

## Abbreviations

AICPA	American Institute of Certified Public Accountants
ARB	Accounting Research Bulletin
COGS	Cost of goods sold (the book-keeping account)
CPA	Certified Public Accountant
FASB	Financial Accounting Standards Board
FIFO	First In, First Out
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IASCF	International Accounting Standards Committee Foundation
IFRS	International Financial Reporting Standards
LIFO	Last In, First Out
SEC	The Securities and Exchange Commission
US GAAP	United States Generally Accepted Accounting Principles

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# 1 Introduction

## 1.1 Background

Having different accounting standards in the world is a problem for multinational public limited companies and investors in order to be able to compare and evaluate financial statements (Doupnik & Perera, 2009). The United States Securities and Exchange Commission (SEC), which is responsible for the security regulation to protect investors, recognized the opportunity with one set of accounting standards in the world and therefore started their work towards that goal. In 2008, SEC developed a Roadmap<sup>1</sup> with the objective of an adoption from United States Generally Accepted Accounting Principles (US GAAP) to International Financial Reporting Standards (IFRS) for US issuers (Securities and Exchange Commission, 2010-03-29a). The Roadmap brings up seven milestones to be achieved before a full implementation could be done for US issuers<sup>2</sup>. The SEC will revalue these milestones in 2011 before the SEC could take further decisions to continue the process. The Roadmap is the first step towards a potential full adoption of IFRS and the goal is to implement IFRS fully in 2014 for the first US companies.

On March 2<sup>nd</sup>, 2010, SEC released a second statement that keeps supporting the adoption as well as the convergence project towards having one set of accounting standards (Securities and Exchange Commission, 2010-03-29b). In order to clarify the concepts used in the Roadmap, there is a difference between adoption and convergence. Adoption means that a full implementation would occur from US GAAP to IFRS, while convergence on the other hand means, “*reducing international differences in accounting standards by developing high-quality standards in partnership with national standard-setters*” (Doupnik & Perera, 2009, p. 71). The development of international standards between International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) is therefore a convergence project.

In the second statement, comments from American companies and organizations concerned with the accounting standards, are processed. These comments express positive and negative critique regarding the Roadmap. As a consequence, the time period of implement-

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<sup>1</sup> The framework is named: *Roadmap for the potential use of financial statements prepared in accordance with International Financial Reporting Standards by U.S. issuers*. (November 14, 2008). Hereafter called ‘Roadmap’.

<sup>2</sup> ‘US issuers’ is according to the Roadmap companies that have to file annual reports under the “*Exchange Act on Form 10-K or a registrations statement under the Securities Act for which foreign private issuer status is not an eligibility requirement.*”

ing IFRS completely is extended from 2014 to 2015 (Securities and Exchange Commission, 2010-03-29b). The Center for Audit Quality finds support for the adoption in the Roadmap among US investors as well. A survey conducted in 2008, reveals that 62 per cent of the investors consider the use of one set of standards to contribute to a higher confidence from their perspective (Center for Audit Quality, 2010-05-18).

With an adoption from US GAAP to IFRS, US issuers will be faced with several differences. Comiskey, Mulford and Thomason (2008) explain that one of the major changes would be the inventory valuation system. IFRS, according to 'International Accounting Standard (IAS) 2 – Inventories', does not permit the usage of Last-In, First-Out (LIFO), which, according to the American Institute of Certified Public Accountants (AICPA) (2008), approximately 36 per cent of all US companies are using (cited in Comiskey et al., 2008). Instead, these companies would be required to use First-In, First-Out (FIFO). The main difference between LIFO and FIFO is that LIFO observes the last purchased products in the cost of goods sold (COGS) which results in higher costs and therefore a smaller net income for companies that are using LIFO. FIFO on the other hand values the products that were purchased most recently in the inventory account in the balance sheet, which result in a smaller COGS-account and a higher net income. The US issuers that use LIFO today will consequently be affected to a large extent with increased tax provisions.

The objective with this thesis is to conduct a review that connects recent research and the aspects of a US adoption to IFRS with the respect to inventory valuation in SEC Roadmap. The thesis focuses on the potential change from US GAAP to IFRS<sup>3</sup>-accounting in the United States from an inventory valuation approach and will only take FIFO and LIFO into account as valuation methods of inventory. The following research questions are considered and form the foundation of the thesis: How will US limited companies that are using LIFO be affected by the inventory valuation change to FIFO, from an economic and accounting-based approach? What are the positive and negative aspects with a removal of LIFO regarding the IFRS adoption? The recent research together with the Roadmap will be developed and compared in order to make an interpretation of them, as well as the different opinions and aspects that are available within the area. The research available does not cover literature and the inventory valuation of the SEC Roadmap simultaneously, but tend to focus on the adoption as a whole. Therefore, our discussion aims to clarify doubts

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<sup>3</sup> When we will mention the adoption 'from US GAAP to IFRS', we will include both IAS and IFRS in the expression 'IFRS'

that may arise when investigating the possibilities and existing opinions directing this matter.

Tarca (2004) enlightens, IFRS and US GAAP standards systems, which are the two most frequently used accounting standards systems in the world for limited companies. IFRS is in 2010 used by approximately 120 countries (International Accounting Standards Board, 2010-03-08a) or jurisdictions all over the world. US GAAP is used in the United States, which still was the largest economy in the world in the end of 2009 (International Monetary Fund, 2010-05-08). The largest difference between the standards systems is that IFRS has a principle-based approach and therefore allows more interpretations and free choices within the standards. US GAAP on the contrary has a rule-based approach that is often more detailed (Doupnik & Perera, 2009).

The International Accounting Standards Committee (IASC) started in the 1970's, with the objective to implement *international* accounting standards (Doupnik & Perera, 2009). In 2001, IASC was resolved and replaced by IASB with the objective to continue regulate the accounting standards. The FASB and the IASB signed the Norwalk Agreement in 2002, ensuring that they should work for a convergence of the two standards US GAAP and IFRS (Langmead & Soroosh, 2009). Bunting and Frank (2008) explain that from 2006, this agreement has intensified and that most of the differences between the two standards should be eliminated. The convergence between FASB and IASB is encouraged by the SEC as a complement to their own adoption project (Securities and Exchange Commission, 2010-03-29a).

## 1.2 Method

This thesis focuses on the research and the effects of the adoption to IFRS regarding valuation of inventory, in relationship to the SEC's Roadmap. The review method is based on perceptions from recent research that are interpreted and will affect the outcome since the opinions from current research are the foundation of the thesis (Mattson & Örtenblad, 2008).

The information obtained in the articles provides the foundation for drawing conclusions from their assumptions. To reduce the amount of interpretation biasness as much as possible, the articles are critically discussed and viewed from a neutral perspective with a high-quality structure (Saunders, Lewis & Thornhill, 2007). The thesis is conducted with a large emphasize on articles in research journals published within the last four years (2007-2010),

since the SEC Roadmap was profound recently (Ghauri & Grønhaug, 2005; Mattsson & Örtenblad, 2008). This approach is most suitable for this study, since the importance of the adoption to become reality means that many studies have investigated the adoption process from US GAAP to IFRS and there is therefore a lot of research to base the review on. A potential removal of the LIFO valuation method of inventories, is affecting approximately 36 per cent of the American limited companies according to AICPA (2008) (cited in Comiskey et al., 2008). This means that there are several contradicting opinions of the LIFO removal in literature to review. That is why we want to relate the conclusions of recent research regarding the LIFO removal to the Roadmap conducted by the SEC. An analysis of these statements will evaluate and clarify the topic to get a proper opinion of whether the adoption would be achievable or not and what the effects would be from an inventory valuation perspective.

### **1.3 Thesis outline**

The thesis focuses on articles that bring up the issues regarding a removal of LIFO. The issue has been on the agenda for several years, but recent research has a main focus on the adoption and convergence project, not the valuation of inventories. In the second chapter, we will present background information and a more historical approach towards the subject. The chapter will start with a descriptive study of accounting regulations according to IFRS and US GAAP followed by an explanation of LIFO and FIFO finalized with an example of how these methods are reflecting a company's valuation of inventory as well as the effect on key ratios. Chapter three focuses on the effects of LIFO as a consequence of an adoption, but also the potential non-removal of LIFO. It also discusses and analyzes from a perspective if the adoption will be fulfilled. Finally, we conclude our study in chapter four.

## **2 Accounting standards systems and inventory valuation**

### **2.1 IFRS and US GAAP standards systems**

The IFRS system was originally founded by the IASC, which was created in 1973 by leading accounting bodies in ten different countries.<sup>4</sup> Douppnik and Perera (2009) explain that the objective of the collaboration that conducted IASC was to develop international ac-

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<sup>4</sup> Canada, Mexico, the Netherlands, Australia, Germany, the United States, Japan, France, Ireland and the United Kingdom.

counting standards that could be used around the world. The IASC's first intention was to create 26 IAS, which had the objective of setting the minimum requirement within each accounting area. The IASC faced problems when interested parties started questioning the board members expertise, independence and lack of time. To meet this critique, a new form of organization was developed in 2001 named IASB. The IASB was assigned the responsibility to develop international accounting standards under the IASC Foundation (IASCF), and the new standards developed were called IFRS. In 2008, 41 IAS and eight IFRS had been published by the IASB (Doupnik & Perera, 2009). IASB describes its objective as follows:

*"To develop a single set of high quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated accounting principles."* (International Accounting Standards Board, 2010-03-08a).

IASB's approach towards standard setting is called a principle-based approach, which gives the elucidator a chance to interpret the recommendation from a professional aspect. The IASB chairman, as of 2010, Sir David Tweedie explains the approach: *"We prefer an approach that requires the company and its auditors to take a step back and consider with the underlying principles."* (Doupnik & Perera, 2009, p. 92).

According to Epstein, Nach and Bragg (2009), the accounting principles and standard setting in the United States had its beginning in the 1930 after the crash of the stock market in 1929. To certify that investors got the right information about their investments, the AICPA was assigned to create new standards to prevent anything similar to happen again. This was the beginning of the standard setting in the United States, which later became the US GAAP. Today, FASB is responsible for creating new accounting principles within the US GAAP (Epstein et al., 2009). This US standard system is, according to Carmona and Trombetta (2008), called a rule-based system where the standards are based on constrained rules. Van der Meulen, Gaeremynck and Willekens (2007) recognize a problem with US GAAP, since it gives companies the opportunity to use an accounting style that does not reflect the actual economic situation in the company.

A difference between IFRS and US GAAP is, according to Carmona and Trombetta (2008) that a system based on principles as IFRS is dominated by understandings rather than rules. IFRS is therefore seen as a more flexible standard system than a system based on rules, compared to US GAAP that consists of specific criterias and restrictions (Van der Meulen

et al., 2007). US GAAP is moving towards IFRS and the principle-based system with the potential US adoption process as one of the approaches.

Hoffman and McKenzie (2009a) describe another difference between the accounting standards systems as the acceptance and unacceptance towards the inventory valuation method LIFO. US GAAP accepts LIFO, while IFRS does not allow it, which means that LIFO needs to be eliminated if an adoption from US GAAP to IFRS will come true. There is a conflict regarding LIFO between companies that are using LIFO and the companies that are in favor of IFRS. Hoffman and McKenzie (2009a) explain that the conflict is intense because of the tax benefits the American companies using LIFO have.

## **2.2 Valuation methods of inventory according to IFRS and US GAAP**

The valuation methods of inventories are regulated by both IASB and FASB. Under IASB, 'IAS 2 – Inventories' is regulating FIFO as an allowed inventory method (Epstein & Jermakowicz, 2010). The 'Accounting Research Bulletin (ARB), Number 43, Chapter 4 – Inventory Pricing', developed by FASB, discusses general principles when determining the price on inventories (Financial Accounting Standards Board, 2010-05-18). LIFO is regulated in the 'Internal Revenue Code, Section 472' in the United States. With an approval of the SEC Roadmap, the adoption from US GAAP to IFRS will lead to the removal of the LIFO inventory valuation method in the United States, since it is not allowed under IFRS. Instead, the valuation method FIFO is allowed under both standards.

### **2.2.1 First-In, First-Out (FIFO) inventory valuation method**

FIFO is, according to Comiskey et al. (2008), a valuation method of inventories allowed under both IFRS and US GAAP. Within FIFO, companies account for selling the products in their inventory that were purchased first, which means that the COGS is small assuming that prices increase. The inventories on the other hand, are larger compared to LIFO. Comiskey et al. (2008) further explain that with decreased COGS, the net income will be higher, which will generate higher income tax provision than if LIFO was used. Therefore, the COGS will be calculated as low during inflations with the earliest purchased inventories valued in COGS. The last purchased items are valued in the inventory and generate higher valuation of inventory (Comiskey et al., 2008; Bragg, 2004). During periods of decreasing prices, FIFO would lead to higher expenses since the earliest bought products costs more and are valued in COGS. The products purchased last have the lowest costs



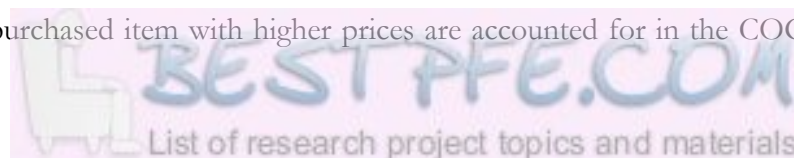
and valued in inventories. Higher prices would as a consequence generate a reduced profit level and lower income tax provisions (Bragg, 2004).

### **2.2.2 Last-In, First-Out (LIFO) inventory valuation method**

LIFO is an inventory valuation method in accounting, which is acceptable according to US GAAP but not by IFRS. According to Comiskey et al. (2008) LIFO is not allowed by IFRS since companies using LIFO show a lower income when prices increase. Hence, LIFO show a lower net income than American companies using FIFO and consequently smaller income tax provision in the United States. Until 1930, American companies used LIFO even though FIFO was the acceptable accounting standard. The applicability of LIFO was questioned since the tax payment differed between the two methods. In 1930, a verdict from the Supreme Court in United States stated that LIFO was not accepted as an accounting valuation method of inventories. However, this was changed in the Revenue Act of 1939 which allowed LIFO in accounting, but only if it was used for financial reporting as well (Hoffman & McKenzie, 2009a).

Professionals within accounting are separated between those who believe that LIFO does not show the real economic value of a company's inventory, and those who argues that LIFO is the best valuation method for inventories (Hoffman & McKenzie, 2009a). An important matter is the comparability between companies that use LIFO and the ones that do not. In 1984, AICPA proposed a rule regarding the use of LIFO as long as the American companies showed the difference between the reported LIFO and FIFO. Investors have to be able to compare the two methods in a convenient way (Hoffman & McKenzie, 2009a). Consequently, companies that use the LIFO method are required to give the information of their inventory valuation in accordance to the FIFO method as well in their financial statements. The Regulation S-X, rule 5-02 as described by Jennings, Simko and Thompson (1996) requires firms using LIFO to show the LIFO reserve in footnotes or directly in the balance sheet. The LIFO reserve is the excess of the FIFO value of inventories subtracted by the LIFO value of inventories. It is therefore essential that the information is clearly provided in the statement to make the comparison feasible for investors or other stakeholders (Hoffman & McKenzie, 2009a).

According to Comiskey et al. (2008), the LIFO method implies that the last purchased item is the first to be sold. In times of inflation and increased prices, COGS is valued high, since the last purchased item with higher prices are accounted for in the COGS. Invento-



ries on the other hand are valued low, since the value is based on items that were purchased earliest and thereby had lower prices (Comiskey et al., 2008). Consequently, profits and income tax provisions are less under LIFO in the United States than if FIFO was used. Significantly changes in a products cost over time could result in sever degression of COGS (Bragg, 2004).

### 2.2.3 Differences between FIFO and LIFO

The differences between FIFO and LIFO are several, since the two inventory valuation methods have different approaches to the valuation of inventories (Doupnik & Perera, 2009). The former SEC Chairman Harold Williams<sup>5</sup> declares the LIFO valuation as closer to the economic situation of a company, in context to inflation, than the FIFO valuation that assumes the product first purchased is the product first sold (Hoffman & McKenzie, 2009a). US issuers that use LIFO today have tax benefits and according to Comiskey et al. (2008) the percentage increase of income tax provisions with an adoption to FIFO would be 11.9 per cent, while the net income increases by 7.42 per cent.

Below, there is an example of a fictive company in the United States that values their COGS according to LIFO and FIFO during 2009. The year is assumed to follow normal price increases, in other words there are no abnormal price fluctuations. In Table 1 there are a number of transactions during the year that affects the inventory. In Table 2, the two different methods are used to calculate the inventory according to LIFO and FIFO. Table 3 and 4 present the income statement and the balance sheet of the company, in order to recognize how the two inventory valuation methods are affecting the company. Table 5 is illustrating how the differences in the inventory valuation methods are affecting key ratios.

Purchased/sold products, 2009						
Date	Number of products		Price per product	Total cost	Total sales	Number of products in inventory
	purchased	sold				
						IB 01/01/2009: 0
January, 30	1 000		\$ 5	\$ 5 000		1 000
April, 4	1 500		\$ 7	\$ 10 500		2 500
May, 7		1 000	\$ 20		\$ 20 000	1 500
July, 28		1 000	\$ 20		\$ 20 000	500
October, 10	2 500		\$ 8	\$ 20 000		3 000
December, 5		1 500	\$ 20		\$ 30 000	1 500
			<b>Total:</b>	<b>\$ 35 500</b>	<b>\$ 70 000</b>	OB 12/31/2009: <b>1 500</b>

Table 1 – Purchased/sold products

<sup>5</sup> Harold Williams was a SEC Chairman between 1977 and 1981.

In Table 1, there are no products in the Ingoing Balance (IB) in the beginning of the year 2009. The purchased and sold products during the year result in an Outgoing Balance (OB) at December 31<sup>st</sup>, 2009 of 1 500 products, which could be seen in the last column in the last row in Table 1. The numbers in Table 1 form the foundation to the calculations of the COGS and the inventories. The COGS is described in Table 2 according to LIFO and is calculated as follows: 1 500 (last purchased products from October 10<sup>th</sup>) \* \$8 = \$12 000. Since there were 1 000 products left from the amount that was bought in October 10<sup>th</sup>, the 1 000 products sold at July 28<sup>th</sup> are calculated to the October price (1 000 \* \$8 = \$8 000). Finally, the last 1 000 products are determined by the price on April 4<sup>th</sup> (1 000 \* \$7 = \$7 000). This results in COGS according to LIFO, to a total amount of \$27 000, illustrated in Table 2. According to the FIFO method, COGS is calculated in the opposite way. The last purchased inventories are kept in the inventory at the end of the year. Therefore, we take 1 000 products (from January 30<sup>th</sup>) \* \$5 = \$5 000, 1 000 products (from April 4<sup>th</sup>) \* \$7 = \$7 000 and 500 products (the residual amount from April 4<sup>th</sup>) \* \$7 + 1 000 products \* \$8 (price of October 10<sup>th</sup>) = \$11 500. This will give a total COGS according to FIFO, of \$23 500, and is provided in Table 2.

The value of inventories could be calculated by counting both methods in the opposite way as COGS was calculated. Therefore, the COGS according to LIFO is calculated by taking the 1 000 products that were purchased in January 30<sup>th</sup>, plus the rest of the 500 products that were purchased in April 4<sup>th</sup> [(1 000 \* \$5)+(500 \* \$7)] to receive the value of inventories to \$8 500 in Table 2. To get the valuation according to FIFO, the last purchased products in 2009 (from December 5<sup>th</sup>) are accounted with the price from October 10<sup>th</sup> (1 500 \* \$8) to get the valuation of inventories to \$12 000 provided in Table 2.

Valuation of inventory: 12/31/2009			
Calculation LIFO	LIFO	Calculation FIFO	FIFO
1500*\$8	\$ 12 000	1000*\$5	\$ 5 000
1000*\$8	\$ 8 000	1000*\$7	\$ 7 000
1000*\$7	\$ 7 000	500*\$7+1000*\$8	\$ 11 500
<b>COGS</b>	<b>\$ 27 000</b>		<b>\$ 23 500</b>
<b>Inventory:</b>	<b>\$ 8 500</b>		<b>\$ 12 000</b>
LIFO reserve:	\$ 3 500		
Control:	\$ 35 500		\$ 35 500

Table 2 – Valuation of inventory

The LIFO reserve is the difference between the valuation of inventories according to FIFO and LIFO and is calculated in Table 2. The LIFO reserve can be revealed directly in

the balance sheet. In this case, the LIFO reserve is determined by taking the FIFO value of inventories (\$12 000) minus the same value according to LIFO (\$8 500). This results in a LIFO reserve of \$3 500, which LIFO companies are demanded to show according to SEC.

In order to illustrate the effects of the differences between the valuation methods LIFO and FIFO, there is a simplified income statement conducted in Table 3. The sales of \$70 000 are the same according to both LIFO and FIFO and are calculated in Table 1, summarized at the bottom of Total sales. The COGS is determined from Table 2 and is smaller according to FIFO. The effect of net income is therefore significantly smaller according to LIFO and would affect the amount of tax payable and is thereby adding to Bragg's (2004) theory. The percentage increase of net income in the example between LIFO and FIFO less than 2009 is 9.2 per cent (\$41 500/\$38 000).

Income statement: 12/31/2009		
	LIFO	FIFO
Sales	\$ 70 000	\$ 70 000
COGS	\$ 27 000	\$ 23 500
Net income	\$ 43 000	\$ 46 500

Table 3 – Simplified income statement

In Table 4, two balance sheets are presented according to both LIFO and FIFO. The numbers of current assets, other assets, current liabilities and other liabilities are fictional numbers. In the balance sheet of LIFO, the inventories are presented according to FIFO (\$12 000), but with minus \$3 500 illustrated as the 'LIFO reserve' right below. In this case, the LIFO reserve is showed directly in the balance sheet, but could instead be illustrated in

Balance sheet - LIFO: 12/31/2009			
<b>Assets</b>		<b>Shareholders' equity</b>	
Current assets (excluding inventories)	\$ 120 000	Shareholders' equity	\$ 198 500
Inventories (FIFO)	\$ 12 000	<b>Liabilities</b>	
LIFO reserve	\$ -3 500	Current liabilities	\$ 40 000
Other assets	\$ 130 000	Other liabilities	\$ 20 000
		Total liabilities	\$ 60 000
<b>Total assets</b>	<b>\$ 258 500</b>	<b>Total shareholders' equity &amp; liabilities</b>	<b>\$ 258 500</b>
Balance sheet - FIFO: 12/31/2009			
<b>Assets</b>		<b>Shareholders' equity</b>	
Current assets (excluding inventories)	\$ 120 000	Shareholders' equity	\$ 202 000
Inventories (FIFO)	\$ 12 000	<b>Liabilities</b>	
Other assets	\$ 130 000	Current liabilities	\$ 40 000
		Other liabilities	\$ 20 000
		Total liabilities	\$ 60 000
<b>Total assets</b>	<b>\$ 262 000</b>	<b>Total shareholders' equity &amp; liabilities</b>	<b>\$ 262 000</b>

Table 4 – Balance sheet LIFO/FIFO

footnotes. With the LIFO reserve and the valuation of inventories illustrated in the balance sheet, investors are able to easily compare a company using LIFO with a company using FIFO. The shareholders' equity is calculated by subtracting the total liabilities from the total assets and is consequently \$3 500 smaller in the balance sheet of LIFO, since the LIFO valuation of inventories is affecting the total assets with \$3 500 as well.

Table 4 also presents the assets and liabilities of the company, which are the foundation to the key ratios presented in Table 5. The current ratio is calculated by dividing the current assets (current assets includes inventories and is illustrated in Table 4) [(LIFO: \$120 000 + \$8 500) or (FIFO: \$120 000 + \$12 000)] with the current liabilities (\$40 000) and is a measurement of the liquidity used in order to reveal the ability to cover the short-term debts (Doupnik & Perera, 2009). The current ratio is severely higher under FIFO, since the inventory is higher under FIFO than under LIFO. Therefore, using FIFO indicates a superior obligation to meet the short-term obligations. Shareholder's equity is used to calculate the debt-to-equity ratio by dividing total liabilities (\$60 000) with the shareholder's equity [(LIFO: \$198 500) or (FIFO: \$202 000)]. Consequently, the debt-to-equity ratio under LIFO is higher and indicates that total amount of debts used under the LIFO method is higher to finance the company (Ross, Wethersfield, Jaffe & Jordan, 2008).

Key ratios	LIFO	FIFO
Current ratio	3,21	3,30
Shareholder's equity	\$ 198 500	\$ 202 000
Debt-to-equity ratio	0,302	0,297

Table 5 – Key ratios

### 3 The US adoption towards IFRS

#### 3.1 SEC's Roadmap

According to Doupnik and Perera (2009) all public limited companies in the United States have to use US GAAP for their financial statements. Since 2007, non-American companies listed on the US stock exchanges are allowed to use accounting standards from their jurisdiction as long as they provide some information in accordance to US GAAP in their financial statements. As a result of the crash in the US stock exchange market in 1929, the Securities Act of 1933 and the Exchange Act of 1934 created the SEC. Before the crash there were no regulations that protected the investors. The SEC is protecting all investors, corporate and private, at the same time as they make the markets efficient and capital available. The regulations that are focused on security of investors, corporations as well as indi-

viduals in the United States, agree that the financial information from companies should be official and accessible (Securities and Exchange Commission, 2010-03-28). The SEC recommended that FASB should work together with IASB when establishing principles to reduce the differences between US GAAP and IFRS. In 2002, a convergence project was created between FASB and IASB with the objective to develop and aim for a global accounting system (Securities and Exchange Commission, 2010-03-29b).

In 2008, the SEC presented a Roadmap as a step towards an adoption from US GAAP to IFRS. The SEC is convinced it is crucial to have a single-set of high-quality global accounting standards that could be adopted in the United States, and has stated as follows:

*“We believe that IFRS has the potential to best provide the common platform on which companies can report and investors can compare financial information”*

(Securities and Exchange Commission, 2010-03-29a, p. 9).

The SEC Roadmap explains that the reason for the importance of the US adoption to IFRS is because of the large amount of American companies that have expanded outside of the United States. As a consequence, more of the investors in the United States companies are non-American at the same time as the US investors are investing in non-American companies. Therefore, it would be more beneficial for them to be able to compare the financial statements of American companies with non-American companies (Securities and Exchange Commission, 2010-03-29a). The SEC has in the Roadmap declared seven milestones to be achieved before a full implementation of IFRS could be done. These milestones are an important factor to consider before the SEC can approve the adoption from US GAAP to IFRS and are generally presented below.

1. **Improvements in accounting:** In accordance to the Norwalk Agreement, IASB and FASB are developing a work plan to be revalued in 2011 by the SEC. An investigation by the SEC will examine if the accounting standards, presented in IFRS are of high quality and are comprehensive. Additionally, the SEC encourages a further cooperation between IASB and FASB in order to have continued high-quality accounting standards.
2. **Accountability and funding of the IASC foundation:** The SEC recognizes a large problem regarding the funding of IASB. For the IASB to be kept independent, the goal from IASC to have a secure and stable funding must be solved before

the United States should adopt the IFRS system. The SEC also raises the question of what organization that will be responsible for the over-sighting of US companies' usage of IFRS.

3. **Improvement in the ability to use interactive data for IFRS reporting:** With the usage of IFRS in the United States, the SEC requires US companies to provide their financial statements in the form of interactive data, to obtain more useful information to investors. This data is not mandatory for US companies before an adoption and is therefore not available today.
4. **Education and training:** The proposed US adoption to IFRS requires education about IFRS for US issuers, accountants and auditors. It is also important for investors to realize and understand the opportunity arising with one set of accounting standard. An adoption of IFRS by the United States will lead to easier direct comparisons between American and non-American companies. IFRS has to be included in the Certified Public Accountant (CPA)-tests for auditors, at the same time as universities and colleges have to include IFRS in their education.
5. **Limited early use of IFRS where this would enhance comparability for U.S. investors:** The SEC suggests amendments in their rules and regulations, which would permit some of the largest US companies within industries, where IFRS is used, to apply IFRS before it is completely implemented. This will allow comparability for investors between US companies and non-US companies within the same industry to comment and evaluate IFRS before a potential full implementation.
6. **Anticipated time of future rulemaking by the commission:** The SEC presents recommendations for continuance of an adoption to IFRS in 2011 in order for US public limited companies to be able to prepare their financial statements in accordance to IFRS from 2012. The SEC further suggests a mandatory usage of IFRS, to improve the comparability between US companies and non-US companies. Since a limited number of companies can use IFRS, while other companies will continue to use US GAAP, both accounting standard systems will be in use in the United States. This would therefore cause problems and confusion in the comparison of financial statements among investors and auditors.

7. **Implementation of mandatory use of IFRS:** In the Roadmap, the SEC suggests conducting the US adoption to IFRS in three stages in order to create a smoother transition for small companies with few resources. By using stages, auditors and consultants are able to adopt IFRS as well. The first stage consists of 'large accelerated filer' that will start use IFRS for the fiscal year that ends in December 15, 2014, or after this date. Next stage will start in December 15, 2015 and contains 'accelerated filer', while the last stage will begin in December 15, 2016 and includes 'non-accelerated filer'.<sup>6</sup>

The SEC expresses in their second part statement of the Roadmap from March 2, 2010 (Securities and Exchange Commission, 2010-03-29b) that the consideration of the adoption of IFRS is still in the executive process to be decided in 2011. The decision of a switch in accounting standards systems for US public limited companies is based on the continuance of the convergence project as well as the milestones set up by SEC, where an evaluation of the convergence as a feasible option to the adoption is included. Stakeholders in different industry markets have commented on the Roadmap and the comments are presented in the second statement (Securities and Exchange Commission, 2010-03-29b). The time period for first implementation is extended to the earliest 2015 because of the comments of the Roadmap, which express the need for a longer implementation period. The commenters give positive critique towards a single-set high-qualitative global accounting system, where the benefits recognized of this were to a large extent similar to the ones discussed by the SEC before the Roadmap was published. The negative aspects in the comments are how the adoption process to IFRS is supposed to be conducted (Securities and Exchange Commission, 2010-03-29b).

Another subject raised in the second statement implies that a shift to IFRS will generate a need for a modification of the federal codes as well as tax codes, which regulate the financial methods for inventory valuation. A continuance of these codes after an adoption of IFRS would cause that LIFO is maintained for tax purposes. Switching from LIFO to FIFO would be the other option, from which a higher income tax provision and revenue will occur for the companies using LIFO today. They would thereby suffer in two areas at the same time; costs for implementing the new standards and costs in form of increased in-

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<sup>6</sup> 'Large accelerated filer' and 'Accelerated filer' are described in *Exchange Act Rule 12b-2* [17 CFR 240.12b-2] cited in Securities and Exchange Commission, 2010-03-29a, p. 35. 'Non-accelerated filer' are used in the Roadmap to describe companies that do not meet the requirement in Rule 12b-2.



come tax provisions (Securities and Exchange Commission, 2010-03-29b). A continued use of LIFO is not an option since the SEC issues the importance of adopting IFRS completely. The SEC declares that the decision of a full implementation of IFRS is dependent on whether countries use IFRS fully or if local variants are applied. Local variants of IFRS eliminate the long-term goal of comparability between countries and jurisdictions (Securities and Exchange Commission, 2010-03-29b).

Even though the SEC Roadmap is recently published, the inventory valuation methods LIFO and FIFO and their effects on companies accounting has been researched for decades. Some of these studies are provided in the following section, 3.2 – Historical aspects and usage of LIFO by US companies. The subject has become more intense since the proposal from the SEC to adopt IFRS as the accounting system in the United States instead of US GAAP, and is presented in section 3.3 – Research regarding LIFO consequences of a US adoption to IFRS.

### **3.2 Historical aspects and usage of LIFO by US companies**

Dopuch and Ronen (1973) conduct an experimental study of how US companies choose methods for inventory valuation and what affect this have on their resource allocation. They concentrate their research on two companies where clear inventory information is provided, to be able to translate valuation method in use from either LIFO to FIFO or FIFO to LIFO. The decision of investing capital in these companies is tested in relationship to each other, using LIFO or FIFO with the respect to the other company's use of valuation method. The results Dopuch and Ronen (1973) receive from the responses in their study are that there are small FIFO-effects and LIFO-effects when focusing on different key ratios. In almost all of the cases there were no effect when using either of the valuation methods. The conclusion is that the numbers of valuating inventory deceives investors differently.

Cohen and Pekelman (1979) study differences in the benefits between LIFO and FIFO and companies that switch from FIFO to LIFO, when valuating inventory. They find that by choosing LIFO before FIFO the inventory is used more effectively as well as the benefits, such as lower income tax provisions, increase in the short- and long-run. However, the benefits of using the LIFO method are complicated to calculate which creates unwillingness among managers to implement this method. This is a reason why companies have not applied this method for valuating inventories.

Dopuch and Pincus (1988) investigate further reasons for firms to choose one inventory method over another, concentrating on FIFO and LIFO with the respect to tax and non-tax causes. They emphasize the fact that there must be a reason why all US companies have not switched to LIFO when they can save money on the tax payment. According to former research examined in the article, this can be the cause of an apprehension of a negative reaction from investors and shareholders because of a shift to LIFO. Dopuch and Pincus (1988) find that an American company needs to reach a certain level of prospected tax savings in order to be willing to switch the valuation method of inventories. Companies having the perception of not reaching this level will therefore not conduct the change to LIFO.

Hughes and Schwartz (1988) examine the possible effects of a shift from FIFO to LIFO and why companies may not conduct the change despite the tax advantage of LIFO. They present a model where the managers of a company hold information of future cash flow or continue using the FIFO method. The model is based on the assumption that managers have access to more of this knowledge than the investors and are therefore eligible to decide a shift in valuation method. The information of prospected future of the company's cash flow and stock price is provided to the investors through the shift in or consistency of method. Hughes and Schwartz (1988) conclude that by using this model, the availability to the information about the future outlook in cash flow and stock prices in a company differ between the managers and the investors of it because of differences in company insight.

### **3.3 Research regarding LIFO consequences of a US adoption to IFRS**

Comiskey et al. (2008) are investigating what consequences the change of inventory valuation method, from LIFO to FIFO, will generate with an adoption to IFRS in the United States. They study the 30 largest US companies with the highest degree of exposure to LIFO. Comiskey et al. (2008) use five perspectives in order to examine how a shift in valuation method of inventory will affect the US companies. These are described as follows: (1) The impact of a change from LIFO to FIFO will cause a higher pre-tax income of the sampled firms, which will increase the income tax provisions. (2) Impact on earnings from a FIFO petroleum subsample show an increase of earnings from 13 to 113 per cent. (3) The current ratio<sup>7</sup> will increase from a FIFO implementation as a proof of an increased

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<sup>7</sup> Current assets/Current liabilities

capacity to meet the obligations from the stakeholders' interest. Comiskey et al. (2008) argues, despite this, that the increased current ratio is not affecting the public image of a company, since the LIFO accounting effects are well understood by the lenders. (4) A raise in income and thereby an increase in net income, from a FIFO valuation implementation, will cause a raise in shareholders' equity<sup>8</sup>. (5) A decrease in debt to equity ratios<sup>9</sup> from a shift from LIFO to FIFO is caused by an increase in shareholders' equity, as liabilities are held constant. This will provide an impression of a lower financial leverage than using the LIFO inventory valuation method. Comiskey et al. (2008) continue discussing the consequences of abandoning the LIFO method and indicate that there is no significant research that proves the weaknesses of using LIFO. The US companies net income and a number of ratios will show higher values which is an effect of a change in the accounting method of valuating the inventories, not an effect of an increased efficiency, as can be the deduction from an outside perspective.

Satin and Lin (2009) study the aspects of the prospective removal of LIFO caused by a US adoption to IFRS among practitioners and accounting professors in California, United States. The research show coherent conviction within the accounting faculty that the United States will ask for a carve-out<sup>10</sup> of IFRS. The practitioners are conversely divided in two ways were 50 per cent are certain that a carve-out will be demanded by the United States, while the other half are convinced of a full adoption to IFRS. Satin and Lin (2009) conclude that the United States will ask for a carve-out of IFRS, even if it will not be accepted by IASB.

Mock and Simon (2009) discuss that it is strange that SEC suggests a shift from a rule-based system to a principle-based system considering the effects of the financial crises in the late 2008. This is since most companies that use the LIFO method are oil, gas and manufacturing companies, which are vulnerable to inflation. These companies tend to use LIFO because it values the last purchased item in inventory and therefore delay the effect of inflation of the inventory. Mock and Simon (2009) find that the LIFO valuation method is more accurate during inflations since the COGS is valued to the last purchased items which reflects the reality better. They also explain that the petroleum and natural gas indus-

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<sup>8</sup> Total assets-Total liabilities

<sup>9</sup> Total liabilities/Shareholders' equity

<sup>10</sup> A carve-out is when a jurisdiction asks for an exception or modification of a certain part that they do not like or agree with in the proposed rule.

tries have the largest percentage of inventory valuation according to LIFO. 63.82 per cent of all LIFO-reserves in the United States come from these two industries. Mock and Simon (2009) draw the conclusion that the removal of the LIFO valuation method will cause raised costs in form of income tax provisions. At the same time the companies with a continued usage of the LIFO method, are required to measure and present the inventories according to both LIFO and FIFO in their financial statements. However, Mock and Simon (2009) argue that the removal of LIFO will occur, but with an extension of the deferral period<sup>11</sup> from four to eight years.

Bloom and Cenker (2009) examine how US companies will be affected by a US adoption to IFRS from the tax perspective. They explain that an increase in an entity's liability as a cause of a change in the accounting standards systems from US GAAP to IFRS can be divided during four years. If the companies will apply FIFO correctly, the total tax payment can be paid with one-fourth the first year, while the rest can be located in Deferred Tax Liability Account. An incorrect applied FIFO method will force the companies to pay the tax debt with the full amount during the first year (Bloom & Cenker, 2009).

A shift in valuation method for inventories, from LIFO to FIFO, will have the affect that the entire first year will be accounted for with FIFO. Regardless of what time during the year a shift in valuation method of a US adoption of IFRS actually occurs (Bloom & Cenker, 2009). Further they explain that the potential periods, to which the first year must be compared for tax purposes, are also required to be changed because the comparison; (1) reflects an increase or decrease of the opening balance of the inventory, and (2) reflects an increase or decrease in retained earnings. Additionally, (3) the comparison will reflect an adjustment for income taxes. Bloom and Cenker (2009) are finally discussing the different possible options retaining LIFO;

- maintain the use of both IFRS and US GAAP in the financial statements
- extend the time period of four years for which the tax obligations are due
- continued use of US GAAP for small companies and adoption of IFRS for larger companies.

Bloom and Cenker (2009, p. 49) end their article by declaring that it is *“premature to say that LIFO is on its deathbed”*.

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<sup>11</sup> Payback period of taxes as a consequence of the LIFO removal

Hoffman and McKenzie (2009a) explain the LIFO Conformity Rule, which is the tax regulation that allows companies to use LIFO for tax purposes in the United States as long as they use the LIFO method for financial statements. They indicate that the companies using this method today are not willing of switching to IFRS. A US adoption to IFRS will enhance the focus of comparability and reliability in the accounting standards. The comparability after an adoption will increase to include foreign companies as well. An alternative to permit American companies to choose to use IFRS or not, creates a non-comparable environment, according to Hoffman and McKenzie (2009a).

George R. Husband (cited in Hoffman and McKenzie, 2009a), has the perspective of LIFO as an inventory valuation method for avoiding tax payments as well as an incorrect accounting method, and describes LIFO as a “*manipulation of income*” (Hoffman & McKenzie, 2009a, p. 36). This is an approach reflected by the United States government’s suggestion to remove the LIFO method, as expressed in President Obama’s 2010 budget proposal. At the same time, Hoffman and McKenzie (2009a) describe sympathizers of LIFO, such as former SEC Chairman Harold M. Williams, who argues that this valuation method is the most accurate since it includes inflation in the valuation of inventory. Several organizations and companies desire the maintenance of the LIFO method as well, which contradicts the proposal from the United States government. Hoffman and McKenzie (2009a) explain that this conflict is about money; the companies want to decrease the payments in form of taxes and the government desires the income of the taxes. Compromises to preserve LIFO as a valuation method for inventories are presented by Hoffman and McKenzie (2009a) as alternatives to the full US adoption of IFRS, as suggested in SEC’s Roadmap. One option is to allow LIFO with a demand of footnotes with a comparison of the approved inventory valuation methods. Another approach of compromising will be to modify the adoption to IFRS by re-interpret and thereby clearer specify the requirements of LIFO. This will generate a smooth adoption to IFRS for US companies.

Kelly (2009) is convinced that the removal of LIFO can become a reality with a US adoption to IFRS. Robert Kilinskis at Deloitte (cited in Kelly, 2009) explains that it is a good chance that “*we’ll lose LIFO, either through legislation or IFRS*” (Kelly, 2009, p. 16). Further, Kelly (2009) discusses the previous research by Comiskey et al., 2008, which investigate companies and their prospective tax payments as a consequence of a removal of LIFO. At the same time, other research express that a repeal of the LIFO method will cause bankruptcy for a number of US companies. Additionally, Kelly (2009) argues if a removal of

LIFO for financial reporting can still imply a continuous use of LIFO for tax purposes in the United States. Kelly (2009) concludes by doubting the preserving of LIFO for tax purposes for companies in the United States, by linking to Kilinskis again that declares; *“if you take away conformity, more companies would adopt LIFO and it could cost the government money”* (Kelly, 2009, p. 16).

Hoffman and McKenzie (2009b) examine the conformity requirement and if the shifts in regulations, as a cause of the convergence project between IASB and FASB, will establish a complete removal of LIFO in the United States. They are certain that the convergence of IFRS and US GAAP to an International GAAP (gap), will result in that both accounting standard systems will be changed. This is in order to create an accounting standard system which is a compromise between IFRS and US GAAP, not an adoption of IFRS (Hoffman & McKenzie, 2009b). Several convergence issues were discussed on an active or research agenda, between the years 2006-2008. However, the LIFO method was not on any of these agendas. In contrast to this, Hoffman and McKenzie (2009b) pronounce that a special rule allowing LIFO as a valuation method of inventories for companies in the United States will be the opposite to both FASB's and IASB's objectives of comparability. Therefore, it is not a preferable option to have alternative rules for companies in the United States than for companies in other countries. This does not, as Hoffman and McKenzie (2009b) explain, prevent LIFO to be used for tax purposes in the United States, since FASB or IASB have the authority to regulate that. Instead, the American Congress is responsible for the decision concerning the continued valuation according to the LIFO method for tax purposes in the United States. Hoffman and McKenzie (2009b) are questioning if the full adoption and convergence project to one set of accounting standards can be jeopardized by the rule of permitting the use of LIFO in the United States. They conclude, from this, that the decision from the Congress is an important step for the future of LIFO valuation of inventories for tax purposes. Consequently, the communication between organizations, businesses and the government is crucial, since there are several arguments to consider for maintenance of LIFO.

In their article, Bratton and Cunningham (2009) compare IFRS and US GAAP and treat different implications from the differences. Overall, they express a negative approach towards an adoption from US GAAP to IFRS and the convergence of these accounting standard systems. Bratton and Cunningham (2009) relate to a research by Professor James D Cox when performing their study and agree with him regarding the concern of having an

option of using IFRS for US issuers. As an example Bratton and Cunningham (2009) explicate that the SEC Roadmap discusses a comparison of IFRS and US GAAP on “*only three of its 165 pages*” (Bratton & Cunningham, 2009, p. 3). A motivation of the concern regarding IFRS is, as Bratton and Cunningham (2009) argue, having more opportunities<sup>12</sup> would generate less comparability since companies could use different methods appropriate for all of them separately. When investigating the inventory accounting perspective, Bratton and Cunningham (2009) describe US GAAP as the accounting method being most flexible, since it covers both FIFO and LIFO. With increased prices, FIFO will show the inventory value most close to the current value and as a consequence, having the most true value in the balance sheet. LIFO on the other hand will reflect the COGS more close to the current value in the income statement.

Sharma (2010) investigates the consequences of a LIFO removal in the United States and explains that an investigation of the tax consequences is necessary in order to fully understand the impact on the legal system. She raises the issue that the Internal Revenue Code only allows the use of the LIFO method for taxable income if it is also used in the financial statements. With an adoption, the alternative to use LIFO for financial statements would be eliminated and as a consequence, the usage of LIFO for taxable income would disappear. This would cause increased income tax provisions by more than one hundred billion dollars for the US companies using LIFO. Sharma (2010) further explains that the increased income tax provisions are creating a negative image towards the use of IFRS as the accounting standards system in the United States instead of US GAAP. As a conclusion, Sharma (2010) clarifies that a law that will permit the use of LIFO for tax purposes in the United States should be approved to receive and maintain the support for IFRS as the one-set accounting standards system in the world.

To summarize, there are several interesting contradictions when connecting the research in this subsection to each other. Comiskey et al. (2009) find differences in the key ratios; current ratio and debt-to-equity ratio, among the companies studied as a cause of the shift in inventory valuation methods from LIFO to FIFO. These key ratios illustrate a large difference in the financial statements, which can be interpreted as an increase in efficiency. The question if LIFO should be eliminated is raised by Comiskey et al. (2009) who argues that

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<sup>12</sup> IFRS are, in some areas, permitting more alternatives than US GAAP. *Roadmap for the potential use of financial statements prepared in accordance with International Financial Reporting Standards by U.S. issuers.* (www.sec.gov, 2010-03-29a, p. 43)

there is no research that show LIFO as a untrustworthy method for valuation of inventories. LIFO is referred to as the most accurate valuation method of inventories by Mock and Simon (2009) as well as the former SEC Chairmen Harold M. Williams (cited in Hoffman & McKenzie, 2009a), since the inflation is reflected in this method and therefore, the inventories show the true value. Opponents to LIFO are on the other hand convinced that this valuation method of inventory show a value that does not reflect the reality and therefore used by companies solely in order to lower the costs of tax payments. In the research by Satin and Lin (2008), this is evident where accounting professors as well as 50 per cent of the practitioners asked are convinced that the United States will request a carve-out from IASB during a US adoption to IFRS.

An adoption of IFRS in the United States will generate a repeal of LIFO for US companies. This is to enhance the comparability between companies in the world in order to increase the investors' ability to compare international companies by the provided financial statements (Hoffman & McKenzie, 2009a). In order to create a reasonable chance for the companies using LIFO the deferral period should be extended from four to eight years, in accordance to Mock and Simon (2009). The American companies using LIFO will have high costs in form of shifting the valuation methods, which stakeholders have recognized by presenting alternatives for how to prevent the removal of LIFO. An option to a total disappearance of LIFO is to allow the method for tax purposes in the United States while using another inventory valuation method in the financial statements. As Hoffman and McKenzie (2009b) explain, the method used for tax payments is not regulated by FASB or IASB and can therefore be decided separately by the United States government. This is a proper option to a total reveal of LIFO and a cost saving for the companies using it. We find that a removal of LIFO in the financial statements for US companies is a necessary consequence to create more comparable companies worldwide. This is presented more in detail in the following subsequence and concluded in the next chapter.



### **3.4 Effects of a LIFO removal if IFRS is implemented in the US**

In order for companies to expand internationally, more than one accounting standards system have to be used for financial statements to follow all countries specific accounting rules. This is a process that is costly and time consuming. As an example, US GAAP<sup>13</sup> and IFRS have to be used for a company situated in both the United States and Europe. A large difference between these two accounting standards systems in the financial statements is the inventory valuation methods accepted. US GAAP allows the LIFO method while IFRS does not. According to IFRS, as declared by Bratton and Cunningham (2009), LIFO is not a trustworthy valuation measure since it does not provide the true picture of the economic reality within the company. This supports George R. Husband's (cited in Hoffman and McKenzie, 2009a) statement that using LIFO is a way of manipulating and hiding the income. Comiskey et al. (2008) on the other hand argue that there is no explicit evidence that prove LIFO to be a less valuable method for establishing inventories.

Cohen and Pekelman (1979) show in their research that there is no clear way of measuring the benefits of the different inventory valuation methods. On the other hand, Dopuch and Ronen (1973) did not find any benefits of using LIFO instead of FIFO with the respect to investment. This indicates that the only objective to consider keeping LIFO will be to save money on tax payments. From Table 1 and Table 2 we can easily deduce how the COGS is larger according to the LIFO method. As a consequence Table 3, specifies a decrease in net income under LIFO which will generate a smaller amount of tax to be paid and therefore, saving money. Even though there is less income tax provision under LIFO, the inventory account in the balance sheet is smaller as well under LIFO, which is illustrated in Table 4. The LIFO reserve decreases the total value of inventories under LIFO valuation. Despite this, the cost of implementing a new system of valuating inventories can not be argued as large, since companies using LIFO today have to show how the inventories will be valued according to FIFO as well. Therefore, we can draw the conclusion that it is just a matter of not being willing to increase the profit and thereby increase the income tax provision. A question still not answered is why not more companies are using the LIFO method since it is subsequently economically beneficial. Dopuch and Pincus (1988) find that a certain level of prospected tax savings is necessary for US companies in order to be willing to switch to

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<sup>13</sup> Exception are made for foreign companies in the United States that are allowed to use IFRS without filing US GAAP if the financial statements are done according to IASB's IFRS. ("Acceptance from Foreign Private Issuers of Financial Statements Prepared in Accordance with International Financial Reporting Standards without Reconciliation to U.S." Release No. 33-8879 cited in www.sec.gov, 2010-03-29a)

the LIFO method. An interesting question is if this is still applicable today, over 20 years later, or otherwise, why are not more American companies using LIFO?

According to AICPA (2008), LIFO is used by approximately 36 per cent of all limited US companies (cited in Comiskey et al., 2008). These are mostly companies within the oil, gas, and manufacturing industries, which are most vulnerable to inflation. The industries affected are both large and powerful within the society which will make a complete adoption difficult for the SEC. Bloom and Cenker (2009) are convinced it is too soon to pronounce that there will be an ending of the LIFO method within a future in sight. Even though, a US adoption of IFRS now or in the near future will most likely occur. Mock and Simon (2009) on the other hand, argues that it is strange to move towards the rule-based perspective when the United States still face the effects from the financial crisis that started in the end of 2008. To answer that, our opinion is that the SEC did not foresee a financial crisis when they started the adoption project. Even so, it is a long-term perspective to have one set of accounting standards in the world.

If the adoption of IFRS will occur as suggested by the SEC, the LIFO method would disappear and affect the large amount of companies using it. These companies will have costs of implementing a new method for valuating their inventories, but also from the affect that this has on the net income and thereby the tax payments. These tax payments will both be addressed to them at one time and may generate bankruptcy of smaller firms. The government provides one solution to this problem where companies that switch to FIFO and apply this method in the correct manner will get a Deferred Tax Liability account. This account will have the appearance of a loan where they can pay off the excess in tax payments when possible during the time period of the deferral. The United States tax laws have to be changed, according to Sharma (2010), to maintain the LIFO method for tax purposes in order to obtain support of IFRS from American companies.

The two standard-setters of US GAAP and IFRS, FASB and IASB are both focusing on the importance of comparability between financial statements given by companies. Convergence of the two standards systems will lead to an enhancement of this, which is shown by the convergence project where the two boards are conjoining in order to create new standards that are identical in both accounting standards systems (Doupnik & Perera). This is a slow process that will take many years to complete. A US adoption to IFRS is a faster and, in our opinion, more efficient alternative to the convergence where companies are

provided new standards at once instead of receiving new standards over a long period of time. Although authors such as Hoffman and McKenzie (2009b) argue that there will be no adoption, our research has made us convinced of an occurrence of a US adoption to IFRS, sooner or later. An adoption to IFRS where a removal of LIFO is included will increase the comparability of companies in the world but also credibility of companies when they all show financial statements under the same conditions.

Another effect of a shift from LIFO to FIFO is, despite from the increase of earnings and net income, that some of the key ratios are affected by the change in the inventories. An example is the research made by Comiskey et al. (2008), who are investigating the effects of increased ratios. As a simple example, Table 4 proves the differences in key ratios dependent on if LIFO or FIFO is used. A switch from LIFO to FIFO will present better figures in these ratios. As verification, our example revealed an increase in net profit by 9.2 per cent, which is close to Comiskey et al.'s (2008) research. Comiskey et al. (2008) reveal that even though US companies will show better figures with a shift in inventory valuation method, investors and other stakeholders will not fall for the impression of a sudden increase in efficiency. Instead, the stakeholders have the knowledge about what effects a switch from LIFO to FIFO would cause. Even if we can 'accuse' the increased revenue and ratios on the shift in valuation method of inventory, we do not believe that investors will not think of it as a good step for the companies. Because as the Center for Audit Quality finds from the survey – a majority of the US investors will increase their confidence if an adoption of IFRS in the United States will occur (Center for Audit Quality, 2010).

The Roadmap which was published in 2008 has been commented on by professionals that are affected by the change, and are described in the second statement from the SEC. They agree to the goal of having a global accounting standard system, but not of the way as it is supposed to be implemented. Many of the commentators are questioning the removal of LIFO and the US implementation of IFRS within four years. They predict that the time for the change from LIFO is too short and that this should be lengthened to a minimum of five years. This is closer to the proposal specified by Mock and Simon (2009) where the implementation period should be extended to eight years. Alternatives to the elimination of LIFO are also provided in the second statement of the Roadmap, which violate with the SEC's condition of an entire acceptance of the IFRS. The options that Bloom and Cenker (2009) specify to a removal of LIFO raise earlier issues such as; maintaining both IFRS and US GAAP, extend the time period for implementation, and keeping US GAAP for small

companies. These ideas are useful alternatives, although we are convinced that these will not come true, at least not in a long-term perspective. This is since they violate with the IASB and FASB's intention – to have one accounting standards system to enhance the comparability. Within the United States, it will be confusing for investors having two accounting methods.

### **3.5 Consequences of LIFO with a non-adoption of IFRS in the US**

The SEC is demanding the whole IFRS system as a subject of adoption in the United States in order to reach the goal of creating a single global arrangement for accounting standards. According to the Roadmap, it is a procedure of implementing all the standards in IFRS or keeping the existing standards, without compromises. The consequences with a non-adoption is that local IFRS will not lead to a global accounting standards system and the goal of this will be forgone. Additionally, if the United States will be allowed a carve-out in order to maintain LIFO, the companies using LIFO would still be forced to state the inventories valued by both LIFO and FIFO. This also generates an option for other countries to claim a local variant of IFRS and would then create similar but not identical standards systems all over the world. Consequently, this will prevent the comparability between companies in different countries, which was the original objective with the adoption. Therefore, it is important, in our opinion, that all countries that have adopted local variants of IFRS, should implement IFRS fully. That will initiate a comparison of the United States together with the countries using IFRS feasible. By having one set of accounting standards, investors could be able to compare two companies from different countries, which after all is the intention.

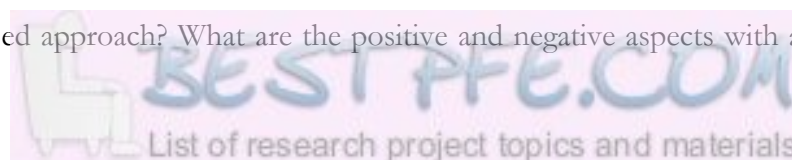
Even if almost all articles and authors included in this thesis consider a work towards a one-set of accounting standards to be good, there are some that question it. Comiskey et al. (2008) present that there is no significant proof that shows any weakness of LIFO. Bloom and Cenker (2009) also brought up, in their article, that one alternative could be to keep both LIFO and FIFO; since they do believe it is too early to confirm a complete removal of LIFO. Even since these articles provided useful alternatives and ways of thinking regarding the removal, we are determined that SEC is convinced that moving toward IFRS in the United States is the long-term preferable choice. This is why an option of a non-implementation of IFRS is not an alternative. On the other hand, the choice of implementing the IFRS system but maintaining LIFO for tax purposes in the United States can be an

option. Satin and Lin's (2009) investigation show a coherent conviction from the accounting faculty in California that the United States will ask for a carve-out, while only 50 per cent of the practitioners suppose this. Hoffman and McKenzie's (2009a) have a suggestion of having a requirement of showing the alternative ways in the footnotes. That however, is very close to the requirements of the use of LIFO for financial statements today. Is it not better to present the information in the balance sheet directly, by using FIFO? In that case, there will be no questions about where the information can be attained. In Hoffman and McKenzie's (2009b) other article they emphasize their conviction of a non-adoption of IFRS in the United States, but that they instead will both change over time with convergence project. To have a special rule or apply for a carve-out is not what we consider to be a preferable alternative. It will only generate more alternatives, and specialties that can cause problems and confusion among investors. SEC's intention and the goal of IFRS are after all to increase comparability. By having these rules, a part of the foundation of the whole one-set of accounting standards system will be destroyed. This is why we do not consider that the United States will apply for a carve-out. On the other hand, we are convinced that an application of an extended deferral period will occur, which is a preferable idea. The IFRS should be implied completely or not at all.

The credibility of IFRS as the one international accounting standards system in the world can be argued. Bratton and Cunningham (2009) indicate that IFRS is having more opportunities than US GAAP and therefore, will still not create a single set of accounting standards. IFRS is to its nature not as descriptive as US GAAP, which is the intention from IASB. To have everything reflected is easy and comfortable, but at the same time, there will be situations where methods have to be interpreted to suit the accounting used. Consequently, IFRS has challenges in the future with several local variants of IFRS. Here, we have to support SEC – if adopting IFRS as one single-set of accounting standard, it should be used in the same way worldwide.

## 4 Conclusion

This review thesis compares the SEC Roadmap with information and research regarding the US adoption of the accounting standards system IFRS, with respect to inventory valuation. The research questions in focus are the following: How will US companies that are using LIFO be affected by the inventory valuation change to FIFO, from an economic and accounting-based approach? What are the positive and negative aspects with a removal of



LIFO regarding the IFRS adoption? The literature reviewed, has an overall positive approach towards the US adoption as a step towards creating a global single-set of accounting standards.

Opinions provided in the research articles regarding LIFO are diverse where LIFO is described as a large tax saver for US companies, as well as a manipulation of income (Hoffman & McKenzie, 2009a). Using LIFO leads to a lower net income and thus a lower tax payment than if FIFO was used, which is a negative effect of a US adoption to IFRS. A shift from LIFO to FIFO will consequently generate increased costs in form of tax as a result of a decrease in COGS. Kelly (2009) expresses that by implementing a new inventory method, it will generate more costs for these companies, since a new system is expensive to adopt. After our investigation with support from the examples provided in the tables, under the headline 2.2.3 Differences between FIFO and LIFO, we find critique towards Kelly's (2009) statement. Since the US companies have to show the decreased value of inventories in form of the LIFO reserve, they are currently valuating and conducting the accounting according to FIFO as well. With a shift to FIFO and thereby decreased expenses and increased valuation of the inventories, key ratios such as current ratio and debt-to-equity ratio are indicating on a financially stronger company. Even though investors are aware of the effect of a change in inventory valuation method from LIFO to FIFO, they will nevertheless be more satisfied.

The negative aspect of the LIFO removal with a US adoption to IFRS is the implementation time period of when the first American companies are supposed to start using IFRS. The proposed time period of implementing IFRS is only four years after a potential approval from SEC in 2011. A time period of four years in order to change the complete accounting standards system is too optimistic. At the same time, changing from a rule-based accounting system to a principle-based automatically lead to insecurity for the US issuers and stakeholders. With a principle-based system such as IFRS that allows more interpretations, the comparability might be endangered. On the opposite, the positive effects of a removal of LIFO as a consequence of an IFRS adoption in the United States are the significant increase of the comparability. Furthermore, the credibility will grow stronger for the companies with a shift from LIFO to FIFO since international investors are well aware of the techniques used in IFRS within inventory valuation. If all companies in the world use the same accounting standards, the financial statements leave smaller opportunities to show less accurate figures.

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