⁷ Chapter 4 examines the income tax treatment of warrants and the way in which such derivatives as a warrant may constitute a hybrid instrument.

¹⁸ The Swedish Government Bill (*Proposition*) 1973:93.

¹⁹ Chapter 5, Section 1 in the obsolete Swedish Company Act (*Aktiebolagslag* (1975:1385)). See also, for example, Rutberg A., Rutberg, J. and Molander L. (1997, p. 153); or Calamos, J. P. (1998, p. 36).

²⁰ Cf. Footnote 15 in this chapter.

that equity.²¹ Consequently, on the basis of a no-arbitrage assumption, one can conclude that the conversion price (compare with “strike price” in Section 2.5.1.4, Chapter 2) of the convertible bond must always be slightly greater than the spot price of the shares of the issuing company at inception of the convertible bond.²² In other words, the principal amount of a bond that entails an unlimited right of conversion into one share of the company issuing the bond is always greater than the price of the share at the time the bond is issued.

6.2.3.2 Mandatory Convertibles

In addition to traditional convertible bonds, the Swedish CA allows companies to issue mandatory convertibles.²³ A mandatory convertible differs from a traditional convertible bond in the sense that it will automatically be converted into the underlying share at a specific future date.²⁴ Thus unlike the holder of a traditional convertible bond, who may choose not to exercise the convertible, the holder of a mandatory convertible is obliged to exercise the contract at a specific future date. The principle difference between the two types of convertible bonds is, therefore, that a traditional convertible bond is a composite contract consisting of a bond and a call option; whereas a mandatory convertible bond is a composite contract, consisting, in principle, of a bond and a long position in a forward contract.²⁵ However, as has been illustrated in Section 4.4.3.5, Chapter 4, a bond combined with a forward is equal to a prepaid forward. Thus a mandatory convertible is, in substance, a prepaid forward on the equity of the issuing company.²⁶

In comparison to the shares of the issuing company, a mandatory convertible is more favorable, as it provides interest over the duration of the contract. However, the risks of a mandatory convertible and its underlying equity are identical.²⁷ Therefore, on the basis of a no-arbitrage assumption, the difference in value between a non-dividend paying share and a mandatory convertible that can be converted into that share is the present value of the future interest the mandatory convertible expects to pay.²⁸

Although there are some principle differences between traditional convertible bonds and mandatory convertibles, they are jointly referred to as convertibles in the Swedish CA and in the Swedish ITA.^{29, 30}

²¹ About risk, see Section 2.2.2.

²² See, for example, Tivéus, U. (2006, pp. 132-133). See also Chapter 15, Section 6 in the Swedish CA; and the Swedish Government Bill (*Proposition*) 2004/05:85 (pp. 347-348).

²³ Chapter 15 in the Swedish CA; see also the Swedish Government Bill (*Proposition*) 2004/05:85 (pp. 341-343).

²⁴ Chapter 11, Section 4 in the Swedish CA. See also the Swedish Government Bill (*Proposition*) 2004/05:85 (pp. 342-343) and Calamos, J. P. (1998, pp. 74-78).

²⁵ Cf. Sections 2.4 and 2.5 concerning price-fixing derivatives and price-insurance derivatives.

²⁶ Cf. Section 4.4.3.5.

²⁷ See Section 2.4.4 about the way forwards transfer risk.

²⁸ See Section 2.6.1.3.

²⁹ In Swedish, *konvertibler*.

6.2.4 Income Tax Treatment of Bonds Combined with Warrants and Convertibles

6.2.4.1 The Cost of Capital

As is mentioned in Section 6.2.1 in this chapter, non-financial companies enter into bonds combined with warrants or convertibles primarily for the purpose of raising capital. The capital a company receives by issuing these types of contracts is not a result of value generating activities and therefore does not entail any principle income tax consequences.³¹ However, in the case of the cost related to the issuing of these contracts being recognized as interest, this cost can be offset against any income of the issuing company. Therefore, from the perspective of a non-financial company, the general income tax issue connected to bonds combined with warrants and convertibles determines how the cost of the capital that is raised by the instruments is to be classified.

Bonds combined with warrants and traditional convertible bonds have one thing in common: The interest they provide is slightly lower than the interest paid by a bond of the same principle amount that is not combined with a call option.³² On the basis of a no-arbitrage assumption, the value of the call option equals the present value of the difference between the total amounts of interest paid by the two types of bonds. Consequently, the cost of a short position in any of the two bonds is equal but, in the case of a bond combined with a call option, the cost is divided into interest and a call option; in the case of a bond that is not combined with a call option, the entire cost is designated to be interest. Thus the call option constitutes, in substance, a capital discount on the bond.

Section 2.4.1.3, Chapter 2 establishes the fact that the value of a basic forward is always zero at inception of the contract. In the case of the forward component in a mandatory convertible being on the market, therefore, it provides no extra value to the mandatory convertible at inception.³³ Thus in a no-arbitrage environment, the interest required by potential investors in a mandatory convertible must be similar to the interest required for the investment in a regular bond. Consequently, the costs related to the issuing of a mandatory convertible is, as a general rule, classified and taxed as interest.³⁴ However, if the forward component in the mandatory convertible is off the market, representing a positive or negative value, it will, in principle, make the interest of the mandatory convertible diverge from the interest of a corresponding regular bond.

³⁰ The Swedish Government Bill (*Proposition*) 2005/06:39 (p. 35) and Chapter 11, Section 4 in the Swedish CA.

³¹ Chapter 15, Section 1 ITA. See also Section 3.3.2.

³² See, for example, Tivéus, U. (2006, p. 132).

³³ This argument is relevant, whether the mandatory convertible is considered to be a composite contract or a stand-alone prepaid forward.

³⁴ The novelty of these contracts entails the lack of case law confirming their income tax treatment.

6.2.4.2 Income Tax Treatment of the Costs Connected to Certain Capital Raising Contracts

The cost connected to a regular bond or a mandatory convertible that is used for capital raising purposes is usually classified and taxed as interest. Consequently, as was mentioned in the previous section, such cost can be offset in its entirety.³⁵ However, the cost of issuing a bond, combined with warrants or a traditional convertible bond, can be offset only to the extent that the cost is designated to be interest.³⁶ Thus the value of the call option is not deductible, although it is part of the cost of issuing these contracts.³⁷

In principle, the income tax treatment of bonds combined with warrants and traditional convertibles entails that the cost of the capital discount is borne directly by the share holders of the issuing company.³⁸ In comparison with the cost of bonds not combined with call options, in which the entire cost of the bond is borne by the company, this tax treatment appears conspicuous, and it has been criticized as such.³⁹

The provisions prohibiting the deduction of the capital discount of bonds combined with warrants were established in 1985.⁴⁰ The rationale for these provisions was primarily based on the existing accounting rules on bonds combined with warrants. These provisions entailed that the entire amount of the bond be recognized as a liability and, with reference to the connection between financial accounting and income taxation, an income tax provision contrary to the financial accounting was deemed to be undesirable.⁴¹ Furthermore, it was argued in the preparatory works that traditional convertibles and bonds combined with warrants were to be treated in a similar way for income tax purposes.⁴² It is clear from the preparatory works that it was presumed that traditional convertibles could not be bifurcated into building blocks, meaning that the price of the option in the traditional convertible could not be established.⁴³ In order not to grant bonds combined with warrants preferential treatment over traditional convertibles, it was decided to prohibit deduction of the capital discount from such contracts.

³⁵ Chapter 16, Section 1 ITA.

³⁶ Cf. Section 3.4.4, about the concept of interest used in the Swedish income tax system.

³⁷ On bonds combined with warrants, see Chapter 24, Section 4 ITA and Case *RÅ 1979 I:97*. On convertibles, see Cases *RÅ 1983 notis Aa 109* and *RÅ 2002 referat 77*. IS Aa 109 CORRECT? Yes! However, if a convertible is issued at a discounted value, the difference between the discounted value and its principle amount is deductible; see Case *RÅ 1987 notis 241*.

³⁸ See, for example, Sandels, C. (1980, p. 72-73).

³⁹ See, for example, Sandels, C. (1990); the Swedish Government Official Report (*SOU*) 1998:1 (pp 279-280); Virin, N. (1998, pp. 956-961), (2002, pp. 770-771) and (2003, pp. 169-173); and Brockert, M. (2003, pp. 563-564). See also Lanke, C. (2003), who appears to be in favor of the present provisions.

⁴⁰ The Swedish Government Bill (*Proposition*) 1984/85:193.

⁴¹ The Swedish Government Bill (*Proposition*) 1984/85:193 (p. 51).

⁴² The Swedish Government Bill (*Proposition*) 1984/85:193 (pp. 52-53).

⁴³ The Swedish Government Bill (*Proposition*) 1984/85:193 (p. 52). The reason for making such an assumption is not evident.

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Subsequent to the prohibition, accounting regulations on convertibles and bonds combined with warrants stated that the capital discount connected with the issue of these contracts is to be recognized as costs.⁴⁴ To follow the present accounting provisions on the issue entails a neutral treatment between traditional convertibles and bonds combined with warrants. Therefore, the arguments in favor of the prohibition contained in the preparatory works, can, in principle, be used to argue for abolishing the prohibition.⁴⁵ However, the prohibition remains at present.

6.2.4.3 Tax Arbitrage Opportunities

The income tax treatment of bonds combined with warrants and traditional convertibles creates tax arbitrage opportunities, in the sense that they are more expensive than other equivalent capital-raising methods such as regular bonds or mandatory convertibles. On the basis of a no-arbitrage assumption, therefore, a rational tax payer will always issue a regular bond rather than a bond combined with a warrant or a traditional convertible, as these latter type of contract is more expensive. For this reason it has been argued that companies abandon bonds combined with warrants and traditional convertibles for purpose of raising capital.⁴⁶

The tax arbitrage opportunities related to the issuing of traditional convertibles or bonds combined with warrants could be prevented if the value of the call option, which is a component of these contracts, were offset by the issuing company. In such cases, the income tax treatment of these contracts would be equal to the income tax treatment of regular bonds. In order not to create new tax arbitrage opportunities that would make traditional convertibles and bonds combined with warrants more favorable than regular bonds, however, it is important that the party taking a long position in a traditional convertible or a bond combined with a warrant recognizes the value of the option as income, just the party would have done in case of interest. In other words, it is important that the principle of reciprocity be considered.

6.2.4.4 Options on Own Shares

Examining the type of tax arbitrage presented above is, in principle, relevant to any type of composite contract that could be converted into equity of the issuing company. This situation gives rise to a general dilemma, however: Whether or not the value of the option on the issuing company's equity is to be classified as a remitted (capital) gain when issued.

As a general rule, the value of any option issued by a company is recognized as a capital gain when issued.⁴⁷ However, if the issued option is on the

⁴⁴ See Paragraphs 23-24 RR 27; and Paragraphs 28-32, and AG30-AG35 IAS 32.

⁴⁵ The Swedish Government Official Report (*SOU*) 1998:1 (p. 280); and Virin, N. (1998, pp. 957-958).

⁴⁶ Virin, N. (2002, p. 771).

⁴⁷ Chapter 44, Section 26 ITA. See also Section 4.3.4.6.

company's own shares, the gain is tax exempt under certain circumstances.⁴⁸ In such cases the option has no income tax consequences, and it would be problematic to treat it as a remitted gain – as a cost that can be deducted for income tax purposes. Such treatment would likely provide additional tax arbitrage opportunities because it would be possible to have derivatives on own shares recognized as cost simply by embedding them in composite contracts.

If the value of the option on own shares is not classified as a gain when issued, it may be possible to argue that the value of the option could be classified as interest in kind, and therefore treated the same way as interest distributed as cash.⁴⁹ However, such treatment introduces the difficulty of distinguishing among various types of options on own shares and provides tax arbitrage opportunities, as it implies that options on own shares are treated differently and independent of their economic substance.

In summary, the tax arbitrage opportunities related to composite contracts that can be converted into the equity of the issuing company are difficult to prevent without simultaneously creating new tax arbitrage opportunities.⁵⁰ The issue is so complex that it merits a separate study, and it will not be further dealt with here.

6.2.5 Debentures

6.2.5.1 Different Types of Debentures

A debenture is a debt instrument, the payoff of which is wholly or partly dependent on the performance of the issuing company. There are usually two types of debentures dealt with in the Swedish CA and in Sweden's income tax legislation: participating debentures⁵¹ and equity debentures⁵². In the case of a participating debenture, the payoff before maturity is dependent on the performance of the issuing company. In the case of an equity debenture, the principle amount is an amount relative to the equity of the issuing company. Thus the amount of the investment that will be refunded is directly dependent on the performance of the issuing company.

6.2.5.2 Participating Debentures

A participating debenture can be constructed in several ways. First, it may provide payoff that is partly connected to the performance of the issuing company and partly connected to a specified interest rate. However, it can also be constructed in a way that makes the entire payoff connected to the performance of the company. Second, the payoff connected to the performance

⁴⁸ Chapter 48, Section 6a ITA. See also Section 4.3.6.

⁴⁹ Case *RÅ 1990 referat 73*. See also, for instance, von Bahr, S. (1988, pp. 570-571).

⁵⁰ Additional difficulties are presented in Section 6.3.3.4 in this chapter.

⁵¹ In Swedish, *vinstandelslån*.

⁵² In Swedish, *kapitalandelslån*.

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of the company may be linked to the dividend distributed by the company, the annual result of the company, the spot price of the shares of the company, or any other variable mirroring the performance of the issuing company.⁵³

The payoff of a participating debenture is divided into participating interest⁵⁴ and regular interest.⁵⁵ If the debenture provides regular interest, the issuing company is allowed to deduct that interest in accordance with the general rules on interest.⁵⁶ However, the participating interest is deductible only under certain circumstances. Whether or not it is deductible depends, among other things, on whether the issuing company is a closed company or a listed company, and whether the debenture is publicly offered or offered only to a certain group of investors.⁵⁷ Non-deductible participating interest is treated as equal to payoff, generally known as dividends.⁵⁸ Thus from the perspective of the issuing company, the payoff from a participating debenture is treated as interest and/or dividends.

6.2.5.3 Equity Debentures

The Swedish CA of 1975 did not allow companies to issue equity debentures.⁵⁹ However, the prohibition was abolished in the Swedish CA of 2006.⁶⁰

An equity debenture can generally be structured in the same way as a participating debenture, with the exception that some or all the amount refunded at maturity is dependent on the performance of the issuing company. Thus the main difference between a participating debenture and an equity debenture is the risk to which they are exposed. Whereas a participating debenture is exposed to the upside risk of the equity of the issuing company, an equity debenture is exposed to the total risk of the equity of the issuing company.⁶¹ Therefore, the difference between the two types of debentures is similar to the difference between traditional convertibles and mandatory convertibles, examined in Section 6.2.3 in this chapter.

As the risks, and thus also the payoffs, of an equity debenture and a share of the issuing company are similar, they are, in principle, financially exchangeable. Furthermore, Section 2.6.3.3, Chapter 2 illustrates how the payoff of a share can be replicated by means of a call option on that share. Consequently, an equity

⁵³ Chapter 11, Section 11 in the Swedish CA. See also the Swedish Government Bill (*Proposition*) 2006/2007:70 (pp. 65-69).

⁵⁴ In Swedish, *vinstandelsranta*.

⁵⁵ Chapter 24, Section 5 ITA.

⁵⁶ Chapter 24, Section 5 ITA.

⁵⁷ The situations in which participating interest is deductible are listed in Chapter 24, Sections 6-10 ITA. For the reasons for differing income tax treatments of participating interest in different situations, see, for example, the Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (pp. 312-315).

⁵⁸ Regarding dividends, see Section 3.4.3.

⁵⁹ The Swedish Government Bill (*Proposition*) 1975:103 (p. 221).

⁶⁰ Chapter 11, Section 11 in the Swedish CA, see also the Swedish Government Bills (*Propositioner*) 2004/05:85 (pp. 367-369) and 2006/2007:70 (pp. 65-69).

⁶¹ The risk is reduced in proportion to the part of an equity debenture that is not dependent on the performance of the issuing company.

debenture can, in principle, be replicated by issuing a call option on own shares.⁶² To the extent that an equity debenture is not related to the performance of the issuing company, it works the same way as a participating debenture.⁶³

The similarity between an equity debenture and an option on the shares of the issuing company is reflected in the income tax legislation. Just as gains and losses from the sale of derivatives on own shares are tax exempt, gains and losses arising at maturity of an equity debenture have no income tax consequences for the issuing company.⁶⁴ If the equity debenture generates payoff before maturity, that payoff is treated the same way as the payoff is treated if generated by a participating debenture.⁶⁵

6.2.5.4 Convertible Debentures

Participating debentures and equity debentures can be issued as convertible securities. That is, the holder of such debenture may convert it into shares of the issuing company in relation to its present value and a fixed conversion rate.

Regarding the issuing company, there is no difference in tax treatment between a convertible debenture and a regular debenture. However, the holder of a convertible debenture is taxed more favorably than is the holder of a regular debenture, as the convertible debenture entails deferred taxation of capital gains and capital losses.⁶⁶ More specifically, gains and losses from a convertible debenture are taxed when the share(s) to which it was converted is sold.

6.2.5.5 Participating Interest vs. Dividends

Generally, the profit of a company is distributed to its share holders as dividends. Dividends are distributed on the net result of the company, and therefore, cause no income tax consequences for the distributing company.⁶⁷ In principle, because the payoff from an equity debenture may be linked to the amount of distributed dividend of the issuing company, it is possible to replicate dividends by means of a short-term equity debenture. Because the taxation of the payoff from a short position in an equity debenture is identical to the taxation of dividends, however, the two different ways for distributing profit are tax neutral.

An additional way to replicate dividends is by means of participating interest. In substance, distributed participating interest and a negative payoff

⁶² Thus an equity debenture that pays both regular interest and participating interest is, in substance, a deep-in-the-money call option combined with a number of short-term call options on the equity of the issuing company. Cf. Section 4.4.3.3.

⁶³ See Section 6.2.5.2.

⁶⁴ Chapter 25a, Section 19 ITA; and Chapter 48, Section 6b and 28 ITA. See also the Swedish Government Bill (*Proposition*) 2005/06:39 (pp. 28-31).

⁶⁵ See Section 6.2.5.2.

⁶⁶ Chapter 44, Section 10 ITA.

⁶⁷ See Section 3.4.3. However, the distributing company may, in certain situations, be obliged to withhold income taxes on distributed dividend, attributable to the subject(s) receiving the dividend; see *Kupongskattelag* (1979:624).

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from a short-term equity debenture is the same thing – a capital loss from a short position in a call option on the equity of the issuing company. However, in the Swedish income tax system, capital losses classified as participating interest are sometimes taxed more favorably than are capital losses from the exercise of equity debentures. More specifically, whereas dividends and capital losses from equity debentures are distributed on the basis of the net result of the company, participating interest may be distributed on a gross basis thereby reducing the taxable income of the distributing company.⁶⁸ Consequently, according to the Swedish income tax system, the distributed profit of a company is more favorably treated when classified as participating interest than when it is classified as dividends or as capital losses from options on the company's own equity.

6.2.5.6 Tax Arbitrage Opportunities Related to Debentures

In principle, the only difference between convertible participating debentures and bonds combined with warrants or traditional convertibles is the amount of payoff provided before maturity of the contracts. In the case of a convertible participating debenture, or any debenture providing participating interest, part of the payoff depends on the performance of the issuing company. Thus in comparison to a bond combined with warrants or to a traditional convertible, a debenture providing participating interest contains an additional number of cash settled call options on the equity of the issuing company. Just like any option, these additional options contain a value at inception of the debenture. Consequently, on the basis of a no-arbitrage assumption, the value of the option components in the debentures reduce the cost of capital classified as interest, implying that debentures providing participating interest and /or being convertible give rise to the same type of tax arbitrage opportunities discussed in Section 6.2.4.3 in relation to bonds combined with warrants and traditional convertibles.

6.3 Non-Institutionalized Composite Contracts

6.3.1 A Case Law Survey

The preceding section examines the income tax treatment of composite contracts from the perspective of the party issuing the contract, that is, from the short position. That perspective is chosen because the composite contracts dealt with are primarily issued by non-financial companies for purpose of raising capital. The composite contracts dealt with in this section are analyzed from the perspective of the party purchasing the contract – from the long position. This perspective is chosen because the composite contracts examined are primarily

⁶⁸ Chapter 24, Section 5 ITA; see also Section 6.2.5.2.

issued by financial institutions and are therefore purchased by non-financial companies (or individuals).⁶⁹ The variety of these contracts is endless; in this study they are referred to as non-institutionalized composite contracts.

The financial institutions that issue the non-institutionalized composite contracts structure the economic substance of the issued contracts in a different way than they are understood by the holders of the contract. For example, an equity index-linked bond is not necessarily a combination of a zero-coupon bond and a call option on an equity index in the hands of the issuing institution.⁷⁰ However, in the hands of the holder of such a bond, it is perfectly reasonable to assume that the bond is a combination of these two building blocks.⁷¹ Therefore, in the following examination of composite contracts, the focus is on how they can be understood from the perspective of the holder of the contracts.

The trade with non-institutionalized composite contracts on the Swedish capital market seems to have started in the beginning of the 1990s.⁷² The great variety of contracts and the relative novelty of non-institutionalized composite contracts entails that their income tax treatment is primarily established in case law. Thus the examination of the income tax treatment of non-institutionalized composite contracts is based on case law.⁷³ The cases are presented in chronological order because the Swedish Administrative Court (SAC) seems to consider all non-institutionalized composite contracts as similar types of instruments. Thus case law on contingent debt instruments is relevant not only in relation to other contingent debt instruments, but also in relation to such instruments as swap contracts. Consequently, a chronological approach seems to be the most relevant approach for establishing how non-institutionalized composite contracts are to be treated under Swedish income tax legislation. The examination ends with a summary of the cases and an analysis of the tax arbitrage opportunities connected to the taxation of these contracts.

6.3.2 Equity Index-Linked Zero-Coupon Bond

6.3.2.1 Case RÅ 1994 referat 26

The income tax treatment of an equity index-linked bond was decided by the SAC in 1994.⁷⁴ The equity index-linked bond in question did not pay interest, but guaranteed the principle amount on maturity. In addition, if the equity index

⁶⁹ Several of the composite contracts examined are likely issued primarily to attract capital from individuals. However, as the character of the tax subject does not influence the income tax treatment of these instruments, they are also relevant with regard to non-financial companies.

⁷⁰ Grönlund, J. (2002, p. 588) and (2003, p. 621). About equity index-linked bonds, see Section 5.2.4.1.

⁷¹ Grönlund, J. (2003, p. 621).

⁷² See, for example, Rutberg, A. (1993, p. 81).

⁷³ A similar examination has been carried out by Grönlund, J. (2003).

⁷⁴ Case RÅ 1994 referat 26 (appealed advanced ruling). The case is thoroughly analyzed in Rutberg, A. (1993). See also Virin, N. (1994); and Gunne, C. (1995, pp. 331-333).

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to which the bond was linked increased during the lifetime of the bond, an additional amount would be paid to the bond holders.⁷⁵

Neither the Board for Advanced Tax Ruling (the Board) nor the SAC paid attention to the fact that the payoff of the equity index-linked bond could be replicated by means of two stand-alone contracts: its building blocks.⁷⁶ Instead, the equity index-linked bond was classified as an indivisible instrument with similar construction and operation to that of equity instruments.⁷⁷

By deciding that the equity index-linked bond was to be considered as an indivisible contract, the income tax treatment of its payoff was determined, in principle.⁷⁸ As the payoff of the equity index-linked bond was a product of its principal amount and an equity index, the payoff was too unpredictable to be classified as interest.⁷⁹ Thus the entire payoff of the bond was classified as capital gains.

In the same judgment, the SAC also decided how to tax the payoff of the equity index-linked bond if it were purchased at a discount and thereafter sold or exercised. In such a case, the difference between the purchase price and the principal amount of the bond would be a perfectly predictable income, that is, interest. However, the SAC came to the conclusion that although it is evident that the predictable income is interest, it was to be classified as capital gains. As a basis for its decision, the SAC referred to the coherence of the income tax system. More specifically, classifying the payoff as capital gains and interest would impede the application of the averaging method when establishing the purchase price of the equity index-linked bond.⁸⁰

6.3.2.2 Legal Implications of the Case

Regarding the income tax treatment of a long position in composite contracts, two important points are made in Case *RA 1994 referat 26*. First, although a composite contract is, in substance, a combination of different building blocks, it is to be considered as an indivisible contract for income tax purposes. It appears as if the SAC made this classification on the basis of the contractual characteristics of the instrument. Second, if a composite contract is classified as an indivisible instrument, the payoff it provides is of a single type – interest *or* capital gains.⁸¹

In principle, this decision on the equity index-linked bond, entailing that the predictable income (the difference between the discounted value of the bond and its principle value) is taxed as capital gains contradicts previous case law. In at least two prior decisions, the SAC ruled that a difference between the principal

⁷⁵ The payoff was 150 percent of the principal amount of the bond, multiplied by the increase of the equity index.

⁷⁶ Cf. Section 5.2.4.1.

⁷⁷ Cf. Section 3.4.2.3.

⁷⁸ See Section 5.2.4.4.

⁷⁹ Cf. Section 5.2.4.1.

⁸⁰ See Section 4.3.3.4 regarding the averaging method.

⁸¹ This outcome is challenged in subsequent case law; see Sections 6.3.5 and 6.3.8 in this chapter.

amount and the purchase price of a bond is to be considered interest.⁸² The SAC reverted to this original approach in a subsequent case dealing with the income tax treatment of a real zero-coupon bond. That case is dealt with next.

6.3.3 Real Zero-Coupon Bond

6.3.3.1 *The Economic Substance of a Real Zero-Coupon Bond*

A real zero-coupon bond is generally considered to be a bond guaranteeing payoff similar to a specified real interest rate during the lifetime of the bond.⁸³ The bond is linked to the consumer price index, CPI, entailing that if the annual average increases of that index over the lifetime of the bond is greater than the difference between the real interest rate of the bond and the nominal market interest rate at inception of the contract, the real zero-coupon bond provides a greater payoff than does a regular zero-coupon bond. If the annual average increase of CPI is less than the difference between the real interest rate and the nominal market interest rate at inception of the bond, the real zero-coupon bond typically provides a payoff less than a regular zero-coupon bond.

In terms of basic building block financial instruments, a real zero-coupon bond is a combination of a regular zero-coupon bond and a call option on the CPI⁸⁴ – a typical contingent debt instrument.⁸⁵ On the basis of a no-arbitrage assumption, the initial value of the option in the real zero-coupon bond is the discounted value of the difference between real and nominal interests during the lifetime of the bond. Thus together with the total value of real interest provided by a real zero-coupon bond, the value of the option equals the total value of interest provided by a regular zero-coupon bond with the same principle amount and duration as the real zero-coupon bond. Consequently, the value of the option causes the lower interest rate of the real zero-coupon bond. In that sense, there are striking similarities between a real zero-coupon bond and, for example, a convertible bond or a bond combined with a warrant.⁸⁶

6.3.3.2 *Case Law on the Taxation of Income from a Real Zero-coupon Bond – Case RÅ 1995 referat 71*

In a court decision from 1995, Case RÅ 1995 referat 71, the SAC decided how to treat the payoff from real zero-coupon bonds for income tax purposes.⁸⁷ In this appealed advance ruling, the majority of the Board members decided that the similarity between the real zero-coupon bond and the equity index-linked

⁸² Cases RÅ 1988 referat 2 and RÅ 1994 referat 19.

⁸³ See, for example, Virin, N. (1996, p. 84); and Rutberg, A. (1996, p. 151).

⁸⁴ However, see Section 6.3.3.4 in this chapter, in which I argue that a real zero-coupon bond can be considered as a deep-in-the-money call option on CPI.

⁸⁵ See Section 5.2.1.

⁸⁶ Cf. the discussion on capital discount in Section 6.2.4.1.

⁸⁷ Case RÅ 1995 referat 71.

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bond dealt with in Case *RÅ 1994 referat 26* suggests that the instruments are treated equally for income tax purposes.⁸⁸ However, two of the Board members, namely Johansson and Melz, were of the opinion that the decision on which the majority based its opinion must be criticized. They argued that a reclassification of income on the basis of a provision not intended for classification is inappropriate; and, in principle, is acceptable only if the income tax treatment would otherwise be considerably arbitrary or connected with serious practical problems.⁸⁹ The Johansson and Melz argument indicates that they find the outcome of Case *RÅ 1994 referat 26* unsatisfactory and therefore ineligible as a basis for subsequent case law.⁹⁰ As a result, they refer to previous case law⁹¹ on payments related to CPI, requiring that such payoffs be classified as interest, although it is not perfectly predictable.

The SAC came to the same conclusion as the minority of the Board members – that the entire payoff from a real zero-coupon bond is to be taxed as interest, on an accrual basis. Furthermore, the SAC also explicitly stated that its decision is not contrary to Case *RÅ 1994 referat 26*. The SAC reasoned that the constructions of an equity index-linked bond and a real zero-coupon bond are crucially different. However, the SAC did not elaborate on what these differences comprise.

6.3.3.3 Real Zero-coupon Bonds, Convertibles, and Bonds Combined with Warrants

As noted in Section 6.3.3.1, the character of a real zero-coupon bond and a traditional convertible, or a bond combined with warrants, are similar. They are, in substance, a combination of a nominal bond and a call option. The only crucial difference is that a traditional convertible bond and a bond combined with a warrant are settled by delivery, whereas a real zero-coupon bond is settled net in cash.

Section 6.2.4.2 in this chapter establishes that the income tax treatment of a short position in a convertible or a bond combined with warrants entails the recognition of expenses that are determined as interest, whereas expenses distributed in the form of a call option is non-deductible. Considering the income tax treatment of a long position in a convertible or a bond combined with warrants, any expected payoff from these instruments are taxed as interest, whereas any other payoff is taxed as capital gains or capital losses.⁹² Consequently, whereas the payoff from the option, which is a component in a convertible or a bond combined with a warrant, is taxed as capital gains or

⁸⁸ See Case *RÅ 1994 referat 26*, dealt with in Section 6.3.2 in this chapter.

⁸⁹ See Case *RÅ 1995 referat 71 II*.

⁹⁰ It is notable in Case *RÅ 1995 referat 71* that the SAC criticizes its own decision (Case *RÅ 1994 referat 26*) on essentially the same basis as Johansson and Melz. However this criticism does not influence the Court's reasoning, so will not be further commented upon.

⁹¹ Cases *RÅ 1943 referat 19* and *RÅ 1943 Fi 379*.

⁹² Chapter 15, Section 1 ITA; and Chapter 25, Section 3 ITA. If a convertible bond is exercised – if it is converted into share(s) of the issuing company – the taxation of any capital gain or capital loss is deferred until the share is realized (Chapter 44, Section 10 ITA).

losses, the payoff from the option, which is a component in the real zero-coupon bond, is taxed as interest.

One could argue that because case law establishes that inflation compensation is considered as interest for income tax purposes, the payoff from the real zero-coupon bond is to be considered as interest income. However, it is doubtful that the payoff from a stand-alone derivative on the CPI would be treated differently for income tax purposes compared with the payoff from a stand-alone derivative on a share. Therefore, the relevance of this case law can be questioned in relation to the real zero-coupon bond, especially because the economic substance of a real zero-coupon bond is equal to a stand-alone option, as illustrated in the next section.

6.3.3.4 A Deep-in-the-Money Call Option on CPI

Section 4.4.3.3, Chapter 4, illustrates how the economic substance of a long position in a bond can be replicated by a long position in a call option that has great intrinsic value: a deep-in-the-money call option. The payoff from such a deep-in-the-money option is, to a great extent, expected income; but to some extent the payoff is also windfall gains or losses.⁹³ Thus the payoff from such an option is similar to the payoff from a real zero-coupon bond. Consequently, the economic substances of a deep-in-the-money call option on CPI and a real zero-coupon bond are equal.⁹⁴

Considering that a real zero-coupon bond is, in substance, equal to a stand-alone option, the income tax treatment established in Case *RÅ 1995 referat 71* gives rise to great tax arbitrage opportunities.⁹⁵ More specifically, on the basis of a no-arbitrage assumption, it is immaterial if the investment is in a real zero-coupon bond or in a deep-in-the-money call option on CPI. Because the payoff from a real zero-coupon bond is taxed as interest, on an accrual basis, however, it is more favorable to take a long position in the deep-in-the-money call option, as the entire payoff from such an investment is taxed as a capita gain or loss at maturity of the contract, or when the bond is sold.⁹⁶ Thus in comparison to the investment in a real zero-coupon bond, the investment in the deep-in-the-money call option provides a tax credit.⁹⁷

⁹³ See Section 4.4.3.3.

⁹⁴ As noted in Footnote 15 in this chapter, traditional convertibles and bonds combined with warrants may also be considered as deep-in-the-money call options.

⁹⁵ It is interesting to note that the income tax treatment established in Case *RÅ 1995 referat 71* is similar to what is referred to as “expected return taxation” in Section 5.2.4.2.

⁹⁶ Regarding the income tax treatment of options, see Section 4.3.4, Chapter 4; and regarding the income tax treatment of interest, see Section 3.4.4.5, Chapter 3.

⁹⁷ Cf. Section 3.2.5.2.

6.3.4 Foreign Exchange Index-Linked Bond

The third case on hybrid composite contracts is an appealed advanced ruling from 1999 concerning a foreign exchange index-linked bond.⁹⁸ The only crucial difference between this case and the case from 1994 dealt with in Section 6.3.2.1 is that the foreign exchange index-linked bond is considered to be an indivisible debt instrument, whereas the equity index-linked bond is considered to be an indivisible equity instrument.⁹⁹ As the payoff from the foreign exchange index-linked bond in Case *RÅ 1999 referat 69* was considered to be too unpredictable to be classified as interest, it was classified as capital gains in its entirety.¹⁰⁰

The decision of the SAC was not unanimous. In a dissident opinion, Justice of the SAC Sandström argued that a foreign exchange index-linked bond must not be considered as indivisible for income tax purposes, although it is contractually indivisible. Rather, he argues, the contract must be considered as a combination of a zero-coupon bond and a foreign exchange option and the income derived from it must thus be taxed as part interest and part capital gains. As the basis for his argument, Sandström refers to the income tax treatment of units (see Section 5.3.2, Chapter 5) and maintains that the foreign exchange index-linked bond could be taxed analogously to these provisions.

Sandström's dissident opinion advocates bifurcation of composite contracts.¹⁰¹ In theory, Sandström's argument is persuasive, as such a solution would prevent most tax arbitrage situations connected with hybrid instruments, which are composite contracts (see Section 5.3.3, Chapter 5).¹⁰² However, subsequent case law illustrates that there would be many practical problems to carrying out bifurcation on non-institutionalized composite contracts.¹⁰³ It is likely that the application of bifurcation, advocated by Sandström, could result in situations in which composite contracts are bifurcated into financial contracts that are not the actual building blocks of the instrument. Thus permitting bifurcation of non-institutionalized composite contracts could make the income tax treatment of these contracts even more unpredictable than the income tax treatment of today.

⁹⁸ Case *RÅ 1999 referat 69*.

⁹⁹ For income taxation, the main difference between the two instruments is how possible losses are offset (see Section 3.4.2.2).

¹⁰⁰ Compare Section 5.2.4.1.

¹⁰¹ Cf. 5.2.4.3.

¹⁰² See, for example, Virin, N. (2002, p. 605), referring to the opinion of Sandström as “delightful reading” (in Swedish, *ljuvlig läsning*).

¹⁰³ See Section 6.3.8.

6.3.5 Reverse Convertible

6.3.5.1 The Building Blocks of a Reverse Convertible

An appealed advanced ruling from 2001 concerned a composite contract designated to be “reverse convertible”¹⁰⁴⁻¹⁰⁵ – a contingent debt instrument structured quite differently from index-linked bonds. Therefore, before examining the ruling on the reverse convertible, a brief presentation of the functioning of a reverse convertible is given.

Generally, the principle amount of a reverse convertible corresponds to the values of a certain number of two different shares, at the inception of the contract. For example, if the principle amount of a reverse convertible is 100, it corresponds to 5 shares of X and 10 shares of Y if the spot price of one X share is 20, and the spot price of one Y share is 10 at inception of the reverse convertible.

At the maturity of a reverse convertible, the issuer has the right to refund the principle amount (100) or a number of the specified shares (5 X shares or 10 Y shares), plus an amount designated to be interest. Consequently, if the spot price of the shares has developed in the negative over the lifetime of the reverse convertible, the issuer of the contracts would choose to deliver the shares representing the lowest value. If, for example, the spot price of one X share is 15 and the spot price of one Y share is 11, at the maturity of the reverse convertible the issuer would choose to deliver 5 X shares (at a total value of 75) instead of the principle amount of 100, or 10 Y shares (at a total value of 110). Similarly, if the spot price of one X share is 25 and the spot price of one Y share is 12, at the maturity of the contract the issuer would choose to refund the principle amount of 100. Whereas a traditional convertible bond provides the holder of the contract the right to convert the principle amount into a number of shares, a reverse convertible provides the issuer of the contract with such right.¹⁰⁶

The downside risks connected to a long position in a reverse convertible are the possible negative changes in the spot prices of the specified shares. The upside risk of a reverse convertible is limited and, in principle, similar to the upside risk of a regular bond. Thus the total risks connected to a reverse convertible are the same as the risks of a portfolio involving short positions in put options on the specified shares and a long position in a bond.¹⁰⁷ Consequently, short put options and a long bond are the basic building blocks of a reverse convertible.

¹⁰⁴ In Swedish, *omvänd konvertibel*. In the international tax literature, “reverse convertible” has also been referred to as “cash-or-share bonds”; see, for example, Wijnen, W. and Rotondaro, C. (2001, p. 2).

¹⁰⁵ Case *RÅ 2001 referat 21*.

¹⁰⁶ Regarding traditional convertible bonds, see Section 6.2.3.1 in this chapter.

¹⁰⁷ See Section 2.6.3.1.

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6.3.5.2 The Payoff of a Reverse Convertible

Supposing that the principle amount of a two-year reverse convertible is 100, the risks – the payoff – of that instrument could be replicated by investing 100 in a two-year zero-coupon bond and simultaneously issuing two put options on the shares underlying the reverse convertible. If the values of the issued put options are 7 and 8 respectively and the yield is immediately invested in a bond, the total value of the replicating portfolio would be 127 in two years at an interest rate of 5 percent.¹⁰⁸ However, this requires that the put options are not exercised.

From this example one can conclude that the best possible payoff for the party in a long position of a reverse convertible is 27 (127-100) and that the worst possible payoff is a loss of 73 (27-100). This situation would occur if shares underlying one of the two options lost their entire value over the duration of the instrument. On the contrary, the best possible payoff for the party issuing the reverse convertible is 73 (100-27), as the contract may be settled by delivering worthless shares to the party in a long position. The worst possible payoff is a cost of 27, which is the sum of the capitalized value of the paid premiums plus the interest on the issued bond.¹⁰⁹

6.3.5.3 The “Interest” of a Reverse Convertible

The previous section makes the point that the best possible payoff from a long position in a reverse convertible equals the interest from a bond plus the capitalized value of the premiums from issued put options. However, when taking a long position in a reverse convertible, the premiums for taking the downside risk of the shares underlying the reverse convertible are kept by the issuer of the instrument until it matures. At the maturity of the reverse convertible, the premiums are paid to the party in the long position of the contract and are designated to be interest in its entirety. Thus the “interest” paid by a reverse convertible is, in part, the risk premiums for taking the risks related to short positions in put options on the shares underlying the reverse convertible.

6.3.5.4 Case Law on the Taxation of Income from a Reverse Convertible – Case RÅ 2001 referat 21

The reverse convertible dealt with in Case RÅ 2001 referat 21, which is an appealed advanced ruling, had a lifetime of 16 months and provided a payoff of 26.1 percent at the maturity of the contract. The Board argued that the payoff represented remuneration for bearing the risk of a possible decrease in the spot prices of the shares to which the contract could be converted. Furthermore, as the net payoff of the contract was dependent upon the value of the shares, the contract was to be treated as an equity instrument. Thus the Board concluded that at the sale or maturity of the contract, no payoff was to be treated as interest.

¹⁰⁸ $(100+7+8)e^{(0.05*2)}$.

¹⁰⁹ This scenario, which is highly unlikely, happens only if the value of the shares underlying the put options has the same value at maturity as at inception.

However, the SAC was of a different opinion. Irrespective of the fact that the reverse convertible is classified as an instrument similar to an equity instrument, the SAC argued that because the payoff of 26.1 percent is predictable and can be computed on the basis of the principal amount of the contract, it is to be taxed as interest. The SAC explicitly stated that it is of no importance that the payoff is extraordinarily large, and is, in substance, remuneration for the risks of the specified shares. Furthermore, if the reverse convertible is sold or exercised, any gains or losses in addition to the payoff referred to as interest are to be taxed as gains or losses from the sale of the equity instruments – as capital gains or capital losses.

In principle, the income tax treatment established by the SAC entails that the loss a conversion imposed on the holder of a reverse convertible can be offset before the sale of the shares into which the contract is converted. This is not in line with the income tax treatment of stand-alone options or convertibles, and the reason for treating reverse convertibles this way is not perfectly clear.¹¹⁰

6.3.5.5 Legal Implications of the Case

Four critical points can be made from Case *RÅ 2001 referat 21*. First, it establishes that interest is any payoff that can be predicted on the basis of the principle amount of the income-generating instrument. It does not matter if the interest is remuneration for the use of capital or remuneration for bearing the risk of a financial contract. Thus in principle, it is possible to create interest-generating instruments without including debt.¹¹¹

Second, in the previous case, *RÅ 1994 referat 26*, the SAC stated that composite contracts cannot provide more than one type of income because it would otherwise be difficult to apply the averaging method¹¹² when establishing the purchase price of the contract.¹¹³ In Case *RÅ 2001 referat 21*, however, the SAC stated that income provided by a financial instrument must not be reclassified solely to make the application of the averaging method easier. Thus financial instruments to which the averaging method is applicable may provide more than one type of income.¹¹⁴

Third, by stating that the reverse convertible may provide interest as well as capital gains or losses, the SAC made it clear that indivisible contracts may provide more than one type of payoff. In principle, this is contradictory to previous case law that explicitly established that indivisible instruments provide only one type of income.¹¹⁵

¹¹⁰ The court decision has been criticized for not treating reverse convertibles in the same way as regular convertible bonds are treated; see Gunne, C. (2000, p. 448). Also see Chapter 44, Section 10 ITA; and Case *RÅ 1998 referat 13*.

¹¹¹ See, for example, the box spread illustrated in Section 2.6.3.4.

¹¹² See Section 4.3.3.4.

¹¹³ The decision has been criticized in Case *RÅ 1995 referat 71*; see Section 6.3.3.2 in this chapter.

¹¹⁴ By overruling the principles established in Case *RÅ 1994 referat 26*, the SAC has been subjected to criticism; see, for example, Leander, Å. (2002, pp. 357-358).

¹¹⁵ Case *RÅ 1994 referat 26*. See Section 6.3.2.2 in this chapter, as well as Gunne, C. (2001, p. 503); Grönlund, J. (2003, p. 622); Leander, Å. (2002, p. 357); and Virin, N. (2002, p. 602).

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Fourth, by establishing that an indivisible contract can provide more than one type of income, the case highlights the malfunction of the provisions dealing with the treatment of negative payoffs from capital investments for income tax purposes.¹¹⁶ This malfunction is discussed next.

6.3.5.6 Offsetting Negative Payoff from Indivisible Instruments

In Case *RÅ 2001 referat 21*, the classification of the reverse convertible as an equity instrument is logical, considering previous case law in which the underlying variable of the derivatives in a composite contract has been decisive in determining the classification of the financial instrument. It is also logical to classify the expected payoff as interest because the payoff can be predicted on the basis of the principle amount of the reverse convertible.¹¹⁷ However, it is not logical that the capital loss, which arises if the reverse convertible is converted into shares, cannot be fully offset against the interest provided by the reverse convertible. Consequently, the taxation is not carried out on a net basis.

If capital loss arises in the hands of a company, it can be carried forward and offset against subsequent capital gains from equity instruments. This is a less favorable outcome than offsetting it against the interest received. However, it is not as offensive as in the case in which an individual is the holder of the reverse convertible. Let us assume the interest received from a reverse convertible is 25 and the capital loss of the same reverse convertible is 25; the net payoff of the reverse convertible is zero. However, because an individual can offset capital losses at only 70 percent against interest, the individual having invested in the reverse convertible is obliged to pay income tax on 30 percent (7.5) of the interest received. Thus the investment results in a negative payoff of 2.25 (30% of 7.5). In other words, although the investment provides no income, the individual must still pay income tax on the investment.

Case *RÅ 2001 referat 21* clearly demonstrates that the way in which the income tax treatment of hybrid composite contracts has developed renders the provisions on negative payoff on capital investments infeasible. It seems that the provisions are designed to fit in an environment in which equity instruments cannot provide interest.¹¹⁸ However, this court decision, together with a subsequent decision, shows that they can.¹¹⁹ As the provisions are no longer suitable, due to the development in case law, it is likely that they seriously hamper the development of composite contracts on the Swedish capital market.¹²⁰

¹¹⁶ See Section 3.4.2.2.

¹¹⁷ See Section 3.4.4.

¹¹⁸ See Section 3.4.4.1.

¹¹⁹ The subsequent decision, Case *RÅ 2003 referat 48*, is examined in Section 6.3.8 in this chapter.

¹²⁰ There has been considerable criticism in the literature about the provisions on negative payoffs from capital investments. See, for example, Gunne, C. (2001, p. 505); Virin, N. (2002, p. 606); and Grönlund, J. (2003, p. 623).

6.3.6 “Equity Basket”

In an appealed advanced ruling from 2000, a contract referred to as an “equity basket”¹²¹ was treated as an indivisible contract.¹²² From the information on the contract that was provided in the case, it seems that the contract is a number of deep-in-the-money call options on different shares.¹²³

In replicating the equity basket by stand-alone financial instruments (derivatives), the payoff from the options would be taxed as capital gains or capital losses if settled net in cash.¹²⁴ If the options were to be settled by delivery, the taxation of any capital gain or loss would be deferred until the underlying shares were sold.¹²⁵

The SAC classified the equity basket as an indivisible contract similar to equity instruments. Furthermore, the equity basket was to be considered as disposed of at maturity of the contract, whether it was settled net in cash or by terms of delivery. Consequently, the entire payoff was taxed as a capital gain or a capital loss at maturity of the contract.

Because the equity basket is considered to be an indivisible instrument, the income tax treatment of its payoff as capital gains or capital losses makes sense. However, it is not logical to tax the gains or losses, even though the contract is settled by terms of delivery. First, such income tax treatment differs from the treatment of corresponding stand-alone derivatives, and thus gives rise to tax arbitrage opportunities.¹²⁶ Second, as the holder of the equity basket receives no cash when the contract is settled by delivery, the income tax treatment could cause liquidity problems for the holder, which is not the intention of the income tax system.¹²⁷ The main argument put forward by the Board is, in principle, that because it is not possible to establish exactly how many and into exactly what types of shares the equity basket would be converted, it is too uncertain to allow deferred taxation at delivery. The ruling of the Board was approved by the SAC.

It is interesting to note that the arguments put forward by the Board and confirmed by the SAC contradict the income tax treatment of a long position in a convertible equity debenture, which can be considered as a deep-in-the-money call option. This type of contract is constructed in such a way that one cannot predict the exact number of shares into which it can be converted before it is settled.¹²⁸ Furthermore, the income tax treatment of convertible equity debentures follows the general rules of convertible bonds, in that any gain or

¹²¹ In Swedish, *aktiekorg*.

¹²² Case *RÅ 2000 notis 8*.

¹²³ Regarding deep-in-the-money options, and how they constitute hybrid instruments, see Section 4.4.3.3.

¹²⁴ See Chapters 3 and 4.

¹²⁵ See Section 4.3.4.3.

¹²⁶ When a long position in an option is settled by delivery, it is generally considered to be a regular purchase for income tax purposes; see Section 4.3.4.3.

¹²⁷ See Section 8.2.2.4.

¹²⁸ See Section 6.2.5.3.

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loss of the contract is deferred and taxed when the underlying shares are realized.¹²⁹

In summary, the precedence value of the court decision on the equity basket is limited. In principle, it merely confirms that a composite contract is treated as an indivisible contract, and its payoff is taxed as capital gains or capital losses if the payoff cannot be predicted in relation to the principle amount of the instrument. The same inferences were established in a subsequent advanced ruling on a different type of equity basket.¹³⁰

6.3.7 Swaps

6.3.7.1 The Parties of a Swap

In Section 6.3.1 in this chapter, it is argued that it is primarily financial institutions that issue non-institutionalized composite contracts for attracting capital. The situation differs for swaps, however. Unlike the other non-institutionalized composite contracts dealt with in this study, swaps are not typically issued for purposes of attracting capital. Instead, swaps are normally issued for the purpose of hedging, that is, for the purpose of transferring risk.¹³¹ Therefore, the party in a short position of a swap is not typically a debtor; the party can be a financial or non-financial company.

6.3.7.2 The Similarity Between a Swap and a Series of Forwards

As Section 2.4.3, Chapter 2 illustrates, swaps are, in principle, equivalent to a series of forwards or futures.¹³² For that reason, they are to be considered as composite contracts consisting of a number of derivatives.

The function of a swap is best illustrated with reference to a plain vanilla forward contract. A plain vanilla one-year forward on a share entails, in principle, that the party in a short position transfers the risk of the share to another party and receives the total risk of a bond in return.¹³³ Similarly, the party in a long position transfers the total risk of a bond to another party and receives the total risk of the share in return. At the maturity of the forward, the party in a short position must pay to the party in a long position any distributed dividend plus any appreciation in the value of the share. The party in a long

¹²⁹ Chapter 48, Section 2 ITA.

¹³⁰ Case *RÅ 2002 notis 51*. However, see Grönlund, J. (2003, p. 616), who argues that the similarity between the equity basket dealt with in Case *RÅ 2002 notis 51* and the reverse convertible dealt with in Case *RÅ 2001 referat 21*, suggests that some of the payoff from the equity basket could be taxed as interest. In my opinion, which does not contradict Grönlund's, the difference between the two instruments, which makes SAC treat them differently for income tax purposes, is that the reverse convertible *guarantees* a predictable payoff; whereas the equity basket *does not guarantee* the (practically) predictable payoff.

¹³¹ See, for example, Flavell, R. (2002, pp. 3-5).

¹³² See also Smithson, C. W. (1998, pp. 31-34); and Mörner, A. V. (1996-97, pp. 650-652).

¹³³ See Section 2.4.4.

position must pay to the party in a short position an amount corresponding to any depreciation in the value of the share plus the cost of carrying the share over the lifetime of the forward, that is, interest.

Swaps work in exactly the same way as the forward illustrated above; that is, the payoff from one financial instrument is swapped for the payoff from another financial instrument. However, unlike forwards, which are settled only at maturity, swaps are settled periodically over the lifetime of the contract, making the default risk of a swap lower than for forwards.¹³⁴ The most common types of swaps are interest-rate swaps, swapping the payoff of a fixed-rate bond for the payoff of a floating-rate bond, and vice versa.¹³⁵ Other common types of swaps are foreign exchange swaps, commodity swaps, and equity swaps.¹³⁶

6.3.7.3 Equity Swap

The payoff from swaps equals the payoffs from a long and a short position in the variable underlying the swap. Instead of issuing a bond for the purpose of investing the capital in shares, for instance, it is just as good to enter into an equity swap, requiring no initial investment, as the following example illustrates.

Example:

A three-year equity swap with a notional amount of 100 shares is an agreement for the party in a long position (Company A) to pay, at the end of Years 1, 2, and 3, an amount corresponding to the accrued interest computed on the basis of the value of the shares at inception of the contract, plus any depreciation in the value of the shares. In return, the counter party (Company B, being in a short position) pays any dividends paid on the shares, plus any appreciation in the value of the shares. The equity swap would put Company A in the same financial position as if it had borrowed capital and purchased 100 shares to hold over a period of three years. Similarly, the swap would put Company B in the same position as if it had sold 100 shares and invested the surplus in a regular three-year bond. Consequently, the swap replicates the payoffs without replicating the economic substances of the financial instruments that provide the payoffs.

In principle, swaps make it possible for a company to choose how to achieve a certain payoff, either by entering into the financial instruments that provide the payoff or by entering into a swap with these financial instruments as its underlying variables. In accordance with a no-arbitrage assumption, the choice

¹³⁴ Cf. Section 2.4.3.

¹³⁵ See, for example, Hull, J. C. (2006, p. 149).

¹³⁶ See, for instance, Edgar, T. (2000, p. 13).

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is of no importance. Consequently, in order not to create any tax arbitrage situations, the income tax treatment of the payoffs from the two financial positions must be comparable.

6.3.7.4 Cases *RÅ 2001 notis 160* and *RÅ 2007 referat 3*

The Swedish income tax treatment of swaps has always been connected with uncertainty.¹³⁷ There is no income tax provision explicitly dealing with swaps and the case law on swaps is meager, involving only two relevant cases.¹³⁸ Both cases deal with equity swaps similar to the one illustrated in Section 6.3.7.3, but with the important difference that the shares in the swaps dealt with in the cases are the shares of the company that is in the long position of the swap (compare with Company A in the example above).¹³⁹

As the income tax provisions on a company's own shares were changed subsequent to the date of the transaction considered in Case *RÅ 2001 notis 160*, the precedent-setting status of that case is, in principle, limited to the time prior to these changes.¹⁴⁰ However, Case *RÅ 2007 referat 3* is decided with reference to and in accordance with the previous decision. Consequently, what was decided in Case *RÅ 2001 notis 160* is still relevant, and has precedence status regarding taxation of non-financial companies.

In principle, the equity swap in Case *RÅ 2001 notis 160* provided the same types of payoff as the reverse convertible in Case *RÅ 2001 referat 21*.¹⁴¹ More specifically, considering the short position in the swap, (Company B in the example) the payoff the holder receives is expected and is possible to compute on the basis of the principle amount of the swap. Furthermore, the payoff the holder may have to pay is, for the most part, unexpected. Therefore, the possible payoff for the party in a short position to the swap is similar to the possible payoff from the long position in a reverse convertible. Similarly, the long position in the swap (Company A in the example) has to pay expected payoff for the possibility of receiving unexpected payoff and, therefore, that position is similar to a short position in a reverse convertible.

However, contrary to the decision on the reverse convertible, the SAC establishes that a swap contract does not stipulate that payoff is to be classified as interest, because interest exists only in relation to a credit-extension instrument.¹⁴² As a result, the entire payoff from the swap has to be considered as payoff from an equity instrument.

¹³⁷ See, for example, Gunne, C. (1995, pp. 337-339); Virin, N. and Sahlström, M. (1995, pp. 543-544); and Rutberg, A., Rutberg, J. and Molander, L. (1997, pp. 213-215).

¹³⁸ Cases *RÅ 2001 notis 160* and *RÅ 2007 referat 3*. See also Case *RÅ 2006 referat 70*, commented on in Footnote 80, Chapter 3.

¹³⁹ Case *RÅ 2001 notis 160* is commented on in Hilling, A. (2002, pp. 78-79).

¹⁴⁰ Regarding income tax treatment of derivatives on own shares, see Section 4.3.6.

¹⁴¹ See Section 6.3.5.

¹⁴² Compare the reasoning of the SAC in Case *RÅ 1999 referat 14*.

6.3.7.5 Swaps and Tax Arbitrage Opportunities

Section 6.3.7.3 makes the point that tax arbitrage opportunities in relation to swaps arise if the payoff from a swap is not taxed in the same manner as the payoff from the instruments underlying the swap. In principle, such tax treatment would entail that the payoff from swaps are taxed as part interest and part capital gains or losses. However, the case law on swaps establishes that the entire payoff from swaps is taxed as capital gains or losses. Thus tax arbitrage opportunities exist.

Moreover, the case law establishes that swaps are indivisible contracts. Whether the indivisible status applies also to swaps with periodical payoffs cannot be established on the basis of the case, but it appears likely with reference to Case *RÅ 2003 referat 48*, for example. In that case a three-year equity index-linked bond was considered indivisible, although it provided annual payoff.¹⁴³ Tax arbitrage opportunities exist if all swaps are considered indivisible contracts for income tax purposes. This is the case because capital gains and capital losses occur as a result of the disposal of an asset; and because an indivisible contract cannot be partially sold, the payoff it provides before maturity must be classified as something other than capital gains or losses – as “return from assets”¹⁴⁴.¹⁴⁵ Therefore, with reference to Cases *RÅ 2001 notis 160*, and *RÅ 2007 referat 3*, it can be established that the periodic payoffs from swaps must be classified as income other than interest, capital gains, or capital losses. For a non-financial company that means that the periodic payoffs from swaps are to be recognized on the basis of good accounting practice – on an accrual basis and with the possibility of offsetting any negative payoff against any income.¹⁴⁶ Thus the payoffs from swaps are treated differently from the payoff from stand-alone forwards, although these two instruments are identical in substance. However, the case law on swaps eliminates the possibility of changing the classification of the payoff of forwards from capital gains or losses to interest, simply by combining a number of forwards into a swap.

In summary, case law provides some guidelines on the income tax treatment of swaps. However, these guidelines contain a rather complicated and inconvenient tax treatment of swaps, involving tax arbitrage opportunities. Furthermore, the guidelines do not consider interest-rate swaps or foreign exchange swaps, which are by far the most common type of swaps.¹⁴⁷ As a result, the tax treatment of swaps remains uncertain. Therefore, it would be desirable if the legislator clarified how swaps are to be treated.

¹⁴³ See Section 6.3.8.

¹⁴⁴ In Swedish, *avkastning av tillgångar*.

¹⁴⁵ Chapter 25, Sections 3-5 ITA; and Chapter 15, Section 1 ITA. See also Case *RÅ 2003 referat 48*, and Section 6.3.8.

¹⁴⁶ Chapter 14, Section 2 ITA. See also Section 3.3.5.

¹⁴⁷ See, for instance, Bank of International Settlement: www.bis.org.

6.3.8 Equity Index-Linked Coupon Bond

6.3.8.1 Case *RÅ 2003 referat 48*

The final case in this presentation on non-institutionalized composite contracts is an appealed advanced ruling on the income tax treatment of an equity index-linked bond with annual return: Case *RÅ 2003 referat 48*. The bond with the duration of 3 years provided an annual payoff corresponding to at least 3 percent, and never more than 14 percent, of the principle amount of the bond. However, the exact amount depended on how a specified equity index developed.

When classifying the bond, the Board followed previous case law and considered it as an indivisible equity instrument. The Board also decided that the annual payment corresponding to 3 percent of the principle amount was to be taxed as interest, whereas any additional payment was too unpredictable to be classified as interest and must be taxed as other income. Generally, it may be argued that the unpredictable income is to be classified as capital gains. However, as capital gains occur by definition when an asset is sold and, as the bond was classified as an indivisible contract, which meant that it could not be partly sold, the income could not be classified as capital gains. Instead the Board decided that it was to be considered as “other income derived from the holding of an asset”.¹⁴⁸

The Board’s ruling is in line with previous case law and is logical in the way that the payoff is classified in relation to the composite contract. That is, payoff that is predictable with reference to the principle amount of the instrument is classified as interest, and payoff that cannot be predicted is classified as capital gains or, if the payoff is provided before the instrument is sold, other income derived from the holding of an asset. However, the Board’s reasoning does not appear convincing. As a basis for dividing the payoff into interest and other income, it appears that the Board divided the equity index-linked bond into different parts: it applied bifurcation.¹⁴⁹ However, instead of bifurcating the index-linked bond into a discounted bond and equity index-linked call options, the Board sorted out one nominal bond, three interest coupons (at 3 percent each), and three equity index-linked call options. It appears that the Board considered the payoff from the interest coupons as remuneration for the long position in the nominal bond – as remuneration for the use of capital.

If the classification of interest is based on its being remuneration for the use of capital, the outcome of the case is incorrect (from an economic point of view). This is so because the payoff cannot be replicated from the equity index-linked bond by the seven parts identified by the Board.¹⁵⁰ Its division involves the call options having no value, which is impossible because options always

¹⁴⁸ In Swedish, *andra inkomster på grund av innehav av tillgångar*. See Chapter 42, Section 1 ITA, for individuals, and Chapter 15, Section 1 ITA for non-financial companies.

¹⁴⁹ Cf. Section 5.2.4.3.

¹⁵⁰ Grönlund, J. (2002, pp. 587-588) is also of the opinion that the bifurcation made by the Board, confirmed by the SAC, is incorrect.

have at least a time value.¹⁵¹ Consequently, to finance the long positions in the call options it is necessary to purchase the bond at a discount.¹⁵² Thus a correct bifurcation of the parts of the equity index-linked bond is to divide it into a long discounted bond, three long equity-indexed call options, and a long position in an inverted equity index-linked collar with a floor-rate of 3 percent and a cap rate at 14 percent.¹⁵³ In this portfolio, the guaranteed payoff of 3 percent is not a result of interest coupons, but a result of changes in the equity index underlying the derivatives within the portfolio. More specifically, if the annual increase of the equity index is below 3 percent, the guaranteed payoff is the net result of the equity index-linked call options and the long floor contract within the collar. If the annual increase of the equity index is above 14 percent, the guaranteed payoff is the net result of the equity index-linked call options and the short cap within the collar. Finally, if the annual increase of the equity index is between 3 and 14 percent, the guaranteed payoff is part of the payoff from the long call option. Consequently, the argument advanced by the Board, that the guaranteed payoff of 3 percent is, by definition, a compensation for a long position in a bond, is not persuasive. Instead, the substance of the payoff referred to as interest by the Board is more similar to that generally referred to as capital gains and capital losses because it is the payoff from derivatives.¹⁵⁴ The only payoff in the equity index-linked bond that constituted remuneration for the use of capital is the difference between the discounted amount and the principle amount of the embedded zero-coupon bond. Although the reasoning in the case appears confusing, the SAC approved the ruling of the Board without commenting on its decision.

6.3.8.2 Legal Implications of the Case

Although the reasoning of the Board members is founded partially on incorrect premises, the ruling is in line with previous case law. More specifically, it confirms that composite contracts are to be considered as indivisible contracts and that predictable payoffs shall be treated as interest, even if the payoff is generated by an indivisible equity instrument. Besides the actual ruling in the case, the case is important because it highlights the difficulties in bifurcating composite contracts into their building blocks. The incorrect bifurcation was approved by a unanimous Board, as well as a unanimous SAC. Although taxation with reference to the bifurcation is a possible way of preventing most tax arbitrage situations connected with composite contracts, it may be difficult to implement.

¹⁵¹ See Section 2.5.1.3.

¹⁵² Cf. Section 5.2.4.1.

¹⁵³ See Sections 2.7.2.2 - 2.7.2.4, Chapter 2, regarding collars, caps, and floors. Grönlund, J. (2002, pp. 587-588) have a similar opinion about the contents of the composite contract.

¹⁵⁴ See Section 4.3.1.

6.3.9 Income Tax Treatment of Hybrid Composite Contracts

6.3.9.1 *Systematizing the Case Law on Non-institutionalized Composite Contracts*

The composite contracts examined in this study in the cases on non-institutionalized composite contracts are similar, in the sense that they can be bifurcated into two or several basic building block financial instruments. Besides this similarity, there are several disparities, making it infeasible to systematize the cases without several exceptions. As a result, the cases do not provide any general conclusions that would be applicable to all types of composite contracts. However, the cases provide some general guidelines that are relevant for most non-institutionalized composite contracts. These guidelines concern the classification of the payoff from composite contracts and the way these contracts provide tax arbitrage opportunities.

6.3.9.2 *Classifying the Payoff from Non-Institutionalized Composite Contracts*

As noted in Section 3.4, Chapter 3, traditional debt instruments such as bonds usually provide expected income – remuneration for the use of capital. In contrast, traditional equity instruments such as shares provide unexpected income: unexpected changes in the spot price of the shares. Thus in principle, traditional debt instruments provide interest, whereas traditional equity instruments provide capital gains or capital losses. For non-institutionalized composite contracts, however, the situation is different.

Non-institutionalized composite contracts are, as a general rule, classified as indivisible contracts. The principle amount of an indivisible contract is the basis for deciding whether or not any of the payoffs it provides are expected. If the payoff or part of the payoff of an indivisible contract is predictable with reference to the principle amount of the contract, that payoff is considered interest. Any other payoff is classified as capital gains or capital losses. Whether the indivisible contract is classified as a debt instrument or as an equity instrument is immaterial in relation to the classification of its payoff; it is only relevant when deciding the extent to which negative payoff from the indivisible contract is possible to offset.¹⁵⁵

Most non-institutionalized composite contracts are combinations of traditional debt instruments and derivatives. Because these composite contracts are considered to be indivisible contracts, however, the payoff of a contract must be considered in relation to the composite contract, not in relation to its building blocks. Therefore, the total payoff from non-institutionalized composite contracts that are classified as equity instruments or debt instruments becomes untraditional in relation to regular equity instruments or debt instruments. For example, there are types of composite contracts that are classified as debt instruments, for which the entire payoff has been taxed as capital gains.¹⁵⁶ Furthermore, part of the payoff of composite contracts classified as equity

¹⁵⁵ See Section 3.4.2.2.

¹⁵⁶ Case *RA 1999 referat 69*.

instruments has been taxed as interest, or as “other income derived from the holding of an asset”.¹⁵⁷

6.3.9.3 Composite Contracts and Tax Arbitrage

Disregarding Case *RÅ 1995 referat 71* on real zero-coupon bonds, the case law on non-institutionalized composite contracts is, in principle, consistent about the way in which payoff from these types of instruments is to be classified and taxed. This makes the income tax treatment predictable.¹⁵⁸ However, the way in which the case law has developed creates tax arbitrage opportunities.

In Section 5.2.4.5, Chapter 5, it is argued that the only way to prevent tax arbitrages connected to composite contracts is by expected-return taxation.¹⁵⁹ The second-best approach, it is argued, is bifurcation, which entails taxation on the basis of the legal form of the building blocks of a composite contract.¹⁶⁰ This is the manner in which bonds combined with warrants are treated for income tax purposes.¹⁶¹

Expected-return taxation may be an unrealistic method, as it could not be carried out without major changes to the entire Swedish income tax system.¹⁶² However, bifurcation on the basis of the legal form of the building blocks of the composite contracts is theoretically possible.¹⁶³ Considering that the method is already used in relation to bonds combined with warrants, the income tax system is, in principle, equipped to extend the application of bifurcation to other composite contracts. However, case law illustrates that it is difficult to establish the legal form of the building blocks of composite contracts.¹⁶⁴ Consequently, although the structure of the Swedish income tax system makes it possible to apply bifurcation, the application of this method requires a deep and continuous understanding of the workings of complex financial instruments. Such knowledge may be lacking in relevant areas. Therefore, at present, bifurcation on the basis of the legal form of the building blocks of composite contracts is not a feasible way to deal with the taxation of hybrid composite contracts.

In Chapter 5, a third method of treating hybrid composite contracts for income tax purposes is presented as “taxation on the basis of the legal form of

¹⁵⁷ Cases *RÅ 2001 referat 21 I* and *RÅ 2003 referat 48*.

¹⁵⁸ Grönlund, J. (2003, pp. 619-624) is of a different opinion, and argues that the case law on composite contracts is inconsistent, making it virtually impossible to predict how new composite contracts are to be treated for income tax purposes.

¹⁵⁹ See Section 5.2.4.2.

¹⁶⁰ See Section 5.2.4.3.

¹⁶¹ See Section 5.3.2.

¹⁶² See Section 5.2.4.5.

¹⁶³ Such a method is also advocated in the literature; see, for example, Virin, N. (1994, pp. 694-696); Tivéus, U. (1996, p. 96); and Grönlund, J. (2003, p. 623). However, Leander, Å. (2002, pp. 359-360), is of different opinion.

¹⁶⁴ Case *RÅ 2000 notis 8*. See also Case *RÅ 2000 notis 8*, involving a thorough discussion on how to establish the substance of an equity basket. In that case, there was no disagreement from the SAC, the Board, or any dissident member of the Board that the composite contract was not a combination of a number of deep-in-the-money call options – which how it has been presented in this study; see Section 6.3.6.

6. Composite Contracts

the hybrid instrument”.¹⁶⁵ This method requires that the composite contract is considered to be an indivisible contract and the payoff is therefore classified on the basis of that contract’s legal form. Consequently, whether a hybrid composite contract provides interest and/or capital gains must be decided with reference to the principle amount of the composite contract. The method, it is argued in this study, does not prevent tax arbitrages; rather it creates tax arbitrage opportunities.¹⁶⁶

The case law on non-institutionalized composite contracts establishes that taxation on the basis of the legal form of the hybrid instrument shall be applied in relation to these contracts. Consequently, the Swedish income tax treatment of these instruments provides tax arbitrage possibilities. The alternative methods can prevent tax arbitrages more efficiently. However, these methods would most likely cause other inconveniences in the Swedish income tax system. Consequently, none of the three examined methods are optimal. However, consistent with the increase in knowledge on the structure of composite contracts, it would be desirable if more composite contracts were to be treated under the second-best method: bifurcation. For example, regular, non-interest-paying, index-linked bonds, such as those dealt with in Sections 6.3.2 and 6.3.4, are contracts simple enough to be treated in accordance with the bifurcation method. Other, more complex composite contracts, such as reverse convertibles, dealt with in Section 6.3.5 in this chapter, would likely have to be treated in the same way they are treated at present. However, in addition, all indivisible contracts should be subject to net taxation, which would be possible to carry out on a contract basis.¹⁶⁷

6.4 Conclusions

The Swedish income tax treatment of composite contracts is examined in this chapter, beginning with institutionalized composite contracts, which are usually issued by non-financial companies for raising capital. The examination illustrates that companies issuing composite contracts, which are combinations of a regular bond and one or several call options on own shares, has limited possibilities to offset the cost of capital received from these contracts. In principle, the limitation originates from the fact that only expenditures recognized as interest can be offset, and because the options that are part of the contracts are not recognized as interest, they cannot be offset. Consequently, tax arbitrage opportunities arise in relation to regular bonds, for which the entire cost of capital is recognized as interest and, therefore, can be offset.

It has been argued in the literature that these tax arbitrages opportunities can be prevented if the cost of the options that are part of the composite contracts were recognized as interest. As noted in Sections 6.2.4.4 and 6.3.3.4, however,

¹⁶⁵ See Section 5.2.4.4.

¹⁶⁶ See Section 5.2.4.5.

¹⁶⁷ Cf. Section 6.3.5.6.

such action may give rise to additional tax arbitrage opportunities because the call options that are part of the composite contracts have the issuing company's own shares as underlying; and because difficulties arise in situations in which derivatives on own shares are tax exempt. Furthermore, as the composite contracts can be replicated by stand-alone derivatives, which are deep-in-the-money or prepaid, tax arbitrages can be prevented only if the composite contracts are treated similar to stand-alone derivatives.

In addition to the tax arbitrage opportunities connected to the cost of capital, the examination of institutionalized composite contracts points out tax arbitrage opportunities related to composite contracts that generate "participating interest". In substance, participating interest is the payoff from a call option on the issuing company's own shares. As a general rule, derivatives on own shares are tax exempt. Participating interest can be offset under certain conditions, however, and therefore tax arbitrage opportunities do exist.

The second part of this chapter examines non-institutionalized composite contracts. These contracts are purchased by non-financial companies for capital management or hedging. The examination illustrates the wide variety of non-institutionalized composite contracts available, entailing contingent debt instruments as well as combination of stand-alone derivatives like swaps. The variety of the contracts implies that one cannot come to a general conclusion about the treatment of all non-institutionalized composite contracts for income tax purposes. However, some general guidelines can be established.

First, the payoffs from non-institutional composite contracts are classified on the basis of the legal form of the instrument. Thus the contracts are considered as indivisible, and their payoffs are classified as interest only if the payoffs are designated to be interest and if it is possible to compute the interest on the basis of the principle amount of the composite contract. In any other case, the payoff is taxed as capital gains or losses, or as "other income derived from the holding of an asset".

Second, and finally, as non-institutionalized composite contracts are considered to be indivisible contracts, their payoff is, as a general rule, classified differently than is the classification of payoffs from their building blocks. Tax arbitrage opportunities exist as a result. In principle, these tax arbitrage opportunities can be greatly reduced if the non-institutionalized composite contracts are taxed on the basis of bifurcation – on the basis of the legal form of their building blocks. However, case law on composite contracts shows that establishing the legal form of the building blocks of composite contracts is associated with difficulties. Therefore, a lack of knowledge about the workings of complex financial instruments increases the difficulty of introducing an income tax regime in situations in which all composite contracts are treated on the basis of the legal form of their building blocks.

7 Synthetics

7.1 Different Uses of Synthetics

In Chapter 5, composite contracts are defined as legally distinct financial instruments, which, in substance, are combinations of two or more legally distinct financial instruments with *different risks*. In this chapter I analyze composite instruments, which are a combination of financial instruments exposed to the *same risk*. These contracts are generally known as synthetic instruments – synthetics for short.¹

The main issues regarding income tax on the payoff from synthetics are the ways in which synthetics can be used to circumvent income tax provisions, and ways of establishing if synthetics are used to hedge the business risk of a company. Thus the purpose of this chapter is to examine the way in which synthetics challenge the Swedish income tax system and to explore possible solutions to the problems that arise. Furthermore, the chapter analyses methods that can be used to establish when derivatives are part in a synthetic for purpose of hedging the business risk of a company, and how to tax such a synthetic.

These examinations begin with Section 7.2, which presents and analyzes the general use and structure of synthetics. Section 7.3 presents an analysis of the way in which synthetics provide tax arbitrage opportunities in the Swedish income tax system, and Section 7.4 deals with synthetics used for the purpose of hedging the business risk of a company. Finally, Section 7.5 presents the general findings of the chapter.

7.2 The Nature of Synthetics and their Use

7.2.1 Defining Synthetics

Edgar refers to synthetics as combinations of long and short positions in legally distinct financial instruments that provide offsetting payoffs in the aggregate, replicating the payoff from a different, legally distinct financial instrument.² It is pertinent to emphasize that all the financial instruments contained in a synthetic

¹ It is pertinent to note that the term “synthetics” as used in this study is not equal to what is generally referred to as a “synthetic option” (*syntetisk option*) in the Swedish literature. The latter is an option that cannot be settled by terms of delivery (see *e.g.* Tivéus, U. (2006, p. 98)).

² See, for example, Edgar, T. (2000, p. 313).

must be exposed to the same risk. Otherwise, the long and short positions within the synthetic will not provide offsetting payoffs; that is, the long and short positions will not reduce the total risk of the two positions.

According to Edgar's definition, a combination of a long asset and a short forward on the asset is a typical example of a synthetic. If the value of the asset increases, the value of the forward position decreases equally. Similarly, if the value of the asset decreases, the value of the forward position increases equally. Consequently, the payoffs of the instruments offset each other, making their net payoff perfectly predictable. The combination constitutes a synthetic bond.

It follows from Edgar's definition that a synthetic is a financial position with the same risk as the instrument it replicates.³ Moreover, the definition requires one or several of the components of the synthetic to be short positions in financial instruments. Consequently, the risk of the synthetic is always less than the risk of its component, which is a long position in a financial instrument. As a result, Edgar's definition excludes some positions that would have been referred to as synthetics in the context of finance.⁴ However, Edgar's definition of synthetics also makes it possible to distinguish between composite contracts and synthetics; and this definition is used in the present study.

7.2.2 The Principle Differences Between Composite Contracts and Synthetics

In Section 5.1, Chapter 5, composite contracts are defined as combinations of long positions in contractually distinct financial instruments. The possible net payoffs from composite contracts are unique relative to the possible payoffs from any other kind of contractually distinct financial instruments, because the payoffs from the building blocks in a composite contract do not offset each other. Rather, the respective payoffs develop independently, making the net payoff of the composite contract distinctive.

In contrast, synthetics are compound contracts; in substance, they are combinations of long and short positions in contractually distinct financial instruments that are exposed to the same risk.⁵ The previous section illustrates that a combination of a long and a short position in two distinct financial instruments exposed to the same risk provides a net payoff equal to the payoff of a third, distinct instrument – namely a bond. Consequently, unlike the payoff from composite contracts, the payoff from synthetics is never unique in relation to other financial contracts.

The principle difference between composite contracts and synthetics is illustrated in the following example:

³ See Sections 2.2.2.4 and 2.6.3.1 regarding the relationship between a financial instrument's payoff and risk.

⁴ Cf. Section 2.6.3.2.

⁵ For more information about risk, see Section 2.2.2.

Example:

If the payoff from Instrument A is 1 and the payoff from Instrument B is 2, it is possible to combine these two instruments and receive a payoff of 3 ($1+2$). Such a contract is a composite contract, referred to in this example as Instrument C. Taking a long position in Instrument C and simultaneously taking a short position in Instrument A provides a payoff equal to the payoff of Instrument B ($3-1=2$). Consequently, a combination of a long position in C and a short position in A is a synthetic contract – a synthetic B.

7.2.3 Taking Apart and Putting Together

As has been illustrated, both composite contracts and synthetics are combinations of contractually distinct financial instruments and, in that sense, they are similar. However, they differ in the way their payoff develops, and this difference indicates that they are structured for different purposes. As the net payoff from one composite contract never replicates the payoff from another contractually distinct financial instrument, the purpose of entering into such a contract seems to be to utilize or access the joint payoff from, in this case, two different financial instruments. Instead of entering into Instruments A and B, for instance, it is just as good to enter into Instrument C.⁶ If the payoff from Instrument C is treated differently than the payoffs from Instruments A and B, tax arbitrage situations exist.⁷ Thus for purpose of preventing tax arbitrage opportunities, C must be treated equal to the taxation of $(A+B)$. In other words, Instrument C must be *bifurcated* into its building blocks.⁸

When it comes to synthetics, the situation is different. The payoff from synthetics always replicates the payoff from another contractually distinct financial instrument. It appears that entering into a synthetic is just another way of getting the payoff from an existing financial instrument. For example, instead of taking a long position in Instrument B, it is equally rewarding to take a long position in Instrument C and a short position in Instrument A. If the payoffs from B and the synthetic B differ, tax arbitrage opportunities exist. Thus in order to avoid such tax arbitrage opportunities, $(C-A)$ must always be treated as equal to B. Such income tax treatment is generally referred to as *integration*.⁹

In summary, to avoid tax arbitrage opportunities, the tax system must dismantle composite contracts and treat them as a combination of separate contracts. In contrast, synthetics must be treated as a single contract – their building blocks must be assembled. Although both composite contracts and

⁶ See the example in previous section.

⁷ See Section 3.2.1.

⁸ See Section 5.2.4.3.

⁹ See Section 7.2.5.

synthetics are combinations of different, contractually distinct financial instruments, it is necessary to treat them separately for income tax purposes.

7.2.4 Tax Arbitrage and Hedging

Synthetic positions can be created for two reasons, the first of which is to achieve tax benefits – to exploit tax arbitrage opportunities. Instead of taking a long position in a bond, for example, it is just as good to take a long position in gold and simultaneously short a forward on the gold.¹⁰ The positions in the gold and the forward constitute a synthetic bond, which is treated more favorably than a regular bond for income tax purposes; because the payoff on a synthetic bond is taxed on the basis of realization, whereas the payoff from the regular bond is taxed on an accrual basis.¹¹

Second, synthetics can be created in order to hedge the risks in a business activity. For example, a gold trading company can enter into a short forward on gold for the purpose of hedging the fluctuations in the gold price. Such a hedge would effectively reduce the risk connected with the long position in gold, and guarantee a certain payoff when the gold is sold at the maturity of the forward.

As has been illustrated, identical positions may be created for two reasons: exploiting tax arbitrage opportunities and reducing business risk (hedging). With reference to the principle of horizontal equity, the tax-driven use of synthetics – the use of synthetics to exploit tax arbitrages – should be prevented by the Swedish income tax system.¹² However, the use of synthetics for hedging business risks is a regular business activity and must not be prevented. Consequently, to deal with the tax arbitrages that can be exploited by means of synthetics, it is necessary to find a way to establish the purpose of the synthetic position.

7.2.5 Integration

7.2.5.1 The Function of Integration

In principle, synthetics challenge the Swedish income tax system the same way composite contracts do. They make it possible to attain a certain financial position in more than one way, making it necessary for the income tax system to treat these alternatives similarly in order not to provide tax arbitrage opportunities.

In Section 5.2.4.5, Chapter 5, it is suggested that tax arbitrage situations related to composite contracts can be effectively reduced if these contracts are bifurcated and taxed on the basis of the legal form of their building blocks. However, bifurcation is not sufficient for preventing tax arbitrages related to

¹⁰ See Section 2.6.3.4.

¹¹ Cf. Section 4.4.3.4.

¹² See Section 3.2.3.

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synthetics because a synthetic position can usually be attained in more than one way. A synthetic bond can be structured by taking a long position in a share and simultaneously taking a short position in a forward on the share. However, it is also possible to construct a synthetic bond by means of a box-spread, that is, by combining tailor-made forwards.¹³ In fact, there are innumerable ways to attain a synthetic position.¹⁴ Consequently, two synthetic instruments, like two bonds, are not necessarily constructed by means of the same financial instruments. Therefore, if synthetic instruments were bifurcated in the same way as suggested for composite contracts, the tax treatments of the synthetics would likely facilitate rather than prevent tax arbitrage opportunities. For that reason, in relation to synthetics, bifurcation is abandoned in favor of integration as a method to prevent tax arbitrage opportunities.

Integration is a method signifying that synthetic instruments are to be treated in the same way as the instrument the payoff of which they replicate.¹⁵ Consequently, the legal form of the financial instruments that are components in the synthetic is disregarded in favor of the legal form of the replicated instrument. In that way it becomes immaterial, for income tax purposes, whether a certain financial position is attained by means of a financial or a synthetic instrument. However, as mentioned, integration as a method for treating synthetic instruments for income tax purposes requires that the purposes of the holdings in financial instruments can be established reliably. If the purpose is not established, stand-alone financial instruments that are acquired or issued for purposes other than creating a synthetic instrument risk being covered by the integration.¹⁶

7.2.5.2 An Indivisible Synthetic

In an appealed advanced ruling from 1999, the Swedish Supreme Administrative Court, SAC, established that if a long cap could be purchased only in relation to a short bond, the two financial instruments, which in substance constitute a synthetic, were to be considered indivisible for income tax purposes.¹⁷ With reference to the indivisible character of the synthetic, the SAC considered it to be "...in substance as a loan, with a floating interest rate up to a certain limit, or with a combination of floating and fixed interest rates".¹⁸

Consequently, the SAC integrated the two financial instruments in the synthetic and taxed it in accordance with its economic substance. In other words, the SAC applied integration as a method to tax the synthetic.

¹³ See Section 2.6.3.4.

¹⁴ See Section 2.6.3.1. See also, for example, Lokken, L. (1997, p. 27).

¹⁵ See, for example, Edgar, T. (2000, p. 314).

¹⁶ However, see Lokken, L. (1997, p. 18), on the United States anti-avoidance rules on straddles. These rules are enforceable on the basis of the economic substance of a transaction rather than on the basis of its purpose.

¹⁷ Case *RÅ 1999 referat 14*. On caps, see Section 2.7.2.2..

¹⁸ My translation of: *...i realiteten närmast fråga om ett lån med rörlig ränta upp till ett tak eller en kombination av fast och rörlig ränta.*

Based on this case, it may be concluded that if a synthetic is considered indivisible for income tax purposes, it is to be taxed on the basis of its economic substance, that is, in accordance with integration. However, in most situations, synthetics are not considered indivisible contracts, and it appears unlikely that it is possible to establish the purpose for holding of every single financial instrument reliably. Therefore, the possibility of implementing integration as a general method for treating synthetic instruments appears to be limited.¹⁹ Consequently, in the Swedish income tax system, where the legal form of the income-generating instrument is decisive for its tax treatment, the possibilities of preventing the use of synthetic instruments as a means of exploiting tax arbitrage seems limited.

7.3 Tax-Driven Use of Synthetics

7.3.1 Two Types of Tax Arbitrage Opportunities

As noted in Section 3.2, Chapter 3, tax arbitrage opportunities occur when two financially equal positions are subject to different tax treatment. In principle, the difference in tax treatment arises because the taxation of the payoff from a financial position is based on the legal form of the instrument(s) constituting the position, rather than on the economic substance of the position. Consequently, the tax-driven use of synthetics is about finding two financially equal positions constructed by instruments with different legal forms, giving rise to different tax treatment of the payoffs from the two positions. In that sense, there are no principle differences between the tax arbitrage connected with synthetics and the tax arbitrage connected with composite contracts.

However, synthetics can be used to exploit the income tax system in yet another way. By investing in two financial instruments with payoff profiles perfectly offsetting each other, it is possible to make an investment that, in principle, provides no net payoff. Such an investment is generally referred to as a “straddle”.²⁰ A straddle has no real economic substance, and is not a replication of an existing financial instrument. In that sense, it differs from other types of synthetics.²¹

A straddle generally consists of one instrument providing a loss and one instrument providing a corresponding gain. If the instrument providing a loss is sold in an income year following the sale of the instrument providing a gain, income tax credits are attained.²² Consequently, straddles can be used to defer the taxation of income without risk, and in that way create tax benefits. The

¹⁹ See, for instance, Gergen, M. P. (1995, pp. 846-847); and Edgar, T. (2000, pp. 314-315).

²⁰ See, for example, Lokken, L. (1997, p. 17); and Jorion, P. (2001, pp. 33-34).

²¹ However, see Section 7.3.3.3.

²² About tax credits, see Section 3.2.5.2.

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following subsections analyze the tax-driven use of synthetics by means of replicating positions and by means of straddles.

7.3.2 Replicating the Payoff from Existing Financial Instruments

7.3.2.1 *Equal Risk and Cash Flow*

Replicating the payoff of an existing financial instrument is about finding two or several financial instruments with risk exposures that, in aggregate, replicate the total risk exposure of the replicated instrument. Furthermore, besides being exposed to identical risks, the cash flows of the two positions must be equal; if they are not, their net payoff will differ, and the positions are not to be considered as financially equal.

For example, investing 100 in a one-year bond with an interest rate of 10 percent equals the simultaneous investments in a share worth 100 and a short one-year forward on the share – presupposing the delivery price of the forward is established on the basis of an interest rate of 10 percent. Both transactions involve the advance of capital in exchange for an expected payoff of 10 percent at maturity of the positions. In other words, the economic substance of the two positions is identical. In contrast, taking a short position in a one-year forward on a share already in the possession of the company and purchased at a value of 80, but with a present value of 100, does not constitute a synthetic bond. Although the positions in the share and the forward will pay 110.52²³ at the maturity of the forward, the initial investment in the share does not correspond to the initial investment in a bond; and therefore the net payoff of the two positions is unequal. That is, the economic substance of the two positions does not correspond.

In principle, tax arbitrage situations occur when the payoff from a financial instrument is taxed as interest and the payoff or some of the payoff from such a synthetic instrument is taxed as capital gains or capital losses or vice versa. The arbitrages occur as a result of interest being taxed on an accrual basis and capital gains or losses on the basis of realization.²⁴ The following subsections illustrate the way in which synthetic instruments may be used to exploit these tax arbitrage opportunities.

7.3.2.2 *No-arbitrage Pricing and the Construction of a Synthetic Bond*

The previous section illustrated how a long share and a short forward replicate a long bond. The two positions have the same economic substance, marking them financially equal. However, the payoff from a real bond is taxed as interest on an accrual basis and the payoff from a forward is taxed as a capital gain or a capital loss on the basis of realization. Consequently, by entering into a synthetic bond

²³ $100e^{0.1}$.

²⁴ See Section 3.4.

rather than a real bond, it is possible to defer the payoff of the financial position, and thereby exploit a tax arbitrage opportunity.²⁵

The construction of the synthetic bond is based on a no-arbitrage assumption.²⁶ More specifically, it is necessary when constructing synthetics to assume that financial positions with identical economic substance have equal value. Revisiting the concepts presented in Section 2.6.1, Chapter 2 dealing with no-arbitrage pricing of derivatives, it is clear that the synthetic bond presented above is a product of the relationship between spot prices and forward prices.²⁷ However, the relationship between spot prices and forward prices is not the only relationship that can be used when constructing synthetics. The following sections illustrate how the three additional relationships, presented in relation to no-arbitrage pricing – interest rate parity, put-call parity, and the relationship between options and forwards – may be used as a means for constructing a synthetic bond.

7.3.2.3 Using Interest Rate Parity to Construct a Synthetic Bond

In principle, interest-rate parity establishes that equal amounts invested in bonds designated in different currencies and with different interest rates are still equal when they are converted to the same currency at a future date.²⁸ The interest-rate parity provides the possibility for creating a synthetic bond by converting an amount to a foreign currency, investing the currency in a bond, and simultaneously entering into a forward contract to purchase the original currency at an amount equal to the forward price of the bond. The payoff from such a synthetic bond is taxed partly as capital gains and more favorably treated for income tax purposes compared to a regular bond.

Investing 100 SEK in a one-year SEK-bond, with an interest rate of 10 percent, for instance, provides interest income of 10.5 at the maturity of the bond.²⁹ A more tax-efficient bond is created by converting the 100 SEK into 1000 foreign currency (FC), and investing the 1000 FC in a one-year FC bond with an interest rate of 5 percent, providing a total value of 1051 at maturity.³⁰ Concurrent with entering into the bond, it is necessary to enter into a forward to sell 1051 FC in one year.³¹ Due to interest rate parity, the forward rate is 1 SEK = 9.511 FC.³² Thus at maturity of the forward, the synthetic bond is worth 110.5³³ and gives a net payoff of 10.5³⁴, just as the regular bond does. The payoff from the synthetic bond is part interest (5.36³⁵), and part capital gains

²⁵ For information about deferred taxation and how it benefits a tax subject, see Section 3.2.5.2.

²⁶ See Section 2.6.1 on the no-arbitrage assumption.

²⁷ See Section 2.6.1.3 on the relationship between spot prices and forward prices.

²⁸ See Section 2.6.1.4.

²⁹ $100e^{0.1}$.

³⁰ $1000e^{0.05}$.

³¹ The mutual risk of the offsetting positions in the synthetic bond is the foreign exchange risk.

³² $1051/110.5 = 9.511$.

³³ $1051/9.511 = 110.5$.

³⁴ $110.5 - 100 = 10.5$.

³⁵ $51/9.511 = 5.36$.

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from the forward selling of foreign currency (5.14³⁶).³⁷ Consequently, as capital gains are more favorably taxed compared to interest income, the synthetic bond provides tax arbitrage opportunities.³⁸

7.3.2.4 Using Put-Call Parity to Construct a Synthetic Bond

A third way of creating a synthetic bond is by reference to the put-call parity.³⁹ The put-call parity entails that, under certain conditions, the value of a call option and a bond equal the value of a put option and an asset:

$$(7.1) \quad C + B = P + A$$

Put-call parity entailing the value of a call option (C) and a bond (B) equals the value of a put option (P) and an asset (A).

Put-call parity makes it possible to create a synthetic bond by taking a long position in a put option and the asset underlying the option and simultaneously issuing a call option with the same duration, strike price, and underlying as the put option:

$$(7.2) \quad B = P + A - C$$

Put-call parity makes it possible to create a synthetic bond (B) by purchasing a put option (P) and an asset (A) and simultaneously issuing a call option (C).

The payoffs from the instruments in the portfolio, constituting the synthetic bond, are taxed on the basis of a realization that makes the synthetic bond more favorably treated for income tax purposes than the regular bond, the payoff of which is taxed on an accrual basis.

7.3.2.5 Using the Relationship Between Options and Forwards to Construct a Synthetic Bond

The relationship between options and forwards entails that any position in an option or a forward can be replicated by means of positions in a number of different derivatives.⁴⁰ For example, a short position in a forward equals a combination of a long put option and a short call option. Consequently, a long

³⁶ $10.5 - 5.36 = 5.14$.

³⁷ See Chapter 48, Section 4 in the Swedish Income Tax Act, ITA, on the income tax treatment of gains and losses from forwards with foreign currency as the underlying. See also Section 3.4.2.3.

³⁸ Swedish income tax provisions on foreign debt entail that unrealized gains or losses from changes in the exchange rate are recognized for income tax purposes; see Chapter 14, Section 8 ITA; and Section 7.4.3.3. Thus the tax effects of the synthetic bond vanish if the value of the foreign currency increases, but it becomes more favorable if the value of the foreign currency decreases, as it is then possible to recognize an unrealized loss.

³⁹ See Section 2.6.1.5 on put-call parity.

⁴⁰ See Section 2.6.1.6 on the relationship between options and forwards.

put option and a short call option is, in substance, a short forward. This means that the synthetic bond created with reference to the put-call parity above can, in substance, be considered as a combination of an asset and a short forward. That is, it is identical to the synthetic bond illustrated above as a product of the relationship between spot prices and forward prices. However, it could be argued that the synthetic bond constructed by an asset and a short forward is, in substance, a combination of an asset, a long put option, and a short call option.

The similarity between the synthetic bonds created with reference to the relationship between spot prices and forward prices, and with reference to the put-call parity, illustrates an important point to be made in relation to synthetics. That is, a synthetic instrument may be constructed by means of other synthetics, giving rise to innumerable ways of replicating a single financial instrument. The cases illustrated here are merely examples of how to construct a synthetic bond. The presentation refers to principles used when creating synthetics, and illustrates how synthetics create tax arbitrage situations in the Swedish income tax system, but is by no means exhaustive.

7.3.3 Straddles

7.3.3.1 Realization

Edgar defines “realization” in terms of the disposition of an asset.⁴¹ According to Edgar, a legislative definition of disposition is based on the assumptions that the essence of a disposition is the transfer of risk associated with an asset, and that the transfer of ownership of an asset is a correct proxy for the change in risk. However, if the risk of an asset ceases to exist, even though the asset is not transferred between contracting parties, the disposition must also be considered terminated, that is, the asset considered realized.⁴²

Besides the transfer of risk, there is another decisive criterion for whether or not an asset shall be considered realized according to the Swedish income tax system: if the seller has *received remuneration* and if that remuneration is in *cash*.⁴³ However, the purpose of a sale appears to be irrelevant for it to be classified as realization.⁴⁴ Consequently, the income tax definition of a realization does not exclude transactions accomplished for the sole purpose of realizing a capital loss that can be offset against taxable income.⁴⁵ In other words, the Swedish income tax system does not prevent the creation of “synthetic losses”, as such, provided that the loss is real.

⁴¹ Edgar, T. (2000, p. 325).

⁴² See, for example, Melz, P. (1986, p. 65). An example of such a situation occurs when an option is settled net in cash.

⁴³ See, for instance, Persson Österman, R. (1997, pp. 159-170).

⁴⁴ See Section 3.2.5.3 on tax avoidance and recharacterization, however.

⁴⁵ See, for example, Rutberg, A., Rutberg, J. and Molander, L. (1997, p. 46).

7.3.3.2 Straddle Transactions

The combinations used to accomplish the “synthetic losses” are usually referred to as straddles. A straddle is typically a combination of a long call option and a long put option, with the same underlying, strike price and expiration date.⁴⁶ As such, combinations solely comprise long positions; they are not synthetic, as defined in Section 7.2.1.⁴⁷

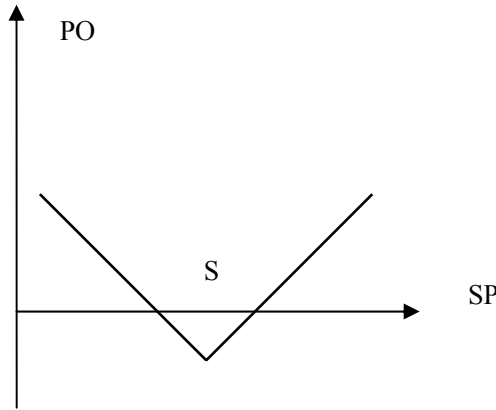


Figure 7.1 The payoff profile of a straddle

The figure shows the payoff profile of a straddle, where S is the strike price of the options, SP is the spot price of the underlying, and PO is the payoff of the straddle.

The general payoff structure of a straddle is simple: If the value of the underlying increases, the value of the call option in the straddle also increases; and if the value of the underlying decreases, the value of the put option in the straddle increases similarly. Irrespective of the direction the value of the underlying moves, then, the value of the straddle will increase. However, the relatively large premiums paid for the long positions in the options entails that if the value of the underlying is close to the strike price of the options at maturity of the straddle, the net payoff of the straddle is negative.

The way in which straddles can be used to create “synthetic” capital losses for purposes of deferring taxation of capital gains can be illustrated by means of

⁴⁶ See, for example, Hull, J. (2006, pp. 234-235); and McDonald, R. L. (2003, pp. 76-77).

⁴⁷ Synthetics are defined as combinations of long *and* short positions in financial instruments exposed to the same risks, but providing offsetting payoffs in aggregate, replicating the payoff of another, legally distinct, financial instrument, see Section 7.2.1.

a court decision. In a joint case from the Stockholm Administrative Court of Appeal, the question was whether such "synthetic" losses were to be considered for income tax purposes.⁴⁸ Generally, the straddle in the joint cases worked in the following way:

Example:

In December 1992, Company X AB deposited 85,000 SEK for lending 10,032,100 SEK, with the condition to purchase call options and put options respectively for the price of 5,016,050 SEK. The options had the same underlying, strike price, and maturity. Therefore, the options constituted a straddle. The straddle was hedged with cap-contracts, making the maximal payoff of the straddle equal the total purchase price of the straddle, plus accrued interest.

Four days after the straddle was purchased (i.e. on December 14) X AB sold the put options in the straddle at a price of 2,928 SEK, resulting in a capital loss of 5,013,122 SEK. On December 17, the same put options were repurchased at a price of 6,606 SEK. The following year, on February 12, the options in the straddle matured. The put options expired with no value, and the call options were settled at a value of 10,134,405 SEK, providing capital gains of 5,118,355 SEK. The capital was used to settle the loan and pay accrued interest.

The straddle transaction made it possible for Company X AB to recognize capital losses of 5,013,122 SEK and interest expenses of 46,265 SEK for the income year 1992. The offsetting capital gains were recognized in the income year 1993. Thus the straddle transaction left X AB with a relatively large tax credit without challenging its economic positions.

(Based on cases no. 5249-03, 5250-03 and 5251-03, from the Stockholm Administrative Court of Appeal)

In the decision of the Stockholm Administrative Court of Appeal, the capital loss created by the straddle transaction was not accepted for income tax purposes, which resulted in all payoffs from the transactions being income tax exempt. As a basis for its decision, the court argued that the construction of the straddle, involving several collateral contracts, entailed that the sale of the put options did not actually involve the transfer of ownership and that the company could not be considered as having realized a capital loss.

It is evident from the case that straddle transactions that are constructed without constituting clear transfers of ownership are unlikely to be accepted for

⁴⁸ Cases no. 5249-03, 5250-03 and 5251-03, from the Stockholm Administrative Court of Appeal.

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income tax purposes. However, if a straddle is constructed in a way that respects the concept of realization it is, according to the Swedish income tax system, likely to be in line with the legislation.

7.3.3.3 Synthetics as Straddles

Like synthetics, straddle transactions can be carried out in countless combinations, and it is difficult to know if a financial instrument is part of a straddle transaction. The synthetic bonds illustrated in Section 7.3.2 may be used for straddle transactions rather than substitutes for a real bond, for instance. The values of a share and a short forward in a synthetic bond offset each other making the synthetic well suited for straddle transactions:

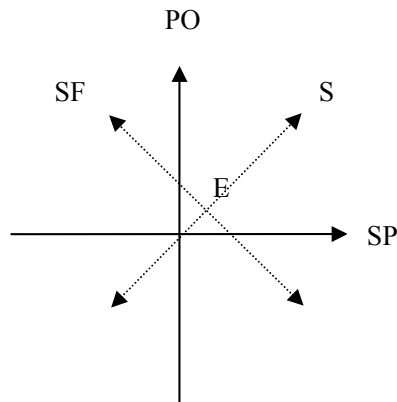


Figure 7.2 The payoff profile of a synthetic bond

The figure shows the payoff profile of a synthetic bond. E is the exercise price of the short forward and SF and S are the payoff profiles of the short forward and share, respectively. SP is the spot price of the share and PO is the payoff of the synthetic bond.

Unlike the straddle illustrated in Section 7.3.3.2, the synthetic bond always gives a net payoff corresponding to the cost of carrying the share, whether or not the spot price of the share rises or falls.⁴⁹ However, if the spot price of the share unexpectedly rises, the short forward can be sold at the end of an income year in order to create a capital loss. In the beginning of the next income year, the

⁴⁹ The payoff is, in general, computed with reference to the risk-free interest rate and the principle amount of the share, and, as it is predictable, the net payoff of the synthetic corresponds with the net payoff of the bond.

forward can be repurchased or the share sold, so the net payoff of the transaction remains similar to the payoff of a regular bond. However, it is important to note that the forward used in this type of straddle transaction must be tailor-made because standardized forwards cannot be realized before they mature.⁵⁰

In principle, all synthetics cannot be used in straddle transactions, as their building blocks provide offsetting payoffs. That is, they are combinations of financial instruments containing unrealized capital gains and losses. Therefore, in addition to the tax arbitrage a synthetic creates when it defers the taxation of expected income, synthetics can be used simultaneously to defer taxation by creating “synthetic” losses.

7.3.3.4 Inter-company Straddles

A straddle can be carried out by a single company or on an inter-company level. By allowing different inter-companies enter into the offsetting positions of a straddle, the effect of a straddle can be accomplished by the inter-company group without any of the inter-companies actually having conducted a straddle transaction.

A similar type of straddle as presented above, consisting of financial instruments that provide offsetting payoffs, can be constructed on the basis of the valuation method generally known as “the lower of cost and market”⁵¹. This method entails the recognition of unrealized losses in the profit and loss account, while gains need be recognized only when realized. The lower of cost and market was, prior to 2004, applicable on financial instruments that are stock in trade. Thus inter-companies could construct an inter-company straddle by entering into a financial instrument – by taking a long and a short position respectively – and letting the company that is in the loss position at the end of the year recognize the unrealized loss, making the taxable result of the group decrease.⁵² However, the awareness that companies would recognize this loophole and engage in these straddle transactions made the legislator take action.⁵³ As a result, the present income tax provisions on the valuation of financial instruments that are stock in trade entails that all companies in a group must apply the same valuation method – either cost or market.⁵⁴ Yet the prevention of the type of inter-company straddle illustrated in the beginning of this section is an issue still unresolved.

⁵⁰ See Section 4.3.3.1.

⁵¹ In Swedish, *lägsta värdets princip* (LVP).

⁵² Cf. Swedish Tax Agency (1996, pp. 11-12, 128-130, and Appendix 1, Case 1). See also Möller, L. (1996, pp. 465-466).

⁵³ See the Swedish Government Bill (*Proposition*) 2003/04:28 (pp. 17-21).

⁵⁴ Chapter 17, Section 20 ITA.

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7.3.3.5 Shorting Against the Box

A tax-motivated structure similar to a straddle transaction is generally known as “shorting against the box”.⁵⁵ Just like straddle transactions, shorting against the box is carried out for the purpose of deferring the taxation of capital gains.

Shorting against the box is usually carried out by a company that holds capital assets it would like to sell in order to secure a capital gain. It sells these assets short instead of selling them outright.⁵⁶ As most tax provisions on short selling, including the Swedish’ provision, involves the recognition of capital gains or losses, when the shorted assets have been returned, shorting against the box is used to defer the recognition of capital gains.⁵⁷

However, the Swedish income tax provisions on short selling entail a prohibition against shorting against the box, as they apply only if the shorted assets are not already in the possession of the person short selling.⁵⁸ In principle, then, shorting against the box is a tax-motivated structure that is prohibited by the Swedish income tax system. However, the prohibition appears to be toothless. Instead of shorting against the box, it is just as good to take a short position in a prepaid forward, which is a transaction with an economic substance identical to the economic substance of a short selling transaction.⁵⁹ As their legal form differs, the prepaid forward can likely be used to circumvent the prohibition against shorting against the box.

7.4 Hedging

7.4.1 Theory and Practice

As mentioned in Section 7.2.4, the creation of a synthetic is not necessarily for purposes of circumventing income taxation, but may also be for purposes of hedging the business risk of a company. Hedging is about finding a financial position in which the unexpected payoff develops in a direction opposite to that of the unexpected payoff of the item that is hedged.⁶⁰ A hedge instrument and a hedged item are jointly referred to as a hedge relationship – a hedge relationship and a synthetic are equal. With regard to income taxation, a hedge relationship is

⁵⁵ See, for example, McDonald, R. L. (2003, p. 482); and Edgar, T. (2000, p. 326).

⁵⁶ The “box” in the expression “shorting against the box” is a reference to the (illusionary) box in which the tax payer holds the shares which are sold short. Because the tax payer holds the shares, there is little risk connected to the transaction, as the value of the shares “in the box” and the value of the shares that have been sold short develops in opposite directions. In fact, their payoff profiles are similar to the payoff profiles illustrated in Figure 7.2 (synthetic bond).

⁵⁷ See Section 4.3.3.7 on the Swedish income tax provisions on short selling.

⁵⁸ Chapter 44, Section 29 ITA. See also the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (p. 452).

⁵⁹ For further information on the Swedish income tax treatment of prepaid forwards, see Section 4.4.3.5.

⁶⁰ Cf. Figure 2.4.

fully effective only if the payoffs from the hedged item and the hedging instrument are treated equally – are recognized during the same period(s), and as the same type of income. However, as previously illustrated, derivatives are usually taxed on the basis of realization, whereas income from business is taxed on an accrual basis.⁶¹ Consequently, the Swedish income tax system does not facilitate the use of derivatives for hedging the risks connected with the business activity in non-financial companies.

Section 7.4.3 (Practice) below analyzes the reasons that Swedish income tax provisions prevent non-financial companies from carrying out risk hedging. As a basis for that analysis, Section 7.4.2 (Theory) presents arguments for and against the present income tax treatment of derivatives. Thus the examination of derivatives used for hedging is presented in terms of theory and practice.

7.4.2 Income from Derivatives used for Hedging - Theory

7.4.2.1 Classification of Income

In Section 3.3, Chapter 3 it is noted that the income of a non-financial company is classified as income from business or as income from capital management, on the basis of whether or not the transaction that generates the income is conducted as a part of the company's business activity. Thus in principle, the purpose for which a derivative is held determines how the payoff it generates is to be taxed. However, in many situations, it is difficult to establish objectively the reason a company holds a derivative. Therefore, as a general rule, derivatives are classified as either within or outside the business activity of a company on the basis of their legal form. In that way, the legal form of a derivative works as a proxy for how it is used in a company.

In principle, the classification of a company's income into income from business and income from capital management originates from a desire by government to tax income generated from production as income from business.⁶² Therefore income from capital management is generally income resulting from unexpected events: risk.⁶³ Consequently, whether to tax the payoff from derivatives as income from business or as income from capital management is, in principle, a matter of whether or not their payoff is to be considered as a result of production – whether or not the company's use of derivatives is value generating.⁶⁴

7.4.2.2 Income from Capital Management

As stated in Sections 2.4.4 and 2.5.2, Chapter 2, derivatives are instruments that transfer risk from one party to another. As risk is, by definition, an unexpected

⁶¹ See Section 3.3.5.

⁶² See Section 3.3.

⁶³ For more information about the definition of risk, see Section 2.2.2.

⁶⁴ Cf. Section 3.3.3.

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change in the value of an asset, it follows that gains from derivatives are not a result of production.⁶⁵ In fact, as the value of a gain attributable to one party of a derivative equals the value of the loss attributable to the other party of the contract, derivatives generate no value. More specifically, a derivative transaction is a zero-sum game – the direct opposite of production. Thus gains and losses from derivatives are not to be considered as part of a company's income from business, which generally covers income from production. Instead, payoffs from derivatives are to be considered as capital gains or capital losses, that is, as income from capital management.

7.4.2.3 *Income from Business*

Any item used in a company's business activity is exposed to risk. For example, a short position in debt is exposed to interest rate risk, and possibly also to foreign exchange risk. Similarly, a company's stock in trade is exposed to market risks, and an unexpected fall in the price of the stock would decrease the value of the company.⁶⁶ Consequently, the net result of a company's business activity is, to a great extent, dependent on unexpected events: risk.

Normally, gains and losses from risk exposures in items used in a company's business activity are treated as income from business. If the market price of the stock in trade of a company rises unexpectedly, for instance, the extra gain associated with this rise is considered as having been derived from the stock in trade and will be taxed as income from business. Similarly, if the market price falls unexpectedly, the loss created by the fall will be considered as having been generated by the business activity. Although the value of the production in a company depends to some extent on unexpected events, the entire income generated by items used in production activity is considered to be income from business.

Given this treatment of gains and losses from risk exposures, it appears as if income from business, in general, is a combination of the value generated by production and unexpected changes in the price of the produced value. In principle, this situation challenges the income classification in the corporate income tax system. In theory, it would be more satisfactory if income resulting from unexpected changes in the price of the produced value were to be taxed as income from capital management because, in principle, such income is payoff, regardless of production. Thus if a company uses derivatives to eliminate the influences of risk on the value produced in its business activity, the net result of production plus the derivative is more similar to the true definition of income from business than is the present concept of income from business. It may be argued, therefore, that if a derivative is used to hedge an item used in a company's business activity, the net result of the arrangement should be considered as income from business. In other words, gains and losses from

⁶⁵ See Footnote 63 in this chapter.

⁶⁶ Cf. Section 2.2.2.4.

derivatives used for risk hedging in a company's business activity are logically taxed as income from business.

7.4.2.4 A Solution based on Empirical Evidence

From the previous two sections, it may be concluded that the payoff from derivatives held by non-financial companies are to be taxed as income from capital management if it is not possible to establish that the purpose of the derivative is to hedge the risks of a company's business activity. As noted in Section 7.2.5, the purpose of holding a derivative may be difficult to establish. Therefore, it seems as if a general rule on the taxation of the payoff from derivatives held by non-financial companies must be drafted on the basis of how derivatives are most commonly used by these companies.

Empirical research shows that the use of derivatives in Swedish non-financial companies is increasingly widespread, making the income taxation of the payoff from derivatives a relevant issue for the majority of companies.⁶⁷ Furthermore, companies that hold derivatives primarily use them to hedge risk exposures in their regular business activity, and only in exceptional cases do companies use them for other reasons such as speculation.⁶⁸ Thus on the basis of the arguments put forward in the previous sections, the division of a company's income into income from business and income from capital management principally involves the payoff from derivatives taxed as income from business and, only in exceptional cases, as capital gains or losses.

Consequently, empirical evidence indicates that the payoff from derivatives held by non-financial companies should, as a general rule, be considered income from business. Only in cases in which it is possible to establish that the holding of a derivative has a purpose other than hedging the business risks of a company should its payoff be taxed as capital gains or losses. However, this theory is not in line with practice.

7.4.3 Income from Derivatives used for Hedging – Practice

7.4.3.1 Income Tax Treatment of Derivatives used for Hedging – De Lege Lata

It follows from previous section that there are arguments in favor of a general rule involving the classification of derivatives held by non-financial companies as part of a company's business activities. The main argument in support of such a rule is the way in which derivatives are used by these companies. However, when the Swedish income tax provisions on derivatives were drafted, little

⁶⁷ Alkeback, P., Hagelin, N. and Pramborg, B. (2006, pp. 104-105). In 2003, 59 percent of all non-financial companies in Sweden held derivatives, for an increase of 7 percent compared to 1996.

⁶⁸ Alkeback, P. and Hagelin, N. (1999, pp. 113-114); and Alkeback, P., Hagelin, N. and Pramborg, B. (2006, pp. 108-109). See also the Swedish Central Bank (1994, p. 18). The empirical evidence confirms what seems to be the general understanding of how non-financial companies most often use derivatives; see, for example, Johansson, B. (1997, p. 746).

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attention was paid to how derivatives may be used. It appears as if the legislator simply considered derivatives to be like any other securities, such as shares;⁶⁹ the legislator's focus seems to have been on the volatility characteristic of derivatives not on their qualities for risk hedging.⁷⁰ Thus it is not surprising that the present income tax provisions on derivatives entail their payoffs being taxed as income from capital management.⁷¹

According to the preparatory works of the Swedish Income Tax Act, ITA, the general provision on the income tax treatment of derivatives, in principle, only excludes derivatives held by security businesses, that is, by financial companies.⁷² Thus although it is evident that non-financial companies primarily hold derivatives for risk hedging in their business, the derivatives are considered outside their business activities.

7.4.3.2 Case RÅ 1997 referat 5

The noticeably strict provision on the classification of derivatives originates from an appealed advanced ruling decided by the SAC in 1997.⁷³ The ruling concerned a company holding real property and using forwards to hedge the interest rate risks of the loans used to finance its holdings in the real property. The Swedish Board for Advanced Tax Ruling, the Board, did not question the fact that the derivatives held by the company were used for hedging. However, the majority of the Board members (four delegates) argued that, as the holding of the derivatives was not a business activity in and of itself, but part of the business to hold real property, the derivatives were to be treated like any other financial instrument held by the company, that is, as not being part of the business activity. Consequently, the majority of the Board members did not consider hedging as an integrated part of a business activity. Instead, the reasoning indicates, they found that the only way a financial instrument may be considered as a business activity was if the holding of financial instruments constituted a security business.⁷⁴ A minority of the Board members (three delegates) dissented. They argued that the use of derivatives to hedge business risk exposures must be considered as an integrated part of a business activity. Therefore, they argued, the derivatives used to hedge the interest rate risks in the business was not to be taxed based on realization but on accrual. However, without presenting its own argumentation, the SAC ruled in favour of the majority of the Board.

⁶⁹ See the Swedish Government Bill (*Proposition*) 1989/90:110, Part 1 (pp. 424-458).

⁷⁰ See the Swedish Government Official Report (*SOU*) 1986:37 (p. 240).

⁷¹ Chapter 25, Section 4 ITA. See also Chapter 4 in this study.

⁷² The Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 327). See also Sections 3.3.3 - 3.3.4.

⁷³ Case RÅ 1997 referat 5 I.

⁷⁴ It has been suggested in the literature that the decision of the Board may be explained with reference to a previous case (Case RÅ 1986 referat 53) dealing with the question of whether or not to classify the holding of financial instruments as a security business. See Johansson, B. (1997, p 746).

The outcome of Case *RÅ 1997 referat 5 I* was surprising, and has been subject to criticism.⁷⁵ Generally, the critics favor the dissenting opinion of the minority of Board members, and advocate that derivatives used for hedging are to be taxed on an accrual basis.⁷⁶ Nevertheless, the case constitutes the main rule on how derivatives are treated in Sweden's current income tax system.

7.4.3.3 Hedging and Good Accounting Practice

Arguments for not treating derivatives used for risk hedging separately from other derivatives are based on the difficulty of reliably establishing the purpose for which a derivative is held.⁷⁷ One way to establish the purposes of a derivative holding is to examine how it is presented in a company's financial reports. If the derivative is designated as a hedge instrument in the financial reports of a company, it can be argued that it establishes the purpose of the derivative holding and this purpose can be used for income taxation.⁷⁸

However, derivatives can only be designated as hedge instruments if applicable accounting provisions contain hedge accounting rules. In principle, the only hedge accounting rules published by a Swedish accounting standard setter relate to derivatives used to hedge the foreign exchange risk of a company's assets and liabilities.⁷⁹

The hedge accounting rules constitute the only exception to the general tax rule on the treatment of derivatives held by non-financial companies. This exception establishes that derivatives held by companies for purposes of hedging the foreign exchange risks of the company's assets and/or liabilities shall be treated as an integrated part of the hedged asset/liability.⁸⁰ In practice, this treatment involves the recognition of gains or losses from the derivative on an accrual basis – on the basis of a fair-value approach. However, the exceptional treatment is allowed only if it is in accordance with good accounting practice.⁸¹

The income tax provision on the valuation of a company's assets and liabilities designated in foreign currency solely codifies the valuation method established in good accounting practice.⁸² Thus the exceptional treatment eventually follows from the connection between Swedish income taxation and financial accounting.⁸³ Therefore, it is possible that if the hedge accounting

⁷⁵ See, for example, Swedish Tax Agency (1996, pp. 133-136), in which it advocates that derivatives used for hedging must be considered as part of the business activity of the company carrying out the hedge. See also Möller, L. (1996, pp. 466-467).

⁷⁶ See, for example, Johansson, B. (1997, p. 750); and von Bahr, S. and Norberg, C. (1998, pp. 330-331).

⁷⁷ See Section 7.2.5.2.

⁷⁸ See Section 8.5.4, however.

⁷⁹ Paragraphs 8 and 15-19 *BFN R 7*.

⁸⁰ Chapter 14, Section 8 ITA.

⁸¹ The concept of "good accounting practice" is discussed in greater depth in Section 3.3.5.2.

⁸² The Swedish Government Bills (*Propositioner*) 1990/91:54 (pp. 237-240) and 1998/99:28 (pp. 10-12). See also Gunne, C. (1991, pp. 15 and 21-22).

⁸³ See Section 3.3.5.2, Chapter 3 on the connection between Swedish income taxation and financial accounting.

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provisions on foreign assets and liabilities were not published by the Swedish Accounting Standard Board (BFN), it is unlikely that there would be an exception in the tax treatment for derivatives used to hedge the foreign exchange risk of such assets. Similarly, if there would have been a more comprehensive hedge accounting regulation at the time of the income tax reform, it is likely that all derivatives recognized in accordance with this hedge accounting regulation would have been explicitly excluded from the general rule on the income tax treatment of derivatives, and taxed on basis of good accounting practice. Thus it appears not that far reaching to believe that hedge accounting rules may be accepted in the Swedish income tax system as a basis for exceptional income tax treatment of derivatives used for hedging.

7.4.3.4 Hedge Accounting to Establish the Purpose of Derivative Holdings

Although the Swedish Accounting Standard Board, or any other Swedish accounting standard setter, has not published hedge accounting rules subsequent to the regulation on foreign exchange risks on assets and liabilities, the International Accounting Standards Board (IASB) has published a comprehensive set of hedge accounting rules.⁸⁴ In principle, these rules ought to be in accordance with good accounting practice and thus possible to apply by any Swedish company. As a result, it is currently possible for any non-financial Swedish company to apply hedge accounting rules on derivatives used for most types of hedging. As a result, the hedge accounting rules established by the Swedish Accounting Standard Board (BFN) are not the only applicable hedge accounting. Therefore, it may be argued that any derivative subject to hedge accounting shall be treated in accordance with good accounting practice for income tax purposes, which means that taxation occurs on an accrual basis.⁸⁵

However, the main obstacle for such tax treatment of derivatives is the preparatory works of the present provision on how to tax derivatives held by companies.⁸⁶ In Case of *RÅ 1997 referat 5 I*, it is stated that derivatives are to be considered as part of a business activity only if they are held by a security business or if they are similar to stock in trade.⁸⁷ It appears as if the expression “similar to stock in trade” is used to cover derivatives that are out of the money, that is, derivatives that are liabilities rather than assets. Consequently, the preparatory work clearly states that derivatives are always to be considered outside a business activity unless the business activity is a security business. For this reason it appears to be unambiguous that derivatives held by non-financial companies are always to be taxed in accordance with the general rule – on the basis of realization – whether or not they are subject to hedge accounting in the

⁸⁴ Paragraphs 71-102 IAS 39. See also Section 8.5.

⁸⁵ See, for example, Case *RÅ 1991 referat 106*, in which derivatives used for hedging were treated, in accordance with good accounting practice, on an accrual basis – although such treatment was not explicitly stated in the income tax legislation.

⁸⁶ Chapter 25, Section 4 ITA. See also the Swedish Government Bill (*Proposition*) 1999/2000:2, Part 2 (p. 327).

⁸⁷ The Swedish Government Bills (*Propositioner*) 1999/2000:2, Part 2 (p. 327).

companies financial reports.⁸⁸ Nevertheless, this conclusion has been challenged by the Administrative Court of Appeal in Gothenburg.

7.4.3.5 Decisions from an Administrative Court of Appeal

In two cases from the Administrative Court of Appeal in Gothenburg, it has been established that accrual taxation of derivatives used for hedging is allowed if the derivatives are subject to hedge accounting and are in line with good accounting practice.⁸⁹ In the first case, forwards used to hedge foreign exchange exposures in forecast cash flows were taxed on an accrual basis.⁹⁰ The forwards were recognized as hedge instruments in the financial reports of the company that were established in accordance with good accounting practice. In the second case, a hedge relationship, in which forwards were used to hedge forecast cash flows in foreign currency, was not considered in accordance with relevant hedge accounting provisions, and the payoff from the hedge instruments and the hedged items were therefore treated separately.⁹¹

Generally, the court decisions indicate that the forwards used for hedging were to be taxed on the basis of realization whereas the forecast cash flow were to be considered as part of the business activity and, therefore, taxed on an accrual basis. However, for some reason the court reclassified the derivatives to claims and liabilities in foreign currency, making them subject to accrual taxation.⁹²

It is interesting to note the argumentation of the Administrative Court of Appeal in the first of the two cases presented.⁹³ The court's interpretation of Case *RÅ 1997 referat 5 I* was that because the derivatives in the case were used to hedge loans held for the purpose of financing fixed assets, the payoff from such derivatives were to be taxed the same way as the payoff the fixed assets provide when sold. As fixed assets are considered capital assets for income tax purposes, they are taxed at realization when sold and, therefore, the court argues, the derivatives used to hedge the risks that the fixed assets are exposed to are also to be taxed on the basis of realization. On the basis of this argument, the court concluded that derivatives used to hedge the risks of current assets, the payoff of which is taxed on an accrual basis when sold, are to be taxed on an accrual basis.

In my view, the court's argumentation is based on the wrong premises. In Case *RÅ 1997 referat 5 I*, derivatives were used to hedge the risk of interest rates, which are a deductible business expense. Why then should the derivatives be treated as if they were intended to hedge the sale of fixed assets? The

⁸⁸ The only exception is when the derivative is used to hedge the foreign exchange risk of assets and/or liabilities; see Section 7.4.3.3.

⁸⁹ Cases no. 3080-2002 and 3760-01 of the Administrative Court of Appeal in Gothenburg.

⁹⁰ Case no. 3080-2002 of the Administrative Court of Appeal in Gothenburg.

⁹¹ Case no. 3760-01 of the Administrative Court of Appeal in Gothenburg.

⁹² The reclassification seems confusing, and subsequent case law from the SAC establishes that such reclassification is not possible, see Case *RÅ 2006 referat 70*.

⁹³ Case no. 3080-2002 of the Administrative Court of Appeal in Gothenburg.

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connection is far-fetched. Furthermore, the court appears to assume that companies hedge the risks to which their fixed assets and/or current assets are exposed. Such an assumption makes it easy for the court to establish how derivatives used for hedging are to be taxed: Derivatives used to hedge fixed assets are taxed on the basis of realization, and derivatives used to hedge current assets are taxed on an accrual basis. However, the court does not consider how to treat derivatives used to hedge transactions that are not, by definition, assets (or liabilities) – forecast transactions, for example. Moreover, if a company uses derivatives to hedge the values of a number of unspecified assets that might be fixed assets *as well as* current assets – macro hedging – how are such derivatives taxed? Consequently, taxing derivatives on the basis of the type of assets they are used to hedge oversimplifies the matter. Therefore, in my view, the principle value of the case is solely that it establishes that accrual taxation of derivatives used for hedging is possible only if the hedging is approved in the financial accounting of the company.

Finally, in a third case from the Administrative Court of Appeal in Gothenburg, it was decided that derivatives used to hedge the foreign exchange risk of a company's claims in foreign currency are to be taxed on an accrual basis, although the hedging relationship was not approved in the company's hedge accounting.⁹⁴ The reason for allowing such tax treatment appears to be that the court found it possible to establish that the purpose of the derivatives was risk hedging, although the hedging was not approved for hedge accounting. In principle, this case is contrary to the case law presented above, which established that it requires hedge accounting in order to ascertain that the purpose of a derivative is risk hedging within the business of a company.

What is common to all three cases from the Administrative Court of Appeal in Gothenburg is the court's conclusion (arrived at in different ways) that derivatives that are (likely) used for hedging, are to be taxed on an accrual basis rather than on the basis of realization. However, as asserted in Section 7.4.3.4, the preparatory works to the present income tax provision on the taxation of derivatives held by non-financial companies, referring to Case *RÅ 1997 referat 5 I*, limits the possibilities for recognizing derivatives used for hedging on an accrual basis.⁹⁵ Therefore, if the cases dealt with by the Administrative Court of Appeal in Gothenburg were to be appealed by the SAC, the outcomes would likely be that the decisions would be changed, and the derivatives would be taxed on the basis of realization. Consequently, in my opinion, the decisions from the Administrative Court of Appeal in Gothenburg make the taxation of derivatives more uncertain than it was before these decisions were rendered.⁹⁶

⁹⁴ Case no. 215-2002 of the Administrative Court of Appeal in Gothenburg.

⁹⁵ The same conclusion is presented in Leander, Å. (2002, p. 354).

⁹⁶ It is worth mentioning that in an appealed advanced ruling from 2004 (*i.e.* Case *RÅ 2004 notis 58*), a company asked how to treat derivatives held by a non-financial company for income tax purposes. Because the company that asked the questions was classified as a security business, however, the questions were left unanswered.

7.4.3.6 Implanted Derivatives

The legal uncertainty about income tax treatment of derivatives used for hedging in non-financial companies may be reduced if hedging can be carried out without the use of derivatives. However, the range of possible hedging strategies would likely decrease dramatically if derivatives were excluded. As an alternative, companies may structure their hedging transactions in a way that make it difficult to identify the derivatives used. More specifically, companies may implant derivatives in transactions not typically classified as derivatives for income tax purposes and, in that way, make the income tax treatment of the hedging transaction more predictable. For example:⁹⁷ A Swedish company (A) agrees to sell bearings to another Swedish company (B). The bearing contract is designated in USD. In substance, the supply contract entails an embedded currency forward with the same duration, and nominal amount as the supply contract. This can be explained in the following way:

Prerequisites:

The bearings sold by Company A to Company B are worth 1000 SEK. The contract is signed on February 1. On April 1, Company B has to pay Company A for the bearings. On February 1, one USD costs 10 SEK and on April 1, one USD costs 15 SEK.

Example 1:

Company A agrees to sell bearings to Company B at a price of 100 USD. On April 1, Company B buys 100 USD for 1500 SEK and pays Company A. Company A then exchanges the 100 USD into 1500 SEK.

Example 2:

Company A agrees to sell bearings to Company B at a price of 1,000 SEK. Simultaneously, Company A enters into a foreign currency forward to buy 100 USD for 1000 SEK on April 1, and Company B enters into a foreign currency forward to sell 100 USD for 1000 SEK on April 1. On April 1, both forward contracts are settled net in cash and Company B pays Company A 1000 SEK.

Conclusion:

Both examples give the same result: Company A delivers bearings and receives 1500 SEK and Company B receives bearings and pays 1500 SEK.

⁹⁷ For a similar example, see Paragraph IG C.7 IAS 39.

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One-third of the contract is due to the changes in exchange rate between the SEK and the USD – the foreign exchange risk. The foreign exchange risk is independent of the risks connected with the bearings. Thus if the contract were designated in SEK, the foreign exchange risk would not have influenced the value of the contract. Consequently, in Example 1, Company A and Company B actively chose to include the foreign exchange risk in the contract. In Example 2, the foreign exchange risk is dealt with separately by regular forward contracts.

These examples illustrate that it is possible to “hide” derivatives by implanting them into transactions that are not typically recognized as derivatives. In that way, it is possible for companies to carry out hedging transactions without having to worry about the derivative used for hedging being classified as within or outside the business activity.⁹⁸

In two cases, decided by the SAC but not published in *RA*, a hedging transaction had been arranged by means of implanted derivatives.⁹⁹ In substance, the hedging transaction is a call option, held by a subsidiary with its parent company in a short position. However, in these cases, the hedge transaction is presented as a contract with characteristics different from an option, defined in accordance with Swedish income tax provisions.¹⁰⁰ For this reason, the SAC decided that the hedge transaction was not to be considered as a derivative, but as a contract constituting part of business activity, and taxed it on an accrual basis.

7.5 Conclusions

Synthetics are combinations of long and short positions in legally distinct financial instruments that provide offsetting payoffs, replicating the payoff from different, legally distinct financial instruments. Generally, synthetics are used in tax-driven transactions to utilizing tax arbitrage opportunities or in hedging transactions to hedge the business risk of a company.

Synthetics used in tax-driven transactions exploit tax arbitrages in two ways, both of which result in deferred taxation. First, instead of taking a long position in a financial instrument the payoff of which is taxed on an accrual basis, a synthetic can be used to replicate the economic substance of that instrument by combining a financial instrument the payoffs of which are taxed on the basis of realization. By investing in the synthetic instrument instead of the real instrument, it is possible to defer the taxation, that is, to utilize a tax arbitrage opportunity. Second, as synthetics are combinations of financial instruments that

⁹⁸ Implanted derivatives may, of course, be used for purposes other than hedging. As in the case of hedging, tax arbitrage situations arise when implanted derivatives are used.

⁹⁹ RegR 4220-2002 and RegR 4221-2002. The cases are discussed in Roupé, J. M. (2005, pp. 18-26).

¹⁰⁰ See Section 4.2.3; see also Roupé, J. M. (2005, pp. 24-25).

provide offsetting payoffs, synthetics generally involve accrued gains and losses. This makes it possible to sell the instrument that is a component of the synthetic, which entails an accrued loss. Such alienation does not challenge the economic position of the company if the instrument is repurchased shortly after the sale. However, if the sale is conducted in an income period prior to the income period in which the repurchased instrument matures or is sold, it creates a risk-free capital loss, which may be used to defer the taxation of income that is otherwise taxable. This type of transaction is generally known as a straddle transaction.

The tax arbitrage opportunities related to synthetics could be prevented by means of integration: a method entailing the legal form of the building blocks of a synthetic to be disregarded in favor of the legal form of the replicated instrument. In that way, synthetics are taxed in a way similar to that of the instruments they replicate, making possible income tax benefits of synthetics disappear. However, the application of integration requires a method to distinguish between financial instruments held for the purpose of circumventing income tax provisions and financial instruments held for other purposes. In other words, integration is only effective as a method for preventing tax arbitrage opportunities if it is possible to first identify which financial instruments are used to access the tax arbitrage opportunities. Therefore, it is not a realistic solution to the problems connected with the tax-driven use of synthetics.

Hedging occurs, by definition, when a company makes another party bear the risks otherwise borne by the company. As derivatives are instruments that transfer the risk of an underlying from one party to another, they are excellent instruments for risk hedging. Generally, a hedging transaction is carried out the same way as a synthetic instrument is created. Thus it is not possible, by means of legal form or economic substance, to distinguish between synthetics used in tax-driven transactions and synthetics used in hedging transactions.

The Swedish income tax system differentiates between a company's income depending on whether or not it is provided by instruments considered within or outside the business of the company. Tax-driven transactions are, of course, not to be considered part of a company's business, but there is convincing evidence in favor of treating hedging transactions as a part of a company's ordinary business. Consequently, the structure of the Swedish income tax system makes it desirable to establish a method of distinguishing between derivatives held for risk-hedging purposes and derivatives held for other purposes. However, the general rule on the taxation of derivatives explicitly excludes derivatives from the business of a company unless the company is classified as a security business. Therefore, although there might be ways to distinguish between derivatives used for hedging and derivatives used for other purposes, such distinctions are of no value unless the legislation is changed.

8 IAS 39 – Measures to Prevent Tax Arbitrage?

8.1 Swedish Income Taxation and IAS 39

In this study I have illustrated how the present income tax treatment of derivatives and other financial instruments gives rise to tax arbitrage opportunities in the Swedish income tax system. Arbitrage opportunities occur in part because the classification and definitions of financial instruments that are used in income tax legislation do not always mirror the economic substance of the instruments.¹ Thus it is reasonable to believe that several of the tax arbitrage opportunities presented in this study could be prevented if the legal classification of financial instruments corresponds to their economic substance.

The international accounting standard IAS 39 – Financial Instruments: Recognition and Measurement – deals with derivatives and other financial instruments based on their economic substance.² The main objective of IAS 39 is to establish principles for recognizing and measuring financial instruments.³ A legal provision that recognizes a financial instrument based on its economic substance entails correspondence between economic substance and legal form of that financial instrument. Consequently, it is likely that IAS 39 entails measures that are designed to deal with financial instruments in a way that would prevent some of the tax arbitrage opportunities presented in this study. Therefore, the purpose of this chapter is to investigate if IAS 39 provides measures that could be used for preventing tax arbitrage opportunities related to derivatives and other financial instruments in the Swedish income tax system.

In Section 8.2, I discuss the general weaknesses in the Swedish income tax treatment of financial instruments, and why it is relevant to benchmark the Swedish income tax treatment of these instruments with corresponding provisions in IAS 39. Section 8.3 compares and evaluates the way in which derivatives are defined in the Swedish income tax system in relation to the derivative definition in IAS 39. Section 8.4 examines how composite contracts are bifurcated in accordance with IAS 39, and if it is possible and realistic to apply this bifurcation method in the Swedish income tax system. Section 8.5 deals with the issue of distinguishing between derivatives used for hedging and derivatives used for other purposes. In this section I examine whether or not the

¹ See, for instance, Sections 4.4, Chapter 4; and Section 6.3.9, Chapter 6.

² See Sections 8.2.3.3 - 8.2.3.4 in this chapter.

³ Paragraph 1 IAS 39.

threshold regulations for applying hedge accounting in accordance to IAS 39 is a plausible way to differentiate derivatives by their purpose, in the context of Swedish income taxation. Finally, Section 8.6 presents conclusions.

8.2 Measures to Prevent Tax Arbitrage Opportunities Related to Financial Instruments

8.2.1 Abolishing the Realization Approach?

In Section 3.2, Chapter 3, I claim that tax arbitrage opportunities arise in the Swedish income tax system because of the use of two different approaches to establishing a company's taxable income. As a general rule, income classified as interest is established on the basis of a fair value approach; whereas income classified as capital gains or losses are established on the basis of a realization approach. Thus when the payoffs from two economically equal financial positions are classified as interest and capital gains/losses respectively, tax arbitrage opportunities arise.

It has been argued in the literature that the application of the realization approach is the primary cause of tax arbitrage opportunities in income tax systems in relation to derivatives and other financial instruments.⁴ However, the realization principle has been criticized not only in relation to taxation of financial instruments; it is probably the most widely criticized concept in the broader context of tax law as well.⁵ As a result, the literature presents several alternative tax systems that exclude or modify the realization principle.⁶ A common feature of these systems in their prevention of the types of tax arbitrages presented in this study – timing arbitrages. However, the implementation of any of these systems would also create far-reaching consequences in the taxation of items other than those discussed in this study. Whether or not such implementation is a plausible way to reduce tax arbitrage opportunities related to derivatives and other financial instruments deserves further research and it is not covered in this study.

As an alternative to implementing an entirely new tax system, suggestions in favor of reforming a limited part of an income tax system (the taxation of financial instruments) have been advanced.⁷ Among the suggested changes are the application of bifurcation and integration, topics examined in Sections 5.2.4.3, Chapter 5; and 7.2.5, Chapter 7, respectively.⁸ Furthermore, as a direct

⁴ See, for example, Shuldiner, R. (1992, p. 283); and Warren, Jr. A. C. (1993, p. 482).

⁵ See, for instance, Schizer, D. M. (1998, pp. 1551-1552). See also Melz, P. (1986, pp. 23-27), on pros and cons for the realization principle.

⁶ For instance, see Strnad, J. (1990, pp. 1817-1904); Shakow, D. J. (1986, pp. 1111-1184); Brown, F. (1996, pp. 1559-1672); and Shaviro, D. (1995, pp. 643-724).

⁷ See, for example, Warran, Jr. A. C. (1993, pp. 473-482).

⁸ Warran, Jr. A. C. (1993, pp. 474-477); and Strnad, J. (1994, pp. 593-600).

response to the tax arbitrage opportunities eventually caused by the realization approach, it has been suggested that the payoff from financial instruments ought to be recognized on the basis of a fair-value approach.⁹ The Swedish Tax Agency is among the advocates of such a solution.¹⁰

8.2.2 Taxing Financial Instruments Based on a Fair Value Approach

8.2.2.1 Financial Instruments held by Financial Companies

The suggestion put forward by the Swedish Tax Agency has, in part, been satisfied in that, beginning in 2004, financial instruments held by financial companies were measured and taxed based on a fair value approach.¹¹ However, as indicated in Section 3.4, Chapter 3, the payoffs from financial instruments held by non-financial companies are still taxed based on a realization approach and, therefore, tax arbitrage opportunities remain.

8.2.2.2 Financial Instruments held by Non-Financial Companies

Since January 1, 2004, non-financial companies have been allowed to recognize financial instruments on the basis of fair-value in their financial reports.¹² These provisions followed from the implementation of Directive 2001/65/EC, which was issued to facilitate the implementation of IFRS as a common set of accounting standards in the European Union.¹³

Because there is no material connection between the financial accounting for and the income taxation of financial instruments, the possibilities of using a fair value valuation in financial reporting has no direct influence on taxation of income. However, the possibility of recognizing unrealized gains in the profit and loss account creates a distinct opportunity to distribute profit that has not been subject to income taxation. Thus economic double taxation, which is fundamental to the Swedish corporate income tax system, is challenged.¹⁴

In order to maintain the Swedish economic double taxation, a prohibition on distributing unrealized gains that are derived from financial instruments has

⁹ See, for example, Warran, Jr. A. C. (1993, p. 474).

¹⁰ Swedish Tax Agency (1998, p. 160).

¹¹ Chapter 17, Section 20 ITA. See also Section 7.3.3.4.

¹² Chapter 4, Section 14a the Swedish Annual Accounts Act. See also the Swedish Government Bill (*Proposition*) 2002/03:121 (p. 65).

¹³ The Swedish Government Bill (*Proposition*) 2002/03:121 (pp. 33-34). See also Article (10) in the ingress of Directive 2001/65/EC; and Article 32 in COM (2000) 359. The EU accounting harmonization is established in Regulation (EC) no. 1606/2002. About the EU accounting harmonization see, for instance, van Hulle, K. (1992) and (1993); and Whittington, G. (2005, pp. 127-134).

¹⁴ However, see Knutsson, M. (2005, pp. 515-518), who argues that the actual possibility of distributing unrealized gains as dividends are limited, and are best restricted by means of company law.

been introduced.¹⁵ This restriction covers only instruments that are stock in trade, however; there is no restriction on non-financial companies distributing unrealized gains from derivatives and other financial instruments.

8.2.2.3 *The Commission on the Connection Between Financial and Tax Accounting*

As a result of the implementation of Directive 2003/51/EC, the Swedish Annual Accounts Act was amended to allow non-financial companies to recognize certain assets at fair value through profit and loss when applying IFRS based on Regulation (EC) no. 1606/2002.¹⁶ The implementation of Directive 2003/51/EC, involving increased possibilities to apply fair value valuation in the financial reports of non-financial companies, triggered an inquiry into ways of preventing these companies from distributing unrealized gains as dividends.¹⁷ In order to conduct this inquiry, the Commission on the Connection between Financial and Tax Accounting (the Commission) was appointed by the Swedish government.¹⁸

In its interim report, the Commission suggested that the distribution of unrealized gains should be restricted by connecting financial accounting and income taxation and thereby recognizing taxable income on the basis of a fair value approach.¹⁹ Upon reflection, however, the Commission clearly expressed that it was not satisfied with its initial suggestion, and insisted that the suggestion should not constitute the basis for income taxation. Instead, the Commission asked the government for extended time so that it could more thoroughly examine possible ways of maintaining economic double taxation.²⁰ The request was approved.²¹ Thus at present, the Commission is working on its examination, and the possibility for non-financial companies to apply fair-value valuation in accordance with IFRS is still limited.²²

8.2.2.4 *Implications of Introducing a Fair-Value Approach*

As its main argument against income taxation on the basis of a fair value approach (*i.e.* on an accrual basis), the Commission put forward the liquidity problem.²³ It argued that companies having to pay taxes on unrealized gains, as a result of a connection between financial accounting and income taxation, would likely conduct their financial accounting in a way that limits the recognition of unrealized gains. More specifically, the income tax provisions would have a

¹⁵ Chapter 17, Section 21 ITA. See also the Swedish Government Bill (*Proposition*) 2003/04:28 (pp. 22-23); and the Swedish Government Bill (*Proposition*) 1995/96:104 (pp. 41-45).

¹⁶ Chapter 4, Sections 14f-14g of the Swedish Annual Accounts Act; and the Swedish Government Bill (*Proposition*) 2004/05:24 (pp. 143-144).

¹⁷ The Swedish Government Bill (*Proposition*) 2004/05:24 (pp. 143-144); and the Government Directive (*direktiv*) 2004:146.

¹⁸ In Swedish, *Utredningen om Sambandet mellan Redovisning och Beskattning (SamRoB)*.

¹⁹ The Swedish Government Official Report (*SOU*) 2005:53 (p. 34).

²⁰ The Swedish Government Official Report (*SOU*) 2005:53 (p. 38).

²¹ *SFS* 2005:918; and the Swedish Government Bill (*Proposition*) 2005/06:25 (pp. 78-81).

²² *SFS* 2004:1173; and Articles 28, 64, 72 and 75 in *RR* 32:06.

²³ The Swedish Government Official Report (*SOU*) 2005:53 (pp. 34-38 and 63-64).

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direct, negative effect on the quality of the financial reports of companies that apply IFRS. Furthermore, in a special announcement issued by some members of the Commission, it is argued that taxation of unrealized gains is in conflict with the fundamental ability-to-pay principle, and such taxation is therefore deemed unacceptable.²⁴

A second argument against taxation on an accrual basis is the subjectivity related to the valuation of a company's assets.²⁵ In comparison to the realization approach, a fair value approach entails greater subjectivity and, therefore, if applied in an income tax context, less legal certainty.²⁶

The liquidity problem and the valuation problem are generally said to be the principle arguments against taxation without realization (*i.e.* against accrual taxation).²⁷ From the interim report of the Commission, it appears that these arguments, especially the liquidity problem, are the main arguments against taxation on the basis of a fair value approach in relation to financial instruments. Therefore, implementing a fair value approach for the taxation of financial instruments is not a plausible way of preventing tax arbitrage opportunities related to these instruments.

8.2.2.5 Implications of Extending the Use of a Realization Approach

As the application of a fair value approach to all financial instruments would eliminate most tax arbitrage opportunities related to these instruments, one might question whether or not the application of a realization approach to all financial instruments would have the same effect. In principle the answer must be yes, as the application of a single approach by nature limits tax arbitrage opportunities.²⁸ However, a solution entailing a uniform application of the realization principle would not only entail confusion on the credit market, but would also imply that all the disadvantages connected to the realization principle – inequality and lock-in effects, for example – would remain and may even be extended.²⁹ Consequently, income taxation of financial instruments carried out solely on the basis of the realization approach appears to be a dead-end solution. Because the disadvantages connected to the realization principle have already been thoroughly discussed in the literature, the issue is left without further comments.³⁰

²⁴ The Swedish Government Official Report (*SOU*) 2005:53 (p. 70). See also Melbi, I. (2005, pp. 618-619); Freedman, J. (2004, pp. 75-76); and Section 3.2.3 on the ability-to-pay principle in the Swedish income tax system.

²⁵ See, for example, Knutsson, M. (2005, pp. 512-513); Freedman, J. (2004, p. 75); Schön, W. (2004, pp. 438-439); and Norberg, C. (2007, p. 9).

²⁶ Schön, W. (2005, p. 137); see also Section 3.2.2.

²⁷ See, for example, Shakow, D. J. (1986, p. 1167); and Simon, K. W. (1990, p. 1019).

²⁸ See Section 3.2.4.

²⁹ See Section 8.2.1 in this chapter, which includes references to relevant literature. See also Section 7.3.3, Chapter 7, on straddles, illustrating some of the income tax challenges connected with the realization approach.

³⁰ See, for example, Schizer, D. M. (1998, pp. 1563-1565).

8.2.3 Legal Classification Based on Economic Substance

8.2.3.1 Weaknesses in the Taxation of Financial Instruments

In addition to the use of two approaches for income recognition, which give rise to tax arbitrage opportunities, this study has illustrated several other weaknesses in the Swedish income taxation of derivatives and other financial instruments. More specifically, Chapter 4 illustrates how the definitions of forward (*termin*) and option cover prepaid derivatives and how deep-in-the-money derivatives make it possible to utilize tax arbitrage opportunities. Furthermore, Chapters 5 and 6 highlight the tax arbitrage opportunities resulting from the Swedish income tax system, a system that lacks a proper method to bifurcate composite contracts.³¹ Finally, Chapter 7 argues the need for the Swedish income tax system to find a way to distinguish between financial instruments that are used to hedge the business risk of a company and instruments that are held for other purposes.

A number of the weaknesses of the Swedish income tax system that I present in this thesis report give rise to or facilitate tax arbitrage opportunities related to financial instruments. However, the weaknesses are not directly related to the recognition of income. There may be ways to mitigate these weaknesses, therefore, even though the recognition of the payoff from derivatives and other financial instruments is still carried out based on a realization approach.

8.2.3.2 Focusing on Economic Substance

The weaknesses in the income tax system, presented in the preceding section, result, in general, from the Swedish income tax system's disregard for the economic substance of financial instruments, in favor of their legal form.³² The Swedish income tax system makes no distinction between the classification of a regular forward and a prepaid forward, for example, although the economic substance of the prepaid forward is more similar to a bond than it is to a regular forward.³³ Furthermore, the difficulty of applying bifurcation as a method of preventing tax arbitrage opportunities related to composite contracts appears to arise from the inability of the Swedish income tax system to establish the economic substance of these contracts.³⁴ Consequently, the taxation of financial instruments could be improved if certain income tax provisions were to focus on the economic substance of the instruments rather than on their legal form – or, more specifically, if the legal form of financial instruments mirrored their economic substance.

³¹ It is illustrated that the “residual method” is difficult to apply as a general rule to all composite contracts.

³² “Economic substance” in regard to financial instruments refers to the basic building block approach, and a no-arbitrage assumption as presented in Section 2.6.1 - 2.6.2.

³³ See Section 4.4.3.5.

³⁴ See Section 6.3.9.3.

8.2.3.3 Alternative Bases of Accounting

Traditionally, valuation in financial accounting is carried out based on what is generally referred to as an exchange basis.³⁵ Under an exchange basis, assets or liabilities are recognized in the balance sheet if it is *probable* that they will cause future inflows or outflows of economic benefits, and that the present value of these benefits can be measured with *reliability*. Moreover, the exchange basis entails a valuation concept based on the proceeds received in exchange for the recognized asset or liability (*i.e. historical cost*).³⁶

Accounting valuation on an exchange basis has been observed as inconvenient in regard to executory contracts.³⁷ An executory contract is a contract that is unperformed by both parties involved – a regular forward contract, for example.³⁸ If the valuation of a forward contract was carried out on an exchange basis, it would not be possible to recognize the forward on the balance sheet, as its probable future economic benefits cannot be reliably measured at the inception of the contract. Thus applying valuation on an exchange basis to executory contracts would, in principle, mean that these contracts would not be accounted for.

To enable the recognition of executory contracts in the balance sheet, valuation on a contract basis has developed.³⁹ Under a contract basis, assets and liabilities (executory contracts) are recognized in the balance sheet at the signing of the non-cancelable contract.⁴⁰ Furthermore, as several types of executory contracts such as regular forwards have an initial value of zero, historical cost is an insufficient valuation method for these contracts. For this reason Hughes proposes that executory contracts can be valued in the same way they are measured in a financial environment, a method that he argues would be coherent and logically consistent.⁴¹

The valuation method proposed by Hughes is, in principle, based on the same premises as discussed in this study for cases of no-arbitrage pricing. Therefore, the financial context presented in Chapter 2 of this study is relevant for the valuation of a contract basis. More specifically, according to Hughes, executory contracts, such as several types of financial instruments, are essentially combinations of basic building block financial instruments, the values of which can be established on the basis of a no-arbitrage assumption.⁴² Accordingly, valuation on a contract basis entails that composite contracts are bifurcated, and measured on a stand-alone basis. For that reason, accounting provisions on valuation on a contract basis must involve measures to identify and distinguish between various basic building block financial instruments. In other words, provisions on the accounting valuation of a contract basis can

³⁵ See, for instance, Hughes, J. S. (1978, p. 883).

³⁶ Hughes, J. S. (1978, p. 883).

³⁷ Hughes, J. S. (1978, p. 884).

³⁸ Hughes, J. S. (1978, p. 882).

³⁹ See Hughes, J. S. (1978, pp. 883-884).

⁴⁰ Hughes, J. S. (1978, p. 883).

⁴¹ Hughes, J. S. (1978, pp. 892-893).

⁴² See Hughes, J. S. (1978, pp. 884-886). Cf. Sections 2.6.2.

likely be used as a benchmark for dealing with some of the weaknesses in the Swedish income tax system that were presented in Section 8.2.3.1 of this chapter.

8.2.3.4 IAS 39 – Financial Instruments: Recognition and Measurement

As noted in the preceding section, the accounting recognition for and valuation of assets and liabilities are, as a general rule, conducted on an exchange basis – the exchange basis being the concept that permeates the IASB Framework.⁴³ For example, the Framework establishes that assets and liabilities are to be recognized only if:

- (a) *it is probable that any future economic benefit associated with the item will flow to or from the entity; and*
- (b) *the item has a cost or value that can be measured with reliability.*⁴⁴

Furthermore, the valuation method most commonly prescribed in the IASB standards is valuation at historical cost.⁴⁵ A similar situation is found in Swedish accounting provisions – in Swedish good accounting practice.⁴⁶

Because financial instruments are, as a general rule, executory contracts, they cannot be recognized in a company's balance sheets if they are valued on an exchange basis. Therefore, regarding recognition and measurements of financial instruments, IASB has departed from its general concept of valuation and has applied valuation on a contract basis. According to IAS 39, financial instruments are recognized in a company's balance sheet when the company: "becomes a party to the contractual provisions of the instrument."⁴⁷ Furthermore, in addition to historical cost, IAS 39 prescribes fair value valuation as the general method for valuation.⁴⁸

Because IAS 39 involves valuation on a contract basis, it has been argued that it is in conflict with the general concepts established in the IASB Framework.⁴⁹ However, the opposite viewpoint – that IAS 39 is indeed drafted in accordance with the Framework – has also been argued.⁵⁰ In any case, the provisions in IAS 39 are drafted to make valuation on a contract basis possible, and it therefore entails measures for the classification and separation of basic

⁴³ IASB's Framework for the Preparation and Presentation of Financial Statements, adopted by the IASB in April 2001.

⁴⁴ Paragraph 83 IASB Framework.

⁴⁵ Paragraph 101 IASB Framework.

⁴⁶ See, for example, Paragraphs 4 and 6 in *RR 12* or Paragraphs 19 and 22 in *RR 15*.

⁴⁷ Paragraph 14 IAS 39.

⁴⁸ See Paragraphs 43, 46, and 47 IAS 39. See also Whittington, G. (2005, pp. 138-140), referring to IAS 39 as a mixed-measurement standard.

⁴⁹ See, for instance, Bradbury, M. E. (2003, pp. 390-393).

⁵⁰ For example, see Hague, I. P. N. (2004, pp. 21-26).

building block financial instruments.⁵¹ The usefulness of these measures in the context of Swedish income taxation is examined in the remainder of this chapter.

8.3 Measures against the Recognition of Hybrid Instruments

8.3.1 Hybrid Instruments and Tax Arbitrage Opportunities

In this study I have illustrated how hybrid instruments challenge the Swedish income tax system in two ways. First, in Chapter 4, I address the inability of the Swedish income tax system to distinguish between regular derivatives and derivatives that are hybrid instruments (prepaid forwards and options that are deep in the money), a situation that gives rise to tax arbitrage opportunities. Second, Chapters 5 and 6 illustrate how the lack of a proper method to bifurcate composite contracts that are hybrid instruments result in tax arbitrage opportunities in relation to the taxation of these contracts.

In IAS 39, stand-alone derivatives are, as a general rule, measured at a fair value basis.⁵² However, a company taking a long position in a bond shall measure that bond on the basis of its amortized cost.⁵³ Consequently, derivatives and bonds are usually measured differently. For this reason, composite contracts that entail bonds and derivatives must be bifurcated and treated on the basis of their building blocks; otherwise, (accounting) arbitrage opportunities⁵⁴ would exist.⁵⁵ Similarly, arbitrage opportunities exist if derivatives that are hybrid instruments are not treated as a combination of a regular derivative and a bond.⁵⁶

To eliminate the possible accounting arbitrage opportunities, IAS 39 incorporates measures to bifurcate composite contracts and to distinguish between regular derivatives and derivatives that are hybrid instruments. The applicability of these measures in the context of Swedish income taxation is examined next.

⁵¹ On some of the principle implications follow from IAS 39. See, for example, Walton, P. (2004, pp. 5-16); and Damant, D. (2002, pp. 4-7).

⁵² Paragraphs 43 and 46 IAS 39.

⁵³ Paragraph 46 (a) IAS 39. See also Paragraphs IG B.26 and IG B.27 IAS 39.

⁵⁴ Cf. “tax arbitrage opportunities”.

⁵⁵ Paragraph BC 37 IAS 39.

⁵⁶ Cf. the tax arbitrage opportunities presented in Section 4.4.

8.3.2 Distinguishing Between Regular Derivatives and Derivatives as Hybrid Instruments

8.3.2.1 Initial Net Investment

A general characteristic of a regular derivative is that it requires no, or a relatively low, initial net investment in relation to the amount of payoff it may generate, as the following example illustrates:

Example:

The spot price of one X-share is 100. One year later the price of the same share is 120.

Company A takes a long position in a one-year forward to purchase 100 X-shares at a price of 105.⁵⁷ At maturity, the forward is settled net, in cash, providing Company A with a gain of 1500.⁵⁸

Company B invests 7500 in 75 X-shares. One year later, Company B disposes of its X-shares making a gain of 1500.⁵⁹

This example illustrates that it requires a greater initial net investment in an asset, compared to the initial net investment in a derivative on the asset, in order to achieve equal payoffs. However, if the derivative in the example is prepaid, the initial net investment of the derivative would be as great as the initial net investment in its underlying, as the following example illustrates:

Example:

The spot price of one X-share is 100. One year later the price of the same share is 120.

Company A invests 10,000 in a long position in a one-year prepaid forward to purchase 100 X-shares at a price of 105.⁶⁰ At maturity, the forward is settled net, in cash, providing Company A with a gain of 2000.⁶¹

⁵⁷ The forward price of the one X-share is 105, presupposing that the forward rate is 5 percent ($100e^{0.05}$).

⁵⁸ $(100 \cdot 120) - (100 \cdot 105)$.

⁵⁹ $(75 \cdot 120) - 7500$.

⁶⁰ The forward price of the one X-share is 105, presupposing that the forward rate is 5 percent ($100e^{0.05}$).

⁶¹ $(100 \cdot 120) - 10,000$.

Company B invests 10,000 in 100 X-shares. One year later, Company B sells its X-shares, making a gain of 2000.⁶²

These two examples illustrate the possibility of differentiating between regular derivatives and derivatives that are hybrid instruments (e.g. prepaid forwards), by means of the amount of initial net investment in relation to the possible payoff. More specifically, the relationship between the initial net investment and the possible payoff of a derivative that is a hybrid instrument is more similar to a non-derivative asset than it is to a regular derivative. Therefore, if a derivative definition establishes that all contracts within its scope require a relatively small initial net investment, derivatives that are hybrid instruments would be excluded from that definition.

8.3.2.2 Defining Derivatives

As illustrated in Chapter 4, the term “derivative” is not used in the Swedish income tax system. Instead derivatives are referred to as forwards (*terminer*) or options, or as contracts similar to forwards (*terminer*) or options.⁶³ However, neither of these terms requires contracts within their scope to have a relatively low initial net investment. Therefore, they cover regular derivatives as well as derivatives that are hybrid instruments.

In contrast to the Swedish income tax system, in IAS 39 the term “derivative” is used and defined.⁶⁴ The derivative definition in IAS 39 is similar to the economic derivative definition presented in Section 2.3.1.1, Chapter 2. Both definitions require a derivative to be a financial instrument, the value of which is dependent on an underlying variable, and an instrument that is settled at a future date. In other words, both definitions require what can be said to be the general characteristics of a derivative. Therefore, the derivative definition in IAS 39 covers, in principle, all contracts defined as derivatives in an economic context. However, in addition to the general derivative characteristics, the definition in IAS 39 calls for a derivative to be a contract requiring a zero or a proportionally small initial net investment.⁶⁵ Consequently, derivatives that are hybrid instruments are excluded from the derivative definition in IAS 39.

8.3.2.3 Redefining Derivatives in the Swedish Income Tax System?

Would tax arbitrage opportunities related to stand-alone derivatives that are hybrid instruments disappear if the derivative definition used in IAS 39 replaced the present income tax definitions of forward (*termin*), option, and contracts similar to forwards (*terminer*) and options? Probably not: Although the hybrid

⁶² (100*120)-10,000.

⁶³ See Section 4.2.

⁶⁴ Paragraph 9 IAS 39.

⁶⁵ Paragraph 9 Section (b) in the derivative definition in IAS 39. See also Paragraph AG11 IAS 39; and Paragraphs IG B.9 - IG B.10 IAS 39.

derivatives would be excluded from the derivative definition in the Swedish income tax system, the instrument would likely be classified as a capital asset and therefore, like derivatives, be taxed on the basis of realization.⁶⁶ Eventually, in order to prevent the tax arbitrage opportunities related to hybrid instruments, it is necessary to find a way to distinguish between the debt-component and the derivative-component of the contract. How that is done in accordance with IAS 39 is examined next.

8.4 Bifurcation

8.4.1 Embedded Derivatives

The tax arbitrage opportunities related to composite contracts in the Swedish income tax system result from the fact that interest is treated differently from capital gains and losses.⁶⁷ Thus tax arbitrage opportunities exist when a composite contract provides payoff that, in its entirety, is classified as capital gains but would be taxed as part capital gains and part interest if the taxation were to be carried out on the basis of the legal form of its building blocks.⁶⁸

According to IAS 39, derivatives are to be subsequently measured at fair value, whereas some other financial instruments are subsequently measured in accordance with other valuation methods.⁶⁹ If a derivative is combined with a different financial instrument and the combination constitutes an independent legal instrument, it is possible that arbitrage opportunities exist, similar to these in the Swedish income tax system. If an index-linked bond was treated like a single financial asset, classified as a held-to-maturity investment⁷⁰, it would be measured at amortized cost in its entirety.⁷¹ If, instead, the index-linked bond was bifurcated and dealt with on the basis of its building blocks, the option component would be measured at fair value through profit or loss, and the debt component would be measured at amortized cost.⁷²

There are striking similarities between the arbitrage opportunities in the Swedish income tax system and in IAS 39; that is, arbitrage opportunities exist if the legal treatment of a composite contract differs from the legal treatment of its building blocks. One way to prevent these arbitrage opportunities is bifurcation of the composite contract, entailing that the legal treatment be carried out on the basis of the legal form of its building blocks.⁷³ In the Swedish income tax system, bifurcation is applied in relation to bonds combined with

⁶⁶ See Section 4.3.1.

⁶⁷ See Section 3.4.7.3.

⁶⁸ Cf. Section 5.2.4.1.

⁶⁹ Paragraphs 46-47 IAS 39.

⁷⁰ See Paragraph 9 IAS 39.

⁷¹ Paragraph 46 (b) IAS 39.

⁷² Paragraph 46 IAS 39.

⁷³ See Section 5.2.4.3.

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warrants, which is an institutionalized composite contract.⁷⁴ Because bifurcation is not applied in other institutionalized and non-institutionalized composite contracts, however, significant tax arbitrage opportunities exist.⁷⁵

The arbitrage opportunities related to composite contracts that are present in the Swedish income tax system do not exist under IAS 39.⁷⁶ More specifically, IAS 39 establishes bifurcation in relation to all composite contracts, independent of their legal form. These measures are presented as provisions on “embedded derivatives”.⁷⁷ Thus many of the tax arbitrage opportunities related to composite contracts could be prevented if it were possible to apply the measures on embedded derivatives in IAS 39 to the Swedish income tax system. Sections 8.4.2 - 8.4.4 examine the practicality of implementing these provisions.

8.4.2 Closely Related Contracts

In IAS 39, an embedded derivative is defined as a component of a composite contracts that makes some of the cash flows of the composite contracts vary, similar to a stand-alone derivative.⁷⁸ A traditional convertible bond involves an embedded derivative in the option component, for instance, making it possible to convert the bond into equity.⁷⁹ The component in a composite contract that is not an embedded derivative is known as a host contract. In the case of a convertible bond, the larger amount of the investment in the convertible bond would be attributable to the host contract, that is, to a regular bond.⁸⁰ Consequently, in the terminology of IAS 39, a regular convertible bond consists of a host contract that is a regular bond and an embedded derivative that is a call option on equity.

As a general rule, IAS 39 states that an embedded derivative must be separated from its host contract if its economic characteristics and risks are not closely related to the economic characteristics and risks of the host contract.⁸¹ The expression “closely related” is not explicitly defined in IAS 39 or in its appendixes. Instead the content of the expression is illustrated by a number of examples.⁸² A typical example of a composite contract, which must be bifurcated in accordance with IAS 39, is an equity index-linked bond, as the risks of the host contract (zero-coupon bond) and the embedded option (equity index-linked call option) are dissimilar.⁸³ Other examples are composite contracts consisting of a traditional financial instrument such as a share, and a

⁷⁴ See Section 5.3.2.

⁷⁵ See Section 6.3.9.3.

⁷⁶ See Paragraph BC 37 IAS 39.

⁷⁷ Paragraphs 10-13 IAS 39; and Paragraphs 7-8 IFRIC 9.

⁷⁸ Paragraph 10 IAS 39.

⁷⁹ See, for instance, Paragraph IG C.3 IAS 39. Cf. Section 6.2.3.1 on the economic substance of convertible bonds.

⁸⁰ See Paragraph IG C.3 IAS 39.

⁸¹ Paragraph 11(a) IAS 39.

⁸² Paragraph AG 30 and AG 33 IAS 39.

⁸³ Paragraph AG 30 (d) IAS 39. Cf. Section 5.2.1.

put or call option on that share.⁸⁴ The risks connected with the components of such composite contract are, in principle, similar, but the economic characteristics of the components differ.

The embedded derivative and the host contract must be separated in accordance with the terms stated in the composite contract. If there are no such stated terms, the company must make its own interpretation of the terms.⁸⁵ However, the company is not allowed to create terms that do not already exist. For example, if a contingent debt instrument does not pay any separate interest over the lifetime of the instrument, but only a single payment at maturity, the host contract is a zero-coupon bond rather than a floating rate coupon bond.⁸⁶

A typical example of a composite contract, the host contract and embedded derivative of which have closely related economic characteristics and risks, is a regular coupon bond combined with an interest rate cap.⁸⁷ The interest rate cap bears a close economic relationship to the bond as the contracts are exposed to the same risks and provide offsetting payoffs.⁸⁸ Thus according to IAS 39, such a composite contract is to be treated as an independent contract.⁸⁹

8.4.3 Measuring the Building Blocks of Composite Contracts

Besides a method of *differentiating* between the building blocks of composite contracts, bifurcation must also involve a way of *measuring* these building blocks. As illustrated in Chapter 2, price-fixing derivatives and price-insurance derivatives differ in that the former entails a zero value at inception and the latter always has at least a time value.⁹⁰ Therefore, it is stated in IAS 39 that if the embedded derivative is a price-fixing derivative, its initial value shall be set to zero.⁹¹ If it was possible to set the initial value of the embedded price-fixing derivative to a value other than zero it would be extremely difficult to bifurcate a composite contract involving a price-fixing derivative. For instance, two identical prepaid forwards could be bifurcated differently because their embedded forwards were attributed different values.⁹² In other words, assigning an embedded price-fixing derivative an initial value different from zero would greatly increase the possibilities of converting a composite contract into a large number of different combinations of host contracts and price-fixing derivatives.⁹³

⁸⁴ Paragraphs AG 30 (a)-(b) IAS 39.

⁸⁵ Paragraph IG C.1 IAS 39.

⁸⁶ Paragraph IG C.1 IAS 39.

⁸⁷ Paragraph AG 33 (b) IAS 39.

⁸⁸ See Paragraph BC 37 IAS 39.

⁸⁹ Cf. Case *RA 1999 referat 14*, discussed in Section 7.2.5.2.

⁹⁰ See Sections 2.4.1.3 and 2.5.1.3, Chapter 2.

⁹¹ Paragraphs AG 28 and IG C.1 IAS 39.

⁹² As a prepaid forward is not a derivative in the context of IAS 39, it must be considered as a composite contract consisting of an embedded forward and a zero-coupon bond. Cf. Section 4.4.3.5.

⁹³ Paragraph C.1 IG IAS 39.

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Unlike the separation of price-fixing derivatives, the separation of price-insurance derivatives does not necessitate that the initial value of the derivative be zero. If an embedded price-insurance derivative were to be given a value of zero at inception, it would imply a zero probability of the derivative feature to be exercised.⁹⁴ If that were true, there would be no value in having a derivative feature in the composite contract. Consequently, the initial value given to the embedded price-insurance derivative is normally not zero, but is to be based on the stated terms of the derivative features document in the composite contract.⁹⁵ In that way it better reflects the economic substance of the instrument. However, if a company is unable to make a reliable measurement of an embedded derivative that must be separated, it must treat the entire hybrid instrument as a single financial instrument measured at fair value; or, if fair value cannot be established, at cost.⁹⁶ Thus in such a case the embedded derivative is not separated.

8.4.4 Bifurcation Based on Economic Substance

The bifurcation of composite contracts, carried out in accordance with IAS 39, focuses on the economic substance of the composite contracts. The similarity or dissimilarity of the economic characteristics and risks of the building blocks is a decisive factor in determining when and how to distinguish among the building-block components of a composite contract. Furthermore, the initial valuation of the separated building blocks follows the valuation principles generally applied in a financial context.⁹⁷ That is, price-fixing derivatives are given an initial value of zero, and price-insurance derivatives are always given at least a time value at inception. Consequently, the method of bifurcation in IAS 39 is, in its entirety, based on economical considerations.

As argued in Chapter 5, methods to prevent tax arbitrage opportunities must be carried out on the basis of economic substance to be fully effective. Thus the bifurcation method in IAS 39 is an efficient alternative for preventing the tax arbitrage opportunities related to composite contracts in the Swedish income tax system. The efficiency of the method is eventually dependent on how a derivative is defined in the system – their legal form. Using the present definitions would be insufficient, as they include instruments that are composite contracts, prepaid forwards, and deep-in-the-money options, for example. If the present definitions in the Swedish income tax system were changed in accordance with the derivative definition in IAS 39, however, the application of the bifurcation method would likely prevent most of the tax arbitrage opportunities related to composite contracts. Yet applying the bifurcation method in the context of Swedish income taxation would fundamentally change the way composite contracts are currently taxed. In principle, the application

⁹⁴ Cf. Section 2.5.1.3.

⁹⁵ Paragraphs AG 28 and IG C.2 IAS 39.

⁹⁶ Paragraphs 12 and IG C.11 IAS 39.

⁹⁷ Cf. Section 2.6.1.

would entail that there be no other financial instruments, except the basic building block financial instruments.⁹⁸ Therefore, the far-reaching consequences of a possible implementation of the bifurcation method in the Swedish income tax system makes it difficult to provide an opinion on the feasibility of such implementation.

8.5 Hedging

8.5.1 Neutral Treatment of Various Hedging Strategies

As Section 8.4 illustrates, the bifurcation method in IAS 39 entails that composite contracts with building blocks closely related in their economic characteristics and risks are to be treated as a single contract. As a basis for this treatment, it is argued that the closely related economic characteristics and risks indicate that "...it is less likely that the derivative was embedded to achieve a desired accounting result".⁹⁹ In other words, it is assumed that the derivative was not embedded in the composite contract in order to exploit arbitrage opportunities, but to achieve a legitimate business purpose: most likely hedging.¹⁰⁰

In Section 7.4.1, Chapter 7, it is argued that an effective hedge is a relationship between a hedging instrument and a hedged item, the payoffs of which are treated equally in regard to income taxation. Similarly, in an accounting context, a hedge is effective only if the hedging instrument and hedged item are treated as a single unit.¹⁰¹ Therefore, by refraining from bifurcating composite contracts, in which the embedded derivative is, in substance, a hedging instrument, IAS 39 facilitates hedging by means of composite contracts. In order to refrain from creating arbitrage opportunities, however, it is necessary that the building blocks of a composite contract that is not subject for bifurcation are also treated as a single contract on a stand-alone basis – that they are integrated.¹⁰² More specifically, in order not to favor hedging strategies carried out by means of a composite contract – in relation to hedging strategies carried out by stand-alone derivatives – it is necessary to find a way to identify whether or not a stand-alone financial instrument is part of a hedging relationship.

⁹⁸ In its extreme, the method would entail that regular shares were bifurcated into basic building block financial instruments, see Section 2.6.3.3.

⁹⁹ Paragraph BC 37 IAS 39.

¹⁰⁰ See Paragraphs AG 33 and BC 37-BC 40 IAS 39.

¹⁰¹ See, for instance, Hague, I. P. N. (2004, p. 24).

¹⁰² Cf. Section 7.2.5, Chapter 7.

8.5.2 Hedging as an Exception

As emphasized in Section 8.2.3.4, in principle IAS 39 follows valuation on a contract basis; financial instruments are, as a general rule, treated on a no-arbitrage basis.¹⁰³ This treatment is explicit in the IAS 39 provisions on embedded derivatives, establishing that composite contracts must be recognized on the basis of their economic substance – on the basis of their basic building block financial instruments.¹⁰⁴ It is a prerequisite for applying a no-arbitrage assumption on financial instruments that all financial instruments are to be used by companies for the same purpose, meaning that they are traded on the same market.¹⁰⁵ If two identical financial instruments were held for different purposes, it is likely that the company holding the derivatives would measure them differently. A company would likely assign a lower value to a derivative held for trading than to an identical derivative used in a hedging strategy, for example, as the latter derivative likely gives rise to greater transaction costs. Therefore, in IAS 39, all derivatives are assumed to be held for the same purpose – trading – unless it is explicitly stated otherwise.¹⁰⁶

Derivatives held for purposes of hedging constitute a legitimate exception to the general rule that all derivatives are assumed to be held for trading.¹⁰⁷ Because hedge instruments must be integrated with the hedged item and reported as a single unit, the accounting provisions on derivatives that are hedge instruments differ from the general accounting rules for derivatives. Thus the hedge accounting rules in IAS 39 are exceptions to the general accounting provisions in IAS 39. For this reason IAS 39 entails relatively extensive threshold regulations for items to qualify for hedge accounting. These regulations are dealt with next.

8.5.3 Qualifying for Hedge Accounting

Imposing the threshold rules for qualifying for hedge accounting has the function of ensuring that hedges that are reported in accordance with IAS 39 fulfill certain minimum standards. In that way the quality characteristic of comparability is satisfied.¹⁰⁸

In principle, the threshold rules provide a proxy purpose for hedging: If the threshold rules are satisfied, a derivative is assumed to be held for the purpose of hedging; and if the rules are not satisfied, the derivative is assumed to be held for the purpose of trading. Consequently, unlike the general provisions on derivatives, which are based on a no-arbitrage assumption, the threshold rules are based on other premises.

¹⁰³ See Section 2.6.1.2.

¹⁰⁴ See Section 8.4.4.

¹⁰⁵ See Section 2.6.1.1.

¹⁰⁶ “Definition of four categories of financial instruments” (a) (iii), Paragraph 9 IAS 39.

¹⁰⁷ “Definition of four categories of financial instruments” (a) (iii), paragraph 9 IAS 39.

¹⁰⁸ Paragraphs 39–42, IASB Framework.

To qualify for hedge accounting according to IAS 39, a derivative must be part of a hedge relationship.¹⁰⁹ A hedge relationship consists of a hedge instrument and a hedged item and, within the scope of IAS 39, there are three types of hedge relationship: fair value hedges, cash flow hedges, and hedges of a net investment.¹¹⁰ Furthermore, a hedging relationship qualifies for hedge accounting only if it is formally designated and documented, if it is expected to be highly effective, and if the effectiveness can be reliably measured and assessed on an ongoing basis.¹¹¹ As a result, the threshold rules focus on (1) formal documentation and (2) reliably measured effectiveness of the hedge relationship.

A relatively large amount of information is required as part of the formal documentation of a hedging relationship, which places a heavy burden on the reporting company.¹¹² Furthermore, in order to be highly effective, the hedge relationship must be expected to be effective and must actually result in effectiveness.¹¹³ Consequently, hedge effectiveness is two dimensional: prospective effectiveness and retrospective effectiveness.¹¹⁴ The effectiveness of a hedging relationship must be assessed on an ongoing basis.¹¹⁵ At a minimum, such assessment is carried out every time the reporting company prepares its annual or interim financial statements.¹¹⁶ Thus although hedge accounting is a means for the reporting company to provide relevant information, it is a relatively demanding exercise, entailing considerable time and costs.¹¹⁷

8.5.4 Hedge Accounting Rules – an Optional Set of Rules

The hedge accounting rules in IAS 39 ensure that the offsetting payoff from a hedging instrument is recognized in the same period as the payoff from the hedged item.¹¹⁸ In that way, the rules are effective, and they fulfill the overall purpose of hedge accounting.¹¹⁹ However, the restrictive threshold rules that must be met in order to conduct hedge accounting makes the hedge accounting rules more or less optional.¹²⁰ For example, a company may prevent itself from qualifying for hedge accounting simply by refraining from submitting some of the documentation requirements. Therefore, the hedge accounting rules do not ensure that all hedges performed by companies applying IAS 39 are reported equally. The rules ensure only that hedges that are qualified for hedge accounting and reported in accordance with the hedge accounting rules are

¹⁰⁹ Paragraph 71 IAS 39.

¹¹⁰ Paragraph 86 IAS 39.

¹¹¹ Paragraph 88 IAS 39.

¹¹² For an example of designation and formal documentation, see Paragraph IG F.6.3 IAS 39.

¹¹³ Paragraph AG 105 IAS 39.

¹¹⁴ Paragraphs 88(b) and 88(d) IAS 39. See also Paragraphs BC 136 and BC 136A IAS 39.

¹¹⁵ Paragraph 88(e) IAS 39.

¹¹⁶ Paragraph AG 106 IAS 39.

¹¹⁷ See, for instance, Torgander, A. (2006, p. 33).

¹¹⁸ Paragraphs 89-102 IAS 39.

¹¹⁹ Paragraph 85 IAS 39.

¹²⁰ See Pirchegger, B. (2006, p. 116); and Torgander, A. (2006, pp. 31-32 and 34).

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reported similarly. For this reason, the hedge accounting rules do not prevent arbitrage opportunities that arise because some composite contracts are not bifurcated.¹²¹ Rather, the optional set of rules creates additional arbitrage opportunities because they provide a possibility for companies to choose between two different accounting treatments for identical transactions.

Regarding financial accounting, the optional character of the hedge accounting rules is a minor problem. The incentives to correctly report the company's risk strategy seem to make most companies interested in applying hedge accounting rules, especially if the risk exposure of the company varies greatly over accounting periods.¹²² However, in a pure income tax context, optional provisions are problematic, making income taxation arbitrary.

Although the hedge accounting rules in IAS 39 can be criticized for being optional, and therefore for facilitating arbitrage opportunities, it is difficult to imagine a different way of designing these rules. Given that derivatives are used for more than one purpose, and that the different purposes motivate different legal treatments, the regulation must be designed in a way that establishes the underlying purpose of the derivatives without reference to its legal form. Thus distinction must be made on the basis of variables that are not directly connected to the appearance or holding of a derivative: special documentation requirements verifying a special purpose, for example.¹²³ As these variables do not naturally occur in connection with the derivative, it is eventually up to the holder of the derivative to report or to not report these variables. Consequently, purpose-based provisions are, by nature, more or less optional.

To eventually dispose of the arbitrary characteristic of purpose-based provisions, it appears necessary to treat all financial instruments equally, independent of their underlying purpose. Thus it is not surprising that the *Financial Instruments Joint Working Group of Standard Setters* (JWG) has suggested that IAS 39 should establish fair value valuation for all financial instruments.¹²⁴ However, the massive repudiation from fair value valuation makes such a solution unlikely in the near future.¹²⁵

8.5.5 Synthetics that are not Hedge Relationships

In Chapter 7 it is argued that synthetics used for avoidance purposes are constructed the same way as synthetics that are, in substance, a hedge relationship.¹²⁶ The only difference between the two is their underlying purposes. Synthetics that are not hedge relationships may be used to defer taxation. Instead of taking a long position in a bond, for instance, the payoff of

¹²¹ See Section 8.4.2 in this chapter.

¹²² See, for example, Trombley, M. (2003, p. 33); Torgander, A. (2006, p. 34); and Pirchegger, B. (2006, pp. 124-130).

¹²³ Cf. Section 8.5.3.

¹²⁴ See Hague, I. P. N. (2002, pp. 8-9), who makes relevant references to the proposal presented by the JWG.

¹²⁵ See, for instance, Hague, I. P. N. (2002, pp. 8-11); and Damant, D. (2002, pp. 5-7).

¹²⁶ Section 7.2.4.

which is taxed as interest on an accrual basis, it is more favorable to take a long position in a synthetic bond, the payoff of which is taxed at realization.¹²⁷ Such a bond can be constructed by taking a long position in a share and a short position in a forward on that share.¹²⁸ Consequently, the incentive to construct synthetics for reasons other than hedging is the existence of two approaches for income recognition in the Swedish income tax system.¹²⁹

However, according to IAS 39, the general approach for income (revenue) recognition is fair value through profit or loss.¹³⁰ Thus just like in the Swedish income tax system, the interest from a bond is recognized in profit or loss on an accrual basis.¹³¹ However, the payoffs from the share and the derivative, being components in the synthetic bond, must also be recognized on a fair value basis.¹³² Consequently, the amounts of income recognized by the real bond and by the synthetic bond are, in principle, identical. Therefore, in the context of IAS 39, there are no real incentives for constructing synthetics for purposes other than hedging.

In Section 8.2.2.4 it is argued that income recognition on the basis of a fair value-approach to the financial instruments is unrealistic within the Swedish income tax system. Applying such an approach would challenge the ability-to-pay principle. Thus the tax arbitrage opportunities resulting from the construction of synthetic instruments cannot be prevented by the application of fair value through profit or loss on all financial instruments, the method used in IAS 39.

8.6 Conclusions

The Swedish income tax system provides tax arbitrage opportunities related to financial instruments because it permits two different approaches to be used for income recognition: the fair value approach and the realization approach. Thus one way to eliminate the tax arbitrage opportunities is to abolish one of these income recognition approaches in favor of the other. However, principle and practical reasons make such a solution unrealistic. Instead, the tax arbitrage opportunities must be prevented by measures that do not exert influence on the approaches for income recognition.

The use of two approaches to income recognition gives rise to tax arbitrage opportunities when different approaches are applied in relation to economically exchangeable items. Because the application of the approaches eventually depends on the legal form of the item, tax arbitrage opportunities can be

¹²⁷ See Section 7.3.2.2.

¹²⁸ See Section 7.3.2.1.

¹²⁹ See Sections 3.2.4 and 3.4.7.3.

¹³⁰ Paragraphs 43, 46, and 47 IAS 39. See also Section 8.2.3.4 in this chapter.

¹³¹ Paragraphs 46(a), 56, and IG B.26 IAS 39. See also Section 3.4.4.5.

¹³² Paragraphs 46 and 55(a) IAS 39. It is assumed that the share, as well as the derivative, is classified as held for trading in accordance with "Definition of four categories of financial instruments" (a), Paragraph 9 IAS 39.

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prevented if the legal form is based on the economic substance of the item. In other words, independent of the use of two approaches for income recognition, tax arbitrage opportunities related to financial instruments could be prevented if the taxation was carried out on the basis of the economic substance of the instruments.

IAS 39, Financial Instruments: Recognition and Measurement, is an accounting standard that usually deals with derivatives and other financial instruments on the basis of their economic substance. For that reason, it is relevant to examine whether or not provisions in IAS 39 can be implemented in the Swedish income tax system in order to prevent some of the tax arbitrage opportunities related to financial instruments.

This chapter illustrates that the way derivatives are defined in IAS 39 make the derivative definition similar to the way derivatives are defined in an economic context. Furthermore, IAS 39 entails a method for bifurcating composite contracts on the basis of their economic substance. Consequently, these measures are well suited for preventing relevant tax arbitrage opportunities related to derivatives and other financial instruments in the Swedish income tax system. However, the implementation of these measures, especially the method for bifurcation, would fundamentally change the way financial instruments are taxed today, and would therefore have relatively extensive consequences on income taxation.

Unlike the derivative definition and the measures on bifurcation, the hedge accounting rules in IAS 39 are not founded on the economic substance of financial instruments. Instead, the rules are dependent on atypical characteristics for financial instruments – specific documentation requirements and efficiency measures. Consequently, the legal form of the derivatives, subject to hedge accounting, eventually differs from their economic substance; therefore the hedge accounting rules facilitate rather than hinder arbitrage opportunities.

To summarize, the provisions in IAS 39 can theoretically be used to prevent tax arbitrage opportunities related to the hybrid character of some derivatives and other financial instruments – the arbitrage opportunities dealt with in Chapters 4, 5, and 6. However, the hedge accounting rules in IAS 39 suffer from the same weakness as the provisions in the Swedish income tax system because they are not founded on the economic substance of financial instruments. Therefore, the IAS hedge accounting rules are of no significant help in dealing with income tax issues related to synthetics used for hedging, or to tax driven use of synthetics. It appears as if the only way to deal with these issues is to apply a single approach for income recognition for all financial instruments.

9 Summary and General Findings

9.1 Derivatives and Swedish Income Taxation

Over the past three years, the notional amount outstanding in the global OTC derivatives trade has increased by slightly more than 60 percent, and, as of December 2006, the figure was 415,183 billion US dollars (USD).¹ A similar development can be seen at the derivative exchanges. For example, the number of traded derivatives at the Nordic derivatives market, OMX, increased by almost 25 percent between the years 2004 and 2006.² Thus derivatives are becoming one of the world's most traded items and increasingly common in a company stock of assets and liabilities.³

Notwithstanding the huge number of outstanding derivatives, the way in which they are treated for income tax purposes is still a relatively unexplored area, particularly from a Swedish perspective.⁴ It is for this reason that this study examines the Swedish income tax treatment of derivatives and other financial instruments. The findings are presented throughout the study, however, in this final chapter, I provide the reader with a coherent summary of the general findings.⁵ To put these findings into a relevant context, parts of the analytical framework used in this study are presented.

The presentation in this chapter is structured in a way similar to the thesis report. Section 9.2 establishes the economic substance of capital investments. Section 9.3 presents the reasons why tax arbitrage opportunities related to derivatives and other financial instrument arise in the Swedish income tax system. Section 9.4 offers possible solutions to preventing these arbitrage opportunities and suggestions for the taxation of derivatives and financial instruments, *de lege ferenda*. Finally, section 9.5 provides some concluding remarks.

¹ Bank for International Settlement, www.bis.org. See also Section 2.3.2.

² See the annual reports of OMX 2004 and 2006, www.omxgroup.com.

³ Section 7.4.2.4.

⁴ See Section 1.2.2.

⁵ See the relevant previous chapters for a more detailed presentation of the findings.

9.2 The Economic Substance of Capital Investments

9.2.1 Income Classification

Income is generally known as a subject's increase in wealth plus the value of its consumption during a certain period.⁶ One way to earn income is to invest capital in a value-generating activity – in a company, for example. From a financial perspective, the present value of a capital investment equals the discounted value of its expected future payoff. Thus if nothing unexpected happens to change the investment's potential to provide payoff, the value of the investment will remain, and its payoff will be perfectly predictable. In such a case, the total payoff from the investment is classified as expected income. However, if something unexpected happens that changes the investment's potential to provide future payoffs, its present value will change. This unexpected change in value is referred to as a windfall gain or loss. Consequently, from a financial perspective, the payoff from a capital investment can be divided into expected income and windfall gains or losses.

A capital investment involving an uncertainty about the amount of payoff it will provide in the future is connected with risk.⁷ Thus capital investments exposed to risk generate expected income and, possibly, windfall gains or losses; whereas risk-free capital investments generate only expected income.

9.2.2 Basic Building Block Financial Instruments

Derivatives are contracts, the value of which changes only if something unexpected happens to the possibility of their underlying providing payoff. Thus if nothing unexpected happens, the value of the derivative is zero at maturity. If something unexpected happens that changes the value of its underlying, however, the change will usually be reflected in the value of the derivative.⁸ It can be concluded, therefore, that derivatives never provide expected income; their payoffs are always windfall gains or losses.

Credit-extension instruments, such as level-coupon bonds and zero-coupon bonds, are generally exposed to little risk, and there is a great certainty about the amount of future payoff a credit-extension instrument will provide. Consequently, the entire payoff attributable to the holder of a credit-extension instrument is, as a general rule, expected income.

Although derivatives provide only windfall gains or losses, and credit-extension instruments provide only expected income, all other capital investments provide, as a general rule, a combination of expected income and windfall gains or losses. Therefore, it is possible to replicate the payoff from any

⁶ See Section 2.2.1.

⁷ See Section 2.2.2.

⁸ The value of a put option changes only if the value of its underlying falls below the strike price of the option, whereas the value of a call option changes only if the value of its underlying rises above the strike price of the option.

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capital investment by means of derivatives and credit-extension instruments. More specifically, it is possible to replicate the expected income from a capital investment by means of a credit-extension instrument, and the possible windfall gains or losses can be replicated by means of derivatives. For this reason, derivatives and credit-extension instruments are generally referred to as the basic building block financial instruments.

To summarize, in a financial context, the payoffs from financial instruments may be divided into expected income and windfall gains or losses. Credit-extension instruments generate expected income and derivatives generate windfall gains or losses. All other types of financial instruments generate a mix of expected income and windfall gains or losses. Thus regarding the payoff a financial instrument could possibly provide, the economic substance of that capital investment can be expressed in terms of derivatives and credit-extension instruments. In other words, *the economic substance of any financial instrument that is not a credit-extension instrument or a derivative is a combination of the two.*

9.3 Tax Arbitrage Opportunities

9.3.1 Recognition of Income

Income is a concept that is designated with reference to a specified period. Thus only income that is recognized during that specified period is actually considered to be income. In the Swedish income tax system there are two approaches to income recognition – the realization approach and the fair-value approach. The realization approach entails that income is recognized when the asset that generated the income is sold. The fair-value approach entails that income is recognized when it accrues. Consequently, the principle difference between the two approaches is that the fair-value approach recognizes unrealized gains (and losses), whereas the realization approach does not.

Whether income is recognized in accordance with the realization approach or the fair-value approach is eventually dependent on the legal form of the income, which, in turn, is dependent on the legal form of the asset that generates the income. Thus the classification of assets (and liabilities) is critical for the taxation of the income they generate.

The classification of assets (and liabilities) in the Swedish income tax system is not conducted on the basis of their economic substance. In other words, no attention is paid to how they are constructed by means of derivatives and credit-extension instruments. Therefore, the legal classification often entails that the payoff provided by a legally distinct financial instrument is classified and recognized differently than it is in a situation in which the same payoff was distributed based on its building blocks – its stand-alone derivatives and credit-extension instruments. Thus the lack of correspondence between the legal classification and the economic substance of financial instruments gives rise to

tax arbitrage opportunities. More specifically, the payoffs from two financial positions with equal economic substance may be given different legal forms and may be recognized in different income periods.

9.3.2 Financial Instruments and their Building Blocks

In the Swedish income tax system, the payoffs from derivatives are usually taxed as capital gains or losses on the basis of realization, and the payoff from credit-extension instruments are usually taxed as interest on an accrual basis. With reference to the stand-alone basic building block financial instruments, it can be concluded that windfall gains and losses are taxed on the basis of realization and expected income on an accrual basis. However, this taxation is not consistent when the basic building blocks are combined to form legally distinct financial instruments. The payoffs from such combinations are generally taxed as either capital gains or losses, or as interest. Thus the taxation of legally distinct financial instruments does not usually correspond with the way the building blocks (which are their economic substance) would be taxed if dealt with on a stand-alone basis.

Case law illustrates attempts to tax legally distinct financial instruments on the basis of their building blocks.⁹ However, these attempts have failed to identify the actual building blocks of the financial instruments, and have not been successful.

To summarize, the Swedish income tax system differentiates between expected income and windfall gains or losses when a financial return is generated by stand-alone basic building block financial instruments. However, when the building blocks are combined into legally distinct financial instruments, the division into the two types of income is not maintained; rather the payoff from such a financial instrument is generally taxed as either expected income or as windfall gains or losses. Consequently, *it is legally distinct financial instruments that provide expected income as well as windfall gains or losses – hybrid financial instruments – that cause tax arbitrage opportunities.*

9.4 Possible Improvements

9.4.1 Possible ways to Prevent Tax Arbitrage Opportunities

In principle, tax arbitrage opportunities result from the application of two different approaches to income recognition.¹⁰ Thus one way of eliminating these tax arbitrage opportunities is to abandon one of the two approaches in favor of

⁹ See Section 6.3.8.

¹⁰ See Sections 3.2.4

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the other. However, such a solution appears infeasible or unrealistic for principle and practical considerations.¹¹

A second possible way to prevent tax arbitrage opportunities is to deal with capital investments on the basis of their economic substance – their basic building block financial instruments. In that way, expected income would be taxed on an accrual basis and windfall gain or losses would be taxed on the basis of realization, independent of the legal form of the capital investment. To implement such a solution in the Swedish income tax system would require two principle changes: derivatives would have to be defined in a way that excludes hybrid instruments from the definition, and a method to reliably and objectively bifurcate hybrid instruments would have to be established. The feasibility of these changes is discussed in the following two sections.

9.4.2 Defining Derivatives

The way derivatives are defined in the Swedish income tax system requires that contracts, the economic substance of which are combinations of a derivative and a credit-extension instrument, be treated in the same manner as contracts that are stand-alone derivatives. To prevent tax arbitrage opportunities, it is necessary to exclude such hybrid instruments from the legal definition of a stand-alone derivative.

One way to exclude hybrid instruments from the derivative definition is to require derivatives to be contracts with no, or a proportionally low, initial net investment. Such a derivative definition would exclude prepaid forwards and options that are deep in the money. As a consequence, these types of contracts would be regarded as combinations of a derivative and a credit-extension instrument – as composite contracts. Thus in order to prevent the tax arbitrage opportunities caused by hybrid instruments, it is necessary to find a method to bifurcate them and treat the derivative and credit-extension instrument on a stand-alone basis.

9.4.3 Bifurcation

To bifurcate all capital investments into derivatives and credit-extension instruments would entail an income tax system in which traditional financial instruments such as regular shares or foreign exchange debt do not exist. Such an income tax system would likely be problematic in relation to interconnected national legislation – the Company Act and the Annual Accounts Act, for example. Problems would also arise regarding bilateral conventions such as the double tax treaties of which Sweden is a party.¹² Thus a general method to bifurcate capital investments must be complemented by provisions that exclude certain contracts from bifurcation.

¹¹ See Sections 8.2.2.4 - 8.2.2.5.

¹² See Section 8.4.4.

If certain contracts are excluded from being bifurcated into their building blocks, there will be possibilities to replicate the payoffs from these contracts by means of stand-alone building blocks, that is, by creating synthetics.¹³ If the excluded contracts and synthetics are not taxed equally, tax arbitrage opportunities will exist.¹⁴ Consequently, excluding certain contracts from bifurcation will likely give rise to tax arbitrage opportunities.

Nevertheless, a general method of bifurcation, carefully weighted for the contract that shall be excluded, will probably reduce the number of present tax arbitrage opportunities related to hybrid instruments.¹⁵ Furthermore, it will likely improve the legal certainty concerning the income tax treatment of complex financial instruments. However, the implementation of such a method requires an increased knowledge among the parties concerned about how to establish the economic substance of financial instruments.¹⁶

9.4.4 Hedging

Applying bifurcation as a general method for taxing financial instruments would entail that derivatives would usually be taxed on the basis of realization. Thus the income tax treatment of derivatives would be similar to the current treatment. However, the present income tax treatment of derivatives can be criticized because it obstructs companies from using derivatives for hedging. To facilitate the use of derivatives for hedging, it is necessary to tax the payoff from derivatives that are used as hedge instruments in a manner similar to the payoff from the item being hedged. As a result, it may sometimes be necessary to recognize the payoff from derivatives on an accrual basis in order to facilitate hedging. The possibility of such exceptional treatment makes it necessary to find a way to distinguish derivatives used for hedging from derivatives that are used for other purposes.

As there is no difference in legal form between derivatives used for hedging and derivatives used for other purposes, the necessary distinction must be carried out with reference to characteristics that are not explicitly related to the legal form of derivatives. It appears that measures referring to such characteristics are to be more or less arbitrary. Consequently, measures intended to distinguish between derivatives on the basis of their underlying purpose would, in practice, be arbitrary; and, as a result, would give rise to additional tax arbitrage opportunities. For that reason, it is questionable if it is desirable to distinguish between derivatives used for hedging and derivatives used for other purposes.

¹³ See Section 7.3.2.

¹⁴ See Section 7.3.2.1.

¹⁵ See Section 5.2.4.5.

¹⁶ See Section 6.3.9.3.

9.4.5 Taxing Derivatives *De Lege Ferenda*

The Swedish income tax system does not distinguish between derivatives based on their being utilized for hedging. In principle, it is desirable to find a way to make such a distinction. However, measures that distinguish between derivatives on the basis of their purpose are, by nature, more or less arbitrary, and that they give rise to tax arbitrage opportunities. For this reason, until a consistent and reliable way of establishing the underlying purpose of a derivative has been developed, *I suggest that no distinction be made between derivatives on basis of how they are used by the tax subject.*

Given that derivatives are taxed equally, independent of their underlying purpose, it is possible to reduce the present tax arbitrage opportunities by introducing measures to bifurcate hybrid instruments. To make the measures of bifurcation efficient, however, the derivative definition must exclude hybrid instruments. Therefore, *I suggest that contracts defined as derivatives entail no, or a proportionally low, initial net investment.*

The scope of the provisions establishing bifurcation must be limited, in order that certain financial instruments not be covered. Otherwise the interaction between the Swedish Income Tax Act and other legal acts, as well as bilateral conventions, would be challenged. Furthermore, courts and other relevant authorities need to learn more about establishing the economic substance of financial instruments. However, these prerequisites appear to be surmountable, and therefore, *I suggest that bifurcation be introduced as a general method for taxing financial instruments.*

9.5 Concluding Remarks

In this study, I examine the Swedish income tax treatment of derivatives. The Swedish income tax system is, in essential parts, similar to income tax systems of other countries. It is my hope, therefore, that this study contributes to the understanding of the challenges related to taxation of derivatives and financial instruments outside Sweden.

Furthermore, the conclusions presented in this study are based on the assumption that the fundamentals of the present Swedish income tax system will remain. For example, the traditional legal classification of financial instruments into debt and equity has not been questioned in principle. However, on the basis of this assumption, it has not been possible to find potential measures that effectively deal with all the challenges identified. Future research on ways to tax derivatives and financial instruments would probably benefit from a consideration of nontraditional measures for the legal classification of various types of capital investments. It may even be reasonable to consider a tax base other than that generated by income tax.

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AXEL HILLING

Income Taxation of Derivatives and other Financial Instruments – Economic Substance versus Legal Form

A study focusing on Swedish non-financial companies

From an economic viewpoint, derivatives and credit-extension instruments are the basic building blocks of all financial instruments. By structuring these building blocks in various combinations, it is possible to attain the economic substance of any conventional financial instrument – regular shares or bonds, as well as more complex financial instruments such as contingent debt instruments.

The legal form of financial instrument in the Swedish income tax legislation is not systematically based on the instrument's economic substance. This creates situations in which the payoff from a certain economic substance is taxed arbitrarily. The payoff from a financial instrument is not always taxed similar to the net payoff from its building blocks, a situation that provides tax arbitrage opportunities within the Swedish income tax system.

The study presented in this book addresses the Swedish income tax treatment of derivatives and other financial instruments held by non-financial companies. Special emphasis is given to the income tax treatment of and tax arbitrage opportunities related to hybrid financial instruments and synthetic instruments. Possible ways of dealing with financial instruments used for hedging the business risks of non-financial companies are also discussed. In addition, the book presents methods for improving the tax treatment of financial instruments and preventing existing tax arbitrage opportunities related to them.



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