

*Inconsistent measurement and disclosure of non-contingent financial derivatives
according to IFRS: The behavioral perspective*

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Abstract

The accounting principle of decomposing hybrid financial instruments into their derivative and non-derivative components is widely accepted as it results in a consistent treatment of hybrid instruments and economically equivalent combinations of contracts. The mixed accounting model underlying IAS 39, however, does not treat non-contingent derivatives and their equivalents consistently which calls for a critical assessment. The conventional criticism regarding such inconsistencies refers to the creation of opportunities for earnings management. The aim of this paper is to add another perspective by including the effects of the related disclosure rules on risk perception by analysts and investors. Thereby, we consider both the presentation on the balance sheet and additional disclosure in the notes according to IFRS 7. We diligently develop the hypothesis that, due to availability effects, entities using non-contingent derivatives are perceived to be riskier than entities using economic equivalents, although in fact the latter are riskier due to their exposure to additional counterparty risk. This bias in the perception of disclosures thereby alters an entity's costs of capital in a way not intended by IAS 39. In particular, we expect individuals to value entities using non-contingent derivatives lower than identical entities using economically equivalent contracts instead. We expect this difference in valuation to result from a higher cognitive availability of negative associations with derivatives than with non-derivatives. The underlying assumptions are outlined as they build a framework of hypotheses to be tested in future research, particularly in experimental survey studies.

1. Introduction

According to the IFRS Conceptual Framework, the fundamental objective of reporting under IFRS is to provide economic agents with information to support their ability to make economic decisions. Consistency therefore is the reference when assessing accounting rules under IFRS. Consistency means that like economic situations are shown in the same manner, regardless of their legal or contractual form. A good example for consistent accounting rules provides the accounting for embedded derivatives according to IAS 39. The decomposition of a hybrid financial instrument consisting of an embedded contingent derivative and a non-derivative instrument into its individual components is mandatory. As a result, a certain hybrid instrument and an exact replication of its economic structure by separate individual contracts are measured and disclosed following the same principles (see Ernst&Young, 2004, p. 812, and IAS 39.BC37). While it is also possible to replicate non-contingent derivatives, such as swap agreements or forwards by means of non-derivative financial instruments, the accounting rules for those cases are less consistent. Non-contingent derivatives, according to IAS 39.9, have to be accounted for at fair value through profit and loss, whereas their replications by non-derivatives can be measured at cost, fair value through profit and loss or fair value through equity. This inconsistency is generally described as mixed accounting model and prominently assessed in the international literature (see e. g. Bradbury, 2003, Bromwich, 2004, Gebhardt et al., 2004, or Walton, 2004). In accordance with the accounting policy chosen, the non-contingent derivative and its replication are further disclosed under different labels, i.e. prescribed categories, on the balance sheet and in the notes.

This inconsistent treatment might contradict the call for decision usefulness of accounting information as proclaimed by the IFRS framework. To support this notion we establish two lines of argumentation. First, we outline what we call the conventional argument, namely that discretion in the choice of accounting method provides management with leeway for opportunistic earnings management. We call it conventional because extant literature proposing accounting principles for financial derivatives regularly refers to management's possibilities to mislead investors (see for example Benston/Mian, 1995, p. 239, Woods/Marginson, 2004, p. 388). Second, we develop the behavioral argument, i.e. that the different disclosure, resulting from the choice of accounting method, might induce a biased risk perception of individual investors. This perspective as such is neither a new one since the impact of accounting information individual perceptions was early discussed by Hopwood (1974, p. 151 et

seq.), since biases in risk perceptions of investors are generally discussed by Hodder et al. (2001) and since evidence from experimental survey studies on the perception of the risk of financial instruments by investors dependent on the way the instruments are presented already exists (Koonce et al., 2005a, Koonce et al., 2005b, Koonce et al., 2006, Weber et al., 2005). Our approach is new as we diligently apply this evidence on the accounting rules, in particular the specific disclosure categories, for financial instruments prescribed by the IFRS. These findings have implications for both standard setting and future research. On the one hand, we suggest how the mixed accounting model under the extant IAS 39 and IFRS 7 is affected by biases in investors' risk perception. This gives insights for a revision of the accounting standards for financial instruments. On the other hand, we clearly outline the assumptions our suggestion is based on. Therefrom, we derive a framework of hypotheses that can be used as the basis for future research.

The remainder is organized as follows. In Section 2, we develop the theoretical origins of the mixed accounting model for financial instruments under IFRS. In Section 3, we show how non-contingent financial derivatives are measured and disclosed under the mixed accounting model. In Sections 4 and 5, we discuss these consequences first from the conventional and then from the behavioral perspective. Section 6 gives a summary.

2. Theoretical origins of the mixed accounting model underlying IAS 39

A fair value approach cannot be derived as such from the IFRS Conceptual Framework. Neither is fair value defined as a measurement base nor is the market valuation of an entity's individual components defined as an accounting objective. Nevertheless, the IASC has proposed a full fair value measurement of financial instruments even in the early 1990s¹. The draft standard on accounting for financial instruments announced by the Joint Working Group of standard setters (JWG) in 2000 takes over this proposal. This agreement was particularly justified by the criterion of relevance (JWG, 2000, BC1.8) which is one of financial statements' qualitative characteristics as defined by, e.g., the IFRS Conceptual Framework (para. 26). However, the only theoretical concept of relevance the JWG refers to is the concept of value relevance (JWG, 2000, BC1.12). A measurement base is of higher value relevance than

¹ A full fair value option was proposed in the Exposure Drafts E40 and E48 both dealing with accounting for financial instruments, see Cairns (2006), p. 15. A mandatory full fair value approach was proposed in the Discussion Paper "Accounting for Financial Assets and Financial Liabilities" issued by the IASC in March 1997.

another one if the resulting accounting figure is more highly associated with an entity's share price or its equity market value (Barth et al., 2001, p. 79, Holthausen/Watts, 2001, p. 5). Beginning with Barth (1994), this association was empirically tested for fair values and amortized costs of almost all kinds of financial instruments. The studies suggest a higher value relevance of fair value measurement for all instruments except for certain off-balance sheet transactions such as loan commitments the market price of which can be hardly estimated. A thorough review of those studies is presented by Linsmeier et al. (1998). The result cannot be surprising since an entity's market price will naturally reflect changes in market prices of securities held by the entity, all other factors held constant and given efficient capital markets on which both the entity's equity shares and the securities held by it are traded. Unlike for intangible assets (see Cazavan-Jeny/Jeanjean, 2006), the latter precondition will be at least partly fulfilled for many financial instruments.

However, the standard setters' reference to those results implies a dominant accounting objective of equity valuation (see Holthausen/Watts, p. 22 et seq.) which is (for good reasons) not stated as such neither by the JWG nor by the IASB. The existence of alternative accounting objectives has driven dissent with the full fair value approach. The dissent was mainly due to two economic consequences of the approach that were neglected by the standard setters. First, banking institutions feared high implementation costs as the internal measurement of financial instruments not held for trading was regularly not based on fair value estimations and fair values were thus not readily available in the absence of quotations on active markets (JWG, 2000, BC1.10, see also Gebhardt et al., 2004, p. 365). Second, regulating institutions feared an increase in earnings volatility resulting in an instability of capital markets (ECB, 2004, p. 69, see also Walton, 2004, p. 6). The dissent suggests that equity valuation is, if at all, only one among other accounting objectives a standard setter needs to focus on. It is therefore questionable whether the theoretical basis the JWG's draft standard refers to was sufficiently broad.

In the political process following the proposals of the JWG and the preliminary introduction of a fair value option into IAS 39 in 2003, the full fair value approach was indeed restricted. Instead, the extant IAS 39 can be described as a mixed accounting model simultaneously based on amortized cost and fair value measurement. From a normative perspective, the standard can neither be classified as a consistent asset and liability approach nor as a consistent revenue and expense approach. The accounting rules for non-contingent derivatives make up one inconsistency and are presented in detail in the next section.

3. The inconsistency in accounting for non-contingent derivatives as a result of the mixed accounting model

3.1. Economic structure of non-contingent derivatives

The IAS 39 accounting rules hold for all financial derivatives regardless of their economic characteristics. In general, financial derivatives can be characterized as contingent or non-contingent, depending on whether future cash flows are contingent on the exercise of an optional right by one contractual party. Connoting examples for non-contingent financial derivatives are interest rate swap agreements or forward contracts to purchase some financial asset such as an equity share.

By means of an interest rate swap agreement, an entity seeks to achieve an exchange of payments if it has the intention to transfer a fixed interest payment (either to be received or payable) into a variable one. Under the conditions of a swap agreement one party has the periodical obligation to pay a fixed amount, tantamount to a fixed rate on a notional nominal value, and the right to receive in return a payment that varies with a market interest rate on the identical notional value. The nominal amounts are notional in nature because they are, for reasons of simplification, neither exchanged at contract inception nor at maturity. There will only be an upfront payment at contract inception if the present value of the variable cash flows does not exactly outweigh the present value of the fixed cash flows.

When analyzing the cash flow structure of a swap agreement, an interest rate swap can be viewed as a compound instrument of two separate contracts of the same maturity. The net cash flows of this swap agreement can be replicated by entering into one contract of the same characteristics as a classic fixed-rate debt instrument with a fixed interest payment that is equal to the fixed leg of the swap agreement and into another contract of the same characteristics as a classic variable-rate debt instrument. The net cash flows are exactly alike to those of an interest rate swap if the entity is borrower in the one contract and creditor in the other contract. Both contracts are non-derivative in nature.

The economic characteristics of the swap agreement and its separate non-derivative components only differ in the counterparty risk. The counterparty risk arising from an interest rate swap is lower than the risk from a receivable under a debt contract. The difference in counterparty risk is due to the structure of the swap market where brokers guarantee payments (Hull,

2006, p. 153) and to the fact that nominal amounts are not exchanged between the two parties of the swap agreement. A separate debt contract, on the other hand, is regularly not institutionalized and in addition, a risk of a default on the repayment of a contract's nominal amount exists. Minton (1997) shows that this difference is not negligible.

Just in the same way, an equity forward can be regarded as a compound instrument. The forward price of equity amounts to its current price multiplied by a discount factor (≥ 1) that adequately corresponds with the current loan conditions of the entity. The contract can then be replicated by an immediate share purchase that is (by means of a separate contract) financed by debt. Again, both the equity share and the debt contract are non-derivative in nature.

3.2. Accounting for non-contingent derivatives

Both a non-contingent derivative contract and a non-derivative contract are within the scope of IAS 39 (as regards recognition and measurement) and of IFRS 7 (as regards disclosure) if they qualify as financial instruments, i.e. if the terms of contract are in accordance with IAS 32.11. A non-contingent derivative meets these specific criteria if it results in the exchange of financial assets and so does a debt contract that consists of a right to receive financial assets, on the one hand, and of an obligation to deliver those assets, on the other hand².

A non-contingent derivative further meets the (legal) definition criteria of derivatives according to IAS 39.9: its value changes in response to a market variable (an interest rate in the case of an interest rate swap agreement or a market price in the case of a financial forward contract, see also IAS 39.AG9 and 39.IG B.2), it is settled at some future date, and, most importantly, an initial net investment that is significant compared with other contracts related to the identical market variable is not required (see IAS 39.AG11 and 39.IG B.10). The definition as a derivative irrefutably results in a classification as held for trading with accounting consequences being definite. The instrument has to be measured at fair value through profit or loss (IAS 39.46 and 39.55 (a)) and the classification as held for trading is to be separately disclosed either on the face of the balance sheet or in the notes (see IFRS 7.8 (a) (ii) if the

² A commodity forward can be replicated by a credit-financed commodity purchase. But as a commodity is not a financial instrument, a commodity forward is an example of a non-contingent derivative non-replicable by financial instruments according to IAS 39.

derivative has a positive value or IFRS 7.8 (e) (ii) if the derivative has a negative value)³. This balance sheet presentation according to measurement categories is an explicit delineation from the JWG proposal to present financial instruments according to their type. Under that approach, a swap agreement would be presented as such on the balance sheet (JWG, 2000, para. 135).

In the case that cash flows of a non-contingent derivative are replicated by two or more individual contracts, accounting for those equivalent contracts is only identical to any derivative if all contracts have the same counterparty with whom a netting agreement holds (IAS 39.IG B.6). In all other cases and in spite of the cash flow equivalency, accounting is different from derivatives. A classification as held for trading is not mandatory, unless there is evidence of recent actual trading. Measurement at fair value (through profit or loss) is only one possible accounting choice, as an entity will regularly find some accounting mismatch that can be reduced by fair value measurement. (Non-objectifiable) proof of such an accounting mismatch is the only prerequisite for the use of this fair value option (Wüstemann/Bischof, 2007).

If an entity does not opt for fair value measurement affecting the income, there are two more accounting choices. First, any financial contract that is an asset can be classified as available for sale and thus be measured at fair value with gains and losses not recognized in profit or loss, but directly in equity (see IAS 39.46 and 39.55 (b)). The classification as available for sale is also to be disclosed separately (see IFRS 7.8 (d)). Second, a contract (that is not an equity instrument) can be classified as loans and receivables (if a debt instrument is an asset not quoted in an active market), as held to maturity (if a debt instrument is an asset with fixed maturity and quoted in an active market), or as other liability (if a debt instrument is a liability) and in each case be measured at amortized cost using the effective interest method.

Accounting for the replicative contracts, therefore, varies with the type of non-contingent derivative. Offsetting debt contracts replicating an interest rate swap, for example, can be either measured at amortized cost (if the contractual rights are classified as held to maturity or loans and receivables, respectively if the contractual obligations are classified as other liabili-

³ In fact, entities are permitted to opt for similar expressions. The German Commerzbank for instance describes the trading category as instruments “held for dealing purposes” on its 2005 consolidated balance sheet. French banks, on the other hand, such as BNP Paribas or Crédit Agricole do not split up the category of financial assets at fair value through profit or loss on the face of the balance sheet, but in the notes.

ties⁴) or at fair value (if the fair value option is used⁵). A credit-financed share purchase replicating an equity forward also allows different accounting choices. The share has to be measured at fair value but either through profit or loss or not. The liability can further be measured at amortized cost if the fair value option is not used.

The choice of a measurement base has further implications on the structure of disclosures in the notes. Mandatory disclosure of fair values and credit risk for example needs to be structured by classes of financial instruments (see IFRS 7.26 and 7.36). In turn, the minimum requirement for how these classes shall be distinguished is the measurement base (see IFRS 7.B2). Thus, additional information on financial instruments is, in general, combined with labeling the instrument as part of a class of instruments measured at fair value or as part of a class of instruments measured at amortized cost.

The waiver of a mandatory fair value measurement for debt contracts is, in particular, due to the political decision against a full fair value approach when a revised IAS 39 was announced in 2003 (Walton, 2004). Agreement was only on the principle that unexceptionally all derivatives should be measured at fair value for the related risks being completely shown on the face of the balance sheet (see IAS 39.BC177 (a)) because derivatives were regarded as one of the most important factors causing recent bankruptcies. The critical point, therefore, is the legal definition of a derivative that refers to the initial net investment (see Hague, 2004, p. 24). A low initial net investment, that is common to financial derivatives, indeed allows entities the use of derivatives in purely speculative investments by exploiting a leverage effect. On the other hand, as it was demonstrated above, the same motivation may underlie the investment in separate individual contracts which trigger an identical future cash flow scheme, but only require a low net investment in their economic combination and not individually. Except for the very restrictive conditions of IAS 39.IG B.6, entities are not obliged to account for those economic units in the same way as for derivatives. First of all, this inconsistency gives management leeway for earnings management both through accounting-based measures and real activities manipulation. This effect is analyzed in the next section of this paper and regarded as the conventional perspective. Furthermore, investors confined to certain boundedly rational behavior might not be able to identify the similarity of economic risks if

⁴ A floating interest rate loan does explicitly not contain an embedded derivative that has to be accounted for separately under IAS 39 (see IAS 39.AG33(a)).

⁵ In addition, the contractual right could also be measured at fair value directly through equity if it was classified as available for sale.

instruments are communicated in different ways. This effect is analyzed in the section after the next one and regarded as the behavioral perspective.

4. The conventional argument: Impact of accounting inconsistencies on earnings management

There is a vast amount of empirical evidence concerning earnings management (Healey/Wahlen, 1999, Nelson et al., 2003, Graham et al., 2005, Roychowdhury, 2006). While most of the studies concentrate on earnings management by means of financial reporting choices, others report earnings management through real activities manipulation.⁶ Earnings management through financial reporting choices usually falls within the realms of accrual accounting.⁷ Nelson et al. (2003) for example show that manipulation of certain accruals is the key to earnings management via financial reporting choices. Burgstahler/Dichev (1997) provide corresponding archival evidence. Earnings management via real activities manipulation, on the other hand, means taking managerial action which changes the firm's transactions with the intention to affect reported earnings (Lev, 2003). While the manipulation of real activities according to Graham et al. (2005) is actually more common than the use of accounting procedures, it is also more difficult to recognize and measure, hence its relatively minor role in the academic literature.

Which method is chosen for earnings management is largely determined by the dominant incentive for earnings management in a given situation⁸, whereas the incentives themselves are not created by the available methods⁹ but by external factors, such as management compensation contracts and career concerns (Healey/Wahlen, 1999, pp. 375 et seq., and Baber et al., 1998, p. 170). In particular, we talk about management contracts that contain payment components contingent on performance measures, such as accounting income, or on some measure of company value, such as the stock price. Well documented incentives are related to exceeding certain earnings thresholds (Barth et al., 1999, Bhojraj/Libby, 2005,

⁶ Compare for example the findings of Healey/Wahlen (1999) and Graham et al. (2005).

⁷ We exclude fraud from our definition of earnings management, hence only reporting choices consistent with IFRS are subject of our analysis. Likewise, we omit earnings management which makes financial reports more informative and therefore does not manifest a problem in the principal-agent relationship between management and shareholders.

⁸ Other determinants of this choice might be managerial ability, external constraints such as the demand for consistency in financial reporting over time or the costs associated with available options.

⁹ A notable exemption is that accounting-based manipulations seem to be regarded as morally and professionally inferior to real activities manipulations, so there might be an incentive to avoid accounting-based manipulations if possible (Graham et al., 2005, p. 35).

Burgstahler/Eames, 2006, Dechow/Skinner, 2000), earnings smoothing (Graham et al., 2005, Dechow/Skinner, 2000, Degeorge et al., 1999) or either the maximisation or minimisation of accounting income (Healy, 1985, pp. 376 et seq.). Under the same heading fall career concerns, i.e. managers trying to signal their managerial ability by meeting earnings benchmarks. In all those cases, one could speak of classic opportunistic behavior or agency friction. Corresponding evidence is provided for example by Bowen et al. (2003) or Gaver/Gaver (1998). With respect to myopic behavior or what they call the horizon problem, Baber et al. (1998) report empirical evidence that compensation committees adjust management compensation contracts to counter current-period-centered accounting choices. In particular they find that earnings persistence is relevant for executive compensation, which is a result that supports the earnings smoothing argument. Regardless of the incentive to manage earnings, it comes at a cost to shareholders, i.e. it distorts their and the capital market's view of the company performance. This distortion might result in measurable costs, such as unjustifiably high bonus payments to management in early periods or a stock price that does not fully reflect the underlying economics of the firm.

To illustrate this point with respect to the contractual choice described above, i.e. the choice between a non-contingent derivative and a non-derivative financial instrument with equivalent timing, structure and uncertainty of cash flows, imagine a company that seeks to cover the risk of falling interest rates, because it has an excess of fixed interest rate liabilities over fixed interest rate receivables, and that needs to cover the difference with short-term variable rate instruments. It could do so by means of a fixed-for-variable interest rate swap, where it agrees to pay the variable interest rate and receive a fixed rate, or it could instead employ a fixed interest rate receivable contract the nominal amount of which is financed by a variable interest rate liability (henceforth called swap-equivalent). This combination results in the same net cash flows as the swap. Abstracting from all other activities, the resulting earnings numbers of this company then would always equal zero, unless changes in fair value of the financial instruments go directly through profit and loss.¹⁰

Further imagine a manager with a compensation contract determining that his remuneration consists of a fixed component and a bonus payment that is contingent on the profit of the firm. Under this contract, management participates in the firm's profits but is shielded against its losses. The widespread application of those contracts is empirically supported for example

¹⁰ Since we abstract from all other activities and the interest income exactly offsets the interest expense in each period, regardless of the contractual choice made by the management, the profit of the firm depends only on changes in the fair values of the financial instruments under consideration.

by Gaver/Gaver (1998). In accordance with principal-agent-theory, we assume the management to be self-interested such that it seeks to maximize the net present value (NPV) of its expected compensation. It does so by using either the swap or a swap-equivalent in combination with the fair value through profit and loss accounting policy. The firm's shareholders on the other hand are interested in maximizing the firm's value, i.e. the net present value of its cash flows, where the gross cash flow before management compensation is, according to our example, unaffected by the hedging instrument employed. At the bottom line, any increase in the NPV of the managements compensation causes a corresponding decrease in the shareholders' wealth.

If we change the example to a situation where a bonus is paid only if the positive accounting income exceeds a certain benchmark, the decision becomes less predictable. According to Healy (1985), the manager now seeks to maximize accounting income only if that will carry him at least above the threshold. Otherwise he might prefer to minimize accounting income in order to save earnings for future periods where the threshold is within reach.

In the first situation, management has a strict incentive to choose the swap contract or, in case of the swap-equivalent, to employ the fair value option which IAS 39 offers for such contract combinations. The reason is that management is shielded against fair value losses but profits from fair value gains. In our example that means that the NPV of the management compensation is unaffected by increasing interest rates resulting in fair value losses of the hedging instrument, whereas it increases in the case of falling interest rates as the resulting fair value gain increases accounting profit in the first period. The subsequent fair value impairment in later periods less than reverses the initial positive effect in terms of NPV even if we do not abstract from all other activities.

The option to use the swap-equivalent and measure it at amortized cost or at fair value directly through equity will be preferable in the latter situation: Measuring the swap-equivalent at cost or fair value through equity would leave accounting income unaffected in the case of increasing fair values and would affect accounting income identically in case of falling fair values. When the bonus threshold is out of reach anyway, there is no reason to waste fair value gains in this period at the expense of later periods' accounting income. Again, management decides in a manner consistent with present value maximization of its compensation.

Thus, abstracting from all other factors, IAS 39's mixed accounting model in combination with management compensation contingent on earnings might lead management to choose among economically equivalent hedging instruments those that increase their income at the shareholders' expense. One might argue that a swap in reality is economically superior to the swap-equivalent due to its lower cost and lower counterparty risk, so shareholders should be in favor of its use in all circumstances. With respect to the costs this is a valid objection, although it might be challenged somewhat by the observation that management would bear at least part of the higher contracting costs resulting from using the swap-equivalent, while the shareholders alone bear the higher management compensation costs.

An opposite effect might be observed if income smoothing is the dominant objective of management. In this case, the relatively high income variability induced by fair value measurement will give an incentive for the use of non-derivative cash flow equivalents measured at amortized cost, respectively at fair value directly through equity. But regardless of which objective dominates management's behavior, the inconsistencies in accounting for non-contingent derivatives always allow an accounting policy in accordance with the management's strategy of maximizing its compensation. Thus, following an argumentation based on already existing evidence of earnings management, the inconsistencies are disadvantageous with regard to an entity's owners. It can at least be concluded from the discussion in this section that a profit figure determined by the mixed accounting model according to IAS 39 does not qualify as a useful basis for a variable management compensation.

5. The behavioral argument: Impact of accounting inconsistencies on risk perception by investors

5.1. Prior research

Whereas the impact of IAS 39 on earnings management stems from the diversity of measurement bases, the standard's mixed accounting model also affects presentation and disclosure of financial instruments since the relevant IFRS 7 directly refers to several of the measurement rules contained in IAS 39. As presentation and disclosure particularly affect the perception of an entity's risks by individual investors, it is reasonable to critically assess the

implications of the identified accounting inconsistencies from a behavioral perspective as well.

In accordance with capital market theory, the market price of an asset represents the aggregate expectations of all market participants as regards its value. Risk enters into that assessment in the form of probability-weights attributed to all possible payoffs of the asset by every market participant. Under the assumption that value expresses utility, economic decisions should then be made in accordance with expected utility maximization. Experimental research in psychology, finance, and accounting has shown that decision making or the forming of expectations on the individual level, however, often deviates from the expected-utility-rule. Hirshleifer (2001) reviews the literature about the influence of investor psychology on asset pricing and concludes that psychology-based asset-pricing theory has the potential to explain empirically observable deviations from unbiased asset pricing¹¹. He explicitly points out misperception of risk as one reason for these deviations. Arkes (1991) gives an extensive discussion and categorization of such deviations beyond capital market considerations. One such category is called association-based errors and contains judgment errors that result from the automatic and often subconscious inclusion of associations from semantic memory in decision processes¹², such as availability or labeling effects.

Availability describes how easily examples of certain events come to mind and it therefore affects the probability attached to these events, such that events which are easier to recall or imagine are judged to be more common (see Hirshleifer, 2001, p. 1524). Several studies show how availability can be influenced. Folkes (1988) for example shows that distinctiveness of an item enhances its availability and increases the probability estimate of events connected to this item. Distinctiveness there is related, among other dimensions, to the event or the item being atypical. For example, product failures of typical brand products were more distinct than product successes, the reason being that people encounter far more successes than failures (Folkes, 1988, p. 16). Closely related to the availability heuristic are labeling effects because labels serve as primes for semantic memory, i.e. as means to increase availability (see Arkes, 1991, Koonce et al., 2005a, Koonce et al., 2005b).

Experimental research in accounting has used labeling effects to explain different receptions of financial statement information, depending on the presentation of the underlying event. Hopkins (1996) for example provides evidence that the financial statement classifi-

¹¹ Unbiased pricing implies the derivation of expected values as described at the beginning of this paragraph.

¹² See Folkes (1988) and Levin (1985) for examples.

cation of hybrid financial instruments affects the stock price judgments of financial analysts. Maines/McDaniel (2000) demonstrate in a more general setting that investors' use of comprehensive income information largely depends on the presentation format of income. Koonce et al. (2005a) find that labels, attached to financial instruments with identical underlying net cash flow and risk, influence the risk associated with each instrument. They explain this effect with the media coverage of losses from certain financial derivatives, such as swaps, futures and options. The labels 'swap' and 'hedge', which they use in their study, make these negative associations available to (non-professional) investors and lead to an increased risk perception (Koonce et al., 2005a, p. 875). This result is conform with Weber et al. (2005) who more generally suggest that risk perception is significantly affected by an asset's name. In another study, Koonce et al. (2005b) provide a more extensive consideration of the labeling effects on risk perception. According to their analysis, risk is perceived not only in terms of probabilities and outcomes but also in cognitive categories, such as catastrophic potential and worry. These additional categories may lead individuals to overestimate the risk of a financial item and hence underestimate its value. This effect would obtain if the label used to describe the financial item, e.g. the balance sheet category, triggers negative rather than positive associations. Also, different balance sheet categories may cause different associations such that a financial item might be perceived different in terms of risk, depending on the category it is sorted into.

Considering these findings, we expect less risk to be associated with non-derivative financial items than with derivatives, first because the former lack the leverage effect of derivatives, which indeed decreases their catastrophic potential, and second because losses from non-derivative financial items are not associated with speculation but with normal business and thus receive little media attention. Losses from derivatives, on the other hand, as a result of failed speculation often attain high media coverage and therefore are, in contrast to the far more common case of successful hedging strategies, highly available.¹³ Bodnar/Gebhardt (1999) find that even managers are aware of investors' and analysts' negative associations when confronted with an entity's use of derivatives. We therefore conclude that the delineation of IFRS 7 from the JWG's approach of a balance sheet presentation according to the type of financial instruments is justified by good reasons. Under the latter

¹³ See Chalmers/Godfrey (2004) for a similar assumption. Trombley (2003), pp. 5–9, Bodnar/Gebhardt (1999), p. 154, and Benston/Mian (1995), p. 219, provide some prominent examples. A recent example are the loss announcements by Fannie Mae, a US mortgage bank, that were broadly covered in the news. An article in the WSJ for instance was titled "Fannie revises losses on derivative contracts" (March 18, 2005, p. A4, see also March 3, 2005, p. A3).

approach, a derivative disclosed as such would directly evoke an association with negative outcomes. Our conclusion holds even when taking the results of Koonce et al. (2006) into account who show that investors appreciate the use of derivatives when learning about the results ex post; the presentation in a balance sheet implies that an entity is still engaged in derivatives and a balance sheet thus provides investors and analysts with information on this engagement ex ante.

The presentation of a measurement category (instead of an instrument's type) under IFRS 7 can, however, be regarded as a periphrasis of an instrument's type. The classification actually emphasizes the two purposes of an entity's use of financial instruments that were identified in the first part. The category labeled as held for trading obviously refers to a short-term speculative purpose. The other categories labeled as available for sale, held to maturity, loans and receivables, or other liabilities, on the other hand, refer to a longer-term holding (or hedging) purpose. If it was now cognitively available to investors that short-term trading portfolios regularly consist of financial derivatives exploiting the leverage effect, it could be argued that investors faced with a balance sheet category labeled as held for trading would undergo a reaction similar to investors faced with a balance sheet category labeled as derivatives.¹⁴ The same argument might hold as regards the alternative classification of financial instruments by measurement base. Reasonable investors with a basic knowledge of IFRS accounting could readily be aware of the IASB's repeatedly and publicly stated objective to measure at least those instruments at fair value that are exposed to short-term market risk, and that in particular unexceptionally all financial derivatives are regarded to be of that ilk. These hypotheses call for future research.

5.2. A framework of hypotheses for future research

When we apply our conclusions on the accounting rules for non-contingent financial derivatives according to IFRS, the inconsistencies from a behavioral perspective become evident as they induce an unintended risk perception. An entity presenting non-contingent financial derivatives that are labeled on the balance sheet or in the notes as being held for trading and as measured at fair value would be perceived to be a riskier investment than another

¹⁴ In fact, the question about the cognitive association between trading and speculation has already been raised by Young (1996, p. 507).

entity presenting non-derivative financial instruments that are not labeled as being held for trading and not as measured at fair value. On the one hand, this result would underline that the IASB had met its objective of providing information on the underlying risk of financial instruments by presenting them in separate groups on the balance sheet and in the notes. On the other hand however, this risk perception poses another problem since we could demonstrate in the examples of an interest rate swap agreement or a forward contract that an equivalent combination of non-derivative financial instruments not mandatorily measured at fair value might be even riskier due to the differences in counterparty risk. The presentation and the disclosure of financial instruments by measurement category and by measurement base according to IAS 39 and IFRS 7 would thus unreasonably result in a bias of investor's risk perception such that investments which are riskier in comparison with equivalents would actually be perceived as being less risky. This will in turn alter an entity's capital costs.

There are two assumptions with regard to investors and analysts underlying our conclusion that both deserve further attention. The first assumption is that a class of financial instruments presented on the balance sheet or in the notes as being held for trading (respectively as measured at fair value through profit or loss) will be more likely associated with speculative trading strategies based on the use of financial derivatives than classes of financial instruments presented on the balance sheet as being available for sale, held to maturity, loans and receivables, or other liabilities (respectively as measured at amortized cost). This assumption could be justified, analogous to the findings of prior research on the immediate perception of the use of derivatives, by the availability of both news coverage and investors' own experience. The use of derivatives in speculative trading strategies is a regular and prominent topic of magazines covering investment consultancy¹⁵. It has been demonstrated that individual investors split up their total investment portfolio into different so called mental accounts neglecting interdependencies (Thaler, 1980, Thaler, 1985). It can be observed that speculative investments make up one separate mental account (see Shefrin/Statman, 2000, pp. 148 et seq.). On this basis, one can conclude that individual investors will have their own experience in the composition of separate trading portfolios and that they are aware of derivatives as a regular component of those portfolios.

¹⁵ Some anecdotal evidence will underline this point. The FT for example recently published a report on the mastering of risk by investors, part 3 of this report was titled "Diversification and derivatives can both be valuable tools for managing an investment portfolio" (September 23, 2005, p. 2). The Fortune Magazine published an interview with Leo Melamed, a creator of derivative futures, who emphasized that retail investors "find their way" on this market (December 25, 2006, p. 124). The Forbes Magazine, when it covered the private banking business, stated that once "a millionaire is hooked, a relationship manager might find him a structured derivative for his finances" (November 28, 2005, p. 147).

The second assumption is that financial instruments presented on the balance sheet or in the notes as being held for trading (respectively as measured at fair value) will be judged as riskier than financial instruments presented on the balance sheet as being available for sale, held to maturity, loans and receivables, or other liabilities (respectively as measured at amortized cost). This assumption follows from the first assumption. If a presentation of financial instruments by measurement category or by measurement base affects the risk perception by investors in the same way as a balance sheet presentation by type as it was observed by Koonce et al. (2005a) and Koonce et al. (2005b), we could expect the same availability effect for instruments labeled as being held for trading or as measured at fair value. As a result, by recognition of those labels and by immediate association with the use of derivatives, individuals will have a bias in their judgment of the risk exposure.

These two assumptions are critical with respect to our conclusion on the behavioral effects of the mixed accounting model for non-contingent financial derivatives according to IFRS. Therefore, they should serve as hypotheses to be tested in an experimental survey study with non-professional and professional investors.

6. Conclusion

(1) According to IAS 39, non-contingent derivatives such as swaps or forwards are measured at fair value and presented on the balance sheet or in the notes as being held for trading. A combination of non-derivative contracts that results in an equivalent timing, structure and uncertainty of cash flows, on the other hand, offers several different accounting policies. In contrast to derivatives, fair value measurement is not mandatory. Instead, measurement at cost or at fair value through equity is allowed. The measurement base chosen has further implications on the label under which the instruments are disclosed as the label directly refers to the measurement category.

(2) The different accounting policies available for non-derivatives on the one hand and economically equivalent contracts on the other hand provide management with leeway to act opportunistically by means of earnings management. Empirical and anecdotal evidence shows that management indeed has incentives for earnings management and acts accordingly. We show that the accounting problem discussed here provides for the exercise of both accrual-based earnings management and earnings management through real activities manipulation.

Real activities manipulation refers to the choice of contract while accrual-based earnings management refers to the choice of accounting policy if non-derivative contracts are chosen.

(3) Existing experimental evidence suggests that the perception of a financial instruments' risk significantly relies on its label. Instruments labeled as derivatives for example are regularly perceived to be riskier than instruments not labeled as derivatives. This insight has implications for the presentation of financial instruments under IFRS 7. We hypothesize that a category labeled as held for trading will be judged to contain derivatives in order to earn short-term speculative profit, whereas the other measurement categories will be judged to serve a longer-term holding purpose. As a result, entities involved in non-contingent derivatives will be perceived to be a riskier investment than entities involved in a combination of contracts that are equivalent with regard to the timing, structure and uncertainty of cash flows but even riskier with regard to the counterparty's default.

(4) This paper aims at providing the theoretical framework for an experimental survey study which tests for biased risk perception related to the different labels prescribed by IFRS 7. Thereby, we need to distinguish between the presentation by measurement category on the face of the balance sheet and the presentation by measurement base in the notes. The results could serve as a justification for a correction of the identified inconsistency.

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