

# VLIV ZAJIŠŤOVACÍHO ÚČETNICTVÍ NA RISK MANAGEMENT FIREM<sup>1</sup>

## Influence of Hedge Accounting on Risk Management Behavior of Firms

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### I. Introduction

Many empirical studies confirmed that smooth or stable income is preferred by investors and has positive impact on stock price. Reaching smooth income would therefore be conscious and in certain cases unconscious goal of the firm's management. Possible way how to smooth income is employment of hedge accounting. Currently effective hedge accounting rules embodied in IAS 39 brings certain drawbacks for hedge accounting users. Firms are often facing dilemma. Employment of hedge accounting rules might mean sub-optimal hedging strategy and on the other hand not employment means undesirable increase in earnings volatility.

Objective of this paper is to highlight some areas where risk management behavior might be influenced and therefore adjusted to fit accounting rules provided by IAS 39 respectively US GAAP equivalent ASC 815 (previously known as SFAS 133) and provide brief overview of existing literature and research.

The remainder of this paper is organized as follows. The next section provides brief introduction to earnings management and income smoothing and review relevant hedge accounting and earnings management literature. Section 3 introduces some IAS 39 hedge accounting rules potentially influencing risk management and Section 4 concludes.

### II. Review of relevant literature

In this paper is adopted earnings management and in specific cases tendency to achieve smooth or expected, respectively unexpected, income as presumption and hedge accounting as a one of possible ways how to manage earnings. (Healy and Wahlen 1999) provide wide prior research review and summarize possible reasons for earnings management including to influence stock market perceptions, to increase management's compensation, to reduce the likelihood of violating lending agreements, and to avoid regulatory intervention. (Trueman and Titman 1988) showed that if managers have choice they prefer recognize certain

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transaction in period in which smoother income may be achieved to another period. Managers tend to decrease income variance between periods to achieve lower debt price (means interest rate). Hence, shareholders benefit from this managers' behavior. (Easton and Harris 1991) found significant correlation between current earnings level and stock returns. Hence, the importance of earnings management is highlighted.

Earnings management has three main tools. First is manipulating accruals, second change in real behavior of the firm and the last one is providing earnings guidance. From my point of view hedge accounting and its relation to risk management can fit all three categories.

Manipulating accruals means transferring income from income statement to balance sheet and vice versa. Many studies use Jones model presented in (Jones 1991) or modified Jones model (Dechow et al. 1995) to reveal whether the firm manage earning or not. However, unexpected accruals are just result of actual firm's behavior like manipulating bad debt provisions, underestimate or overestimate useful life of long term assets, applying different accounting methods for the same type of transactions during the time or manipulate internal calculations<sup>2</sup> and valuation methods.

Examples of real behavior of firm as earnings management tool might be cutting of research and development, fire sales of assets, sales under usual price, postponing maintenance and repair to decrease expenses or introducing of the new product further than the previous should be superseded.

Earnings guidance provided by firms in form of voluntary interim reports adjust further analysts' expectations and forecasts. (Koch et al. 2012) found that firms have the likelihood of guiding analysts' expectations decreases with constraints on managers' flexibility to manage earnings upwards. They also confirmed their hypothesis that managers tend to meet or beat their own earnings guidance. Therefore their own expectations became the benchmark what should be met or beaten.

All mentioned earnings management tools should be adopted as complements rather than substitutes, however, usage of each tool might not be proportional because proportion of each one is driven by management's ability to employ it.

Influence on risk management of hedge accounting rules was examined from different viewpoints. (Zhang 2009) empirically examined sample of 225 non-financial firms which had

started their derivatives programs before adoption of the SFAS 133 and splitted them between effective hedgers and ineffective hedgers (respectively speculators). For group of effective hedgers was not found significant change in risk exposure comparing period before adoption of SFAS 133 and after that. However, for ineffective hedgers/speculators group was found significant decrease of risk exposure and cash flow volatility. This is interpreted as ineffective hedgers/speculators were encouraged to more prudent risk management strategies after the SFAS 133 adoption. (Lins et al. 2008) surveyed CFOs of 334 firms in 39 different countries in 2005. They found, that more than 40% of examined firms had been affected their risk management at least in one of exposure<sup>3</sup> by IAS 39 or SFAS 133 adoption. And majority of affected firms concluded that their ability to hedge from economical view was compromised. They also found that firms running their business in environment where contracts are more likely based on accounting data and firms concentrated on decreasing earnings volatility are more affected and care more about achieving hedge accounting. (Glaum and Klöcker 2011) surveyed listed German and Swiss non-financial companies and found that 90% of firms in the sample manage their risks by derivatives, however, only 72% of them are hedge accounting appliers. They also found that more than half of the firms confirmed their risk management policies being involved by hedge accounting rules. Furthermore, they found that companies with longer IFRS experience, larger or with concerns about earnings volatility are more likely to undertake hedge accounting.

### **III. Possible areas of IAS 39 influence on risk management**

#### **III.I. Inability of portfolio hedge**

IAS 39 as well as its US equivalent are mentioned as one-to-one hedge and in fact prohibits hedging of open position of portfolios except some portfolio hedging of interest rate exposure. However, large corporates concentrate hedging in their treasury center. This was confirmed by (Bodnar et al. 1995) or (Fatemi and Glaum 2000). IAS 39 in paragraph 78 defines hedged item as: *“recognised asset or liability, an unrecognised firm commitment, a highly probable forecast transaction or a net investment in a foreign operation.”* This could compromise treasury center hedging behavior. From individual financial statements of subsidiary viewpoint hedge against treasury center is eligible for hedge accounting. On consolidated level is eligible only hedge against external independent party.<sup>4</sup> From treasury center point of view effective hedging

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<sup>2</sup> As the example might be mentioned overvaluation of work in progress and consequent decreasing effect on cost of goods sold and therefore increase of reported income.

<sup>3</sup> This paper differentiates between foreign currency, interest and commodity price risk exposure.

<sup>4</sup> IAS 39 paragraph 80.

behavior is to collect all open position of subsidiaries and hedge just open position of the whole firm. Approach like this could gain better price offers and strengthen treasury center negotiation position against partner banks that would not have been achieved if the hedging relationship had been contracted by the subsidiaries. This could be unsolvable problem if there is not particular transaction or its proportion to serve as hedged item. In other words to be a proxy for net open position.

(Ramirez 2007, p 122-127) shows example of subsidiaries with different foreign currency exposures hedging against treasury center. Consider three subsidiaries with three different functional currencies (EUR, USD, JPY) and parent company (conducting treasury center) with EUR as a functional currency. Subsidiary A with EUR as a functional currency has expenses in EUR and part of its sales is in GBP. Subsidiary B with USD as a functional currency has expenses in USD, however, part of its sales is in EUR. Third subsidiary C with functional currency of JPY has part of its sales in USD and expenses in JPY. For the purpose of simplicity assume that all flows takes place on the same date and the amounts in different currencies are equivalent. Figure 1 below depicts the example.

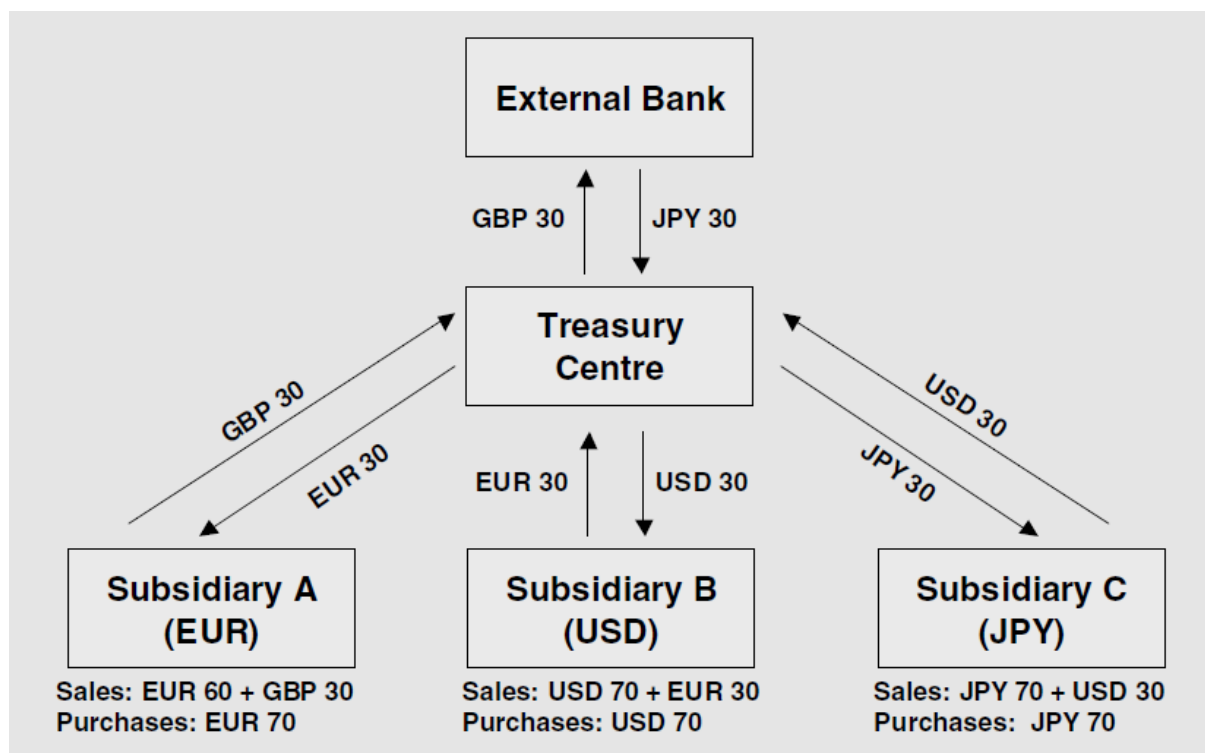


Figure 1 Example depiction, Source: Ramirez 2007, p 124.

As a result, group net position is long in GBP and short in JPY. Therefore, treasury center, in order to hedge the position, enters into FX forward to sell GBP and buy JPY. This exposure is not hedge accounting eligible because hedge of net open portfolio is not permitted. Only

possible way how to achieve hedge accounting is ineffective strategy, from the risk management view. Supersede GBP/JPY FX forward with another two. First is to sell GBP and buy EUR<sup>5</sup> and second to sell EUR and buy JPY. Therefore first hedging relationship is recognized between GBP/EUR FX forward as the hedging item and Subsidiary A's GBP expected sales as the hedged item and second hedging relationship between EUR/JPY FX forward as the hedging item and part of Subsidiary B's expected cost of sales in JPY. Both hedging relationships are cash flow hedge of highly probable forecast transaction. This modified strategy is sub-optimal from the risk management viewpoint because two derivatives are employed instead of one.

### III.II. Basis risk

Basis risk could compromise firm's ability to find effective hedging instrument with respect to retrospective effectiveness assessment. As typical example should be mentioned jet fuel hedging applied by airlines. Airlines usually hedge with crude oil derivatives instead of jet fuel derivatives, because of more liquid crude oil derivatives market. Crude oil and jet fuel correlation is about 90% in the long term, however, in some periods it might decrease below this level. Price difference is driven by refinery capacities and crack spreads between particular oil products. (Morrell and Swan 2006) mentioned that difference might increase during the war or threat of the war when refinery production is concentrated on producing gasoline or diesel and moreover jet fuel is demanded by military air forces. Important factor influencing basis risk is geographical location (Haushalter 2000). In accordance with IAS 39 paragraph 82 whether airlines hedge expected jet fuel purchase means non-financial transaction they could hedge foreign currency risk or entire exposure to all risks. Price of jet fuel purchase is divided at least between jet fuel price and transportation costs, thus basis risk could increase.

Expected jet fuel purchase hedging should be accounted as cash flow hedge. With respect of paragraph 88 of IAS 39 hedge effectiveness should be assessed on ongoing basis paragraph AG 105 of IAS 39 states that actual movement between hedged item and hedging item should be within a range of 80% to 125%. If the effectiveness constraints are violated the hedging relationship will be terminated in compliance with paragraph 101 of IAS 39. Cumulated hedging reserve in equity will be retained until the expected jet fuel purchase occurs. On the other hand earnings volatility dramatically increase because of reclassification of hedging derivative to held for trading category. From risk management point of view there could be find two major concerns. Firstly, preference to use less liquid jet fuel derivatives instead, in order to avoid effectiveness test violation and therefore

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<sup>5</sup> Because EUR is parent's functional currency

perform probably more costly hedging strategy. Secondly, in case that the hedging relationship had been terminated what would have been done with hedging instrument.

### **III.III. Cancellation of highly probable transaction**

This area of threats resulting from hedge accounting rules seems more connected to earnings management than to risk management. From my perspective one of risk management objective could be for example avoiding violating debt covenants. Therefore earnings management is employed. In such a case, change in real behavior respectively managing accruals<sup>6</sup> takes place.

(Ramirez 2007, p 414) provides example of expected Airbus A380 sales to world's airlines. This kind of transaction might be hedged as cash flow hedge by the manufacturer. Cumulated change in hedging instrument is retained in equity until expected transaction takes place. In accordance with paragraph 101 of IAS 39 the cumulated amount will be recycled to profit or loss immediately, if the transaction is no longer expected, due to for example exercising cancellation option by purchasing airlines, if the plane delivery is delayed. Immediate recycling of retained amount could have devastating effect on manufacturer's profit and loss especially if the retained amount was large loss.

This kind of risk should be assessed by risk managers and might result in not applying hedging at all in order to avoid possible negative profit and loss volatility shock.

## **IV. Conclusion**

This paper introduced some of current effective hedge accounting rules drawbacks and their possible influence on risk management of firms. Connection between earnings management and accounting rules was also shown. Firms have to assess whether achieving hedge accounting and consequently stable smooth income, is not cost over benefit, with respect to optimal risk management behavior. Resulting from above mentioned IAS 39 is one-to-one based hedge accounting standard fitting micro hedges, however portfolio hedges, in other words macro hedges, are not eligible. IAS 39 is also less friendly to hedging non-financial transactions with regard on hedge effectiveness testing. Furthermore IAS 39 as well as ASC 815 are considered complex and difficult to implement. Forthcoming IFRS 9 and proposed macro hedging model presented in 2014 DP (International Accounting Standards Board and IFRS

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<sup>6</sup> I do not deal with conscious earnings manipulation based on artificial hedging relationship of unexpected future transaction further in this paper.

Foundation 2014) could reduce complexity and closely connect hedge accounting to risk management objectives.

## Summary

This paper deals with connection between risk management and achieving hedge accounting rules stated in IAS 39. Some possible drawbacks of currently effective hedge accounting rules like inability of portfolio hedging or basis risk are highlighted. Paper also includes relevant hedge accounting literature review and brief review of earnings management literature and theory. Existence of earnings management and propensity of firms' managers to smooth or manage income is adopted as a fact.

**Key words:** Hedge accounting, Risk management, Hedging, IAS 39

**JEL klasifikace:** M41

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