UNIVERSITY OF LJUBLJANA
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MASTER'S THESIS

AN ANALYSIS OF EARNINGS MANAGEMENT TECHNIQUES

Ljubljana, October 2018 PETRA FURMEG

AUTHORSHIP STATEMENT

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INTRODUCTION

In the past twenty years, financial liberalisation with worldwide application gave rise to the importance of transparency and accountability of global financial reporting. Several incidents involving pure accounting fraud undermined the trust that investment professionals put in financial reports, especially if the company being analysed comes from an emerging country. Accounting shenanigans usually applied affect revenue recognition, value of inventories and long-lived assets, value of goodwill, etc.

Interaction between gross revenues and earnings has already been carefully investigated in fields of pure and applied microeconomics (Besanko, Braeutigam, & Gibbs, 2010; Van Horne & Wachowicz, 2008), as well as in financial statement analysis (Fridson & Alvarez, 2011; Subramanyam & Wild, 2009). The mentioned authors tend to merely describe the motives of senior management which attempts to manipulate earnings by shifting costing methods or by changing inventory valuation methods for example, from average cost to last in, first out method (hereinafter: LIFO) in order to falsely boost earnings. From this point of view, it might be added that the field of earnings manipulation techniques might be as old as financial reporting itself.

In trying to overcome the possible accounting manipulations intended to inflate corporate performance, one should examine the following field of accounting: the study of financial reporting quality. High quality financial reporting is usually described as having features of relevance meaning that financial reports convey information, which is useful to users in their decision-making process and reliable meaning that the information should be accurate, true and fair (Accounting Explained, 2013). In the process of estimating the quality of financial reporting, the primary method used is analysing their adherence to either United States Generally Accepted Accounting Principles (hereinafter: US GAAP) or International Financial Reporting Standards (hereinafter: IFRS) (Shamrock, 2012, p. 1).

Investment professionals nowadays differentiate high quality earnings from low quality ones – their key differentiator is sustainability. Ever since Benjamin Graham (in theory) and Warren Buffet (in practice) popularised the idea of value investing (hidden behind a mantra that "price is what you pay and value is what you get"), investment professionals have learned to focus on a company’s future perspective and invest in currently undervalued companies (rather than in popular blue chip stocks). In doing so, they often profited with higher level of return when the stock comes back into favour, and the market drives the stock price back up (US AXA, 2016; Value Walk, 2014).

In the process of revenue recognition and earnings reporting, one can loosely differentiate between an aggressive and conservative approach. Financial management is often tasked with periodically combining both in order to smoothen earnings volatility, i.e. to apply conservative approach in good times and allocate some of the earnings to later, perhaps less profitable reporting periods. Deferral of reported earnings through conservative approach is sometimes called "putting money into the cookie jar (to be enjoyed later)" - this is often done by manipulating with inventory write downs, sales returns and allowance, bad debt write-offs, pension expenses, in estimation of percentage of completion for long term contracts etc. (Rahman, Moniruzzaman, & Sharif, 2013, p. 26). Nevertheless, the aggressive approach became a hallmark of late 1990s and early 2000s – methods such as capitalising current cost, extension of amortization periods, assets overvaluation, liabilities undervaluation, delayed recognition of impairments and less reserves for bad debt served as articles of faith among financial managers and auditors alike (Spira & Page, 2003; Putra, 2009).

Sarbanes-Oxley and similar legal procedures in the European Union (hereinafter: EU) ushered in a new age of consumer and investor protection. However, it still remains unclear whether the probability of committing financial reporting fraud has been significantly limited by putting the aforementioned laws into effect. Securities regulations, albeit still without global scope, now require the issuer to fully disclose reporting requirements, along with an independent audit (with a signed statement by the person responsible for the audit) and a statement of financial condition signed by senior management. Creative accounting in terms of earnings recognition became domesticated in times of initial public offerings (hereinafter: IPOs), share buybacks and similar corporate actions, however, some cases – such as the Enron case – teach us that, when management bonuses are closely tied to corporate performance, earnings manipulation becomes commonplace (Trainer, 2015; Ackman, 2002).

1 PURPOSE AND METHODOLOGY OF THE RESEARCH

The objectives of this paper are (1) to systematically describe types of earnings manipulation applied both under US GAAP and under IFRS, and (2) to try to determine financial analysis methods which would help detect possible misdeeds and distortions. Most methods are already known, but have not been carefully described and supported by examples and case studies. For instance, firms are sometimes prone to accelerating or delaying the shipment of goods in order to manage revenue recognition. Sometimes the customer will buy the goods and receive the invoice which will state that the goods are still in the producer’s possession. These "bill-and-hold" transactions are often used to inflate revenues (Bill-And-Hold Basis, 2017).

Therefore, the main questions this thesis aims to address are the following:

1. Which earnings manipulation techniques are commonly applied on the balance sheet, income statement and cash flow statement?

2. Which warning signs might be used to detect earnings manipulation?

3. Which differences in US GAAP and IFRS are the most commonly exploited in order to conceal economic substance?

The first question is concerned with naming and describing the common earnings manipulation techniques applied in accounting and financial analysis. These techniques are often fully compliant with IFRS and US GAAP (depending on the country in which certain accounting standards are in place) but are nevertheless used with a clear intention to conceal the true economic substance of the company transactions. The second question aims at describing the popular techniques used to detect and circumvent accounting manipulation – the so-called warnings sings (i.e. red flags) which should point out that earnings manipulation might be in place. Finally, the third question will try to provide a list of loopholes in financial reporting under two standards and give the answer why some analysts claim US GAAP provides more manipulative opportunities compared to IFRS (Bragg, 2016).

Retail companies are also prone to manipulating their accounts receivable item – basically, a claim that is virtually uncollectable could be rolled over indefinitely if the management does not decide to move it into allowance for bad debt. Having a high estimate of doubtful accounts, is more likely earnings manipulation than aggressive accounting since the earnings reduction is purposely planned in order to use this amount when earnings are bellow expected level and need an additional boost (Old School Value, 2011). Finally, capitalisation costs can be reported as a long-term asset in order to delay the recognition of expenses. This method would show smoother pattern of reported incomes, higher profitability in early years and consequently display higher profitability ratios (Effects of Capitalizing vs. Expensing, 2017). The three methods mentioned are merely the most notorious ones among some other, lesser known tricks. Therefore, the main purpose of this paper is to outline list of techniques most commonly used to manipulate earnings, develop close understanding of those methods and see how they affect the financial reports. These techniques involve revenue recognition (for instance, switching from Free on Board (hereinafter: FOB) at the shipping point and FOB at the destination in order to translate earnings from one accounting period to another), estimates of credit losses (managing accounts receivable and allowances for bad debt, which are also called provisions, once applied to financial institutions), depreciation methods and estimates (switching from straight line depreciation to accelerating method in order to push the earnings further into the future), amortisation and impairment, and finally manipulating inventory methods in order to affect cost of goods sold (hereinafter: COGS).

Aside from analysing the available bibliography, the paper will focus on financial analysis as the principal tool of extracting valuable information from the company fillings. In order to apply the methods listed, a thorough analysis of Tesco PLC will be presented from 2008 until 2015, combining balance sheet, cash flow and income statement analysis and providing benchmark with peer group of companies (Sainsbury’s and Asda) in order to detect possible earnings manipulations. Analysis of internal and external factors that affected company in observed period and most common warnings sings are also used in order to help with recognition of earning manipulations.

2 FINANCIAL REPORTS ANALYSIS AND EARNINGS MANAGEMENT

Financial statement components provide us with information regarding company health and when fraud happens, it usually leaves a trail within these components. The key challenge for financial analysts and auditors lies in coming up with strategies, procedures and techniques, which would enable them to detect fraud as promptly as possible. One of most useful techniques for fraud detecting is financial statement analysis and it represents the subject of the upcoming chapters of this thesis. The main idea in this chapter is to go through the main balance sheet, income statement and cash flow statement items, taking into consideration the financial reporting standards of US GAAP and IFRS.

2.1 Balance Sheet Analysis

Balance sheet (i.e. statement of financial conditions) analysis highlights the company's health and provides valuable insight regarding how much the company owns (through assets) and owes (through liabilities). The next subheadings shall provide the overlook of key differences in positions that differ the most in the aforementioned two regulatory standards. Inventory revaluation, capitalising cost and estimates of credit losses, as well as allowance of bed debt are given below.

2.1.1 Inventory Valuation

Both financial standards, US GAAP and IFRS, define inventory as assets (1) held for sale in the ordinary business operations, (2) in the production process for this sale or (3) to be used in the production of goods or services (IAS Plus, 2017a). The primary basis for inventory valuation is cost. US GAAP under Accounting Standards Codification (hereinafter: ASC) 330, measured inventories at the lower cost and the market, and IFRS under International Accounting Standard (hereinafter: IAS) 2, measured at the lower cost and net realisable value (in both cases cost are all direct expenditures from inventory sales preparation, along with attributable overheads). Aside from different measurements of carrying values, differences are also seen in terms of costing formula, asset retirement obligations (hereinafter: AROs), accounting methods and reversal of write-downs (IAS Plus, 2017a).

Table 1. Key Inventory Differences between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Measurement of carrying value	Inventory is carried at the lower of cost or market which is defined as current replacement cost. This cost should not exceed net realisable value and be smaller than net realisable value diminished for a normal sales margin.	Inventory is carried at the lower of cost or net realisable value. Net realisable value is defined as the estimated selling price subtracted with the estimated completion costs and the estimated costs necessary to complete sale.
Costing formula	Although some inventories may have similar nature and purpose, they are not required to apply same costing formula.	Inventories with similar nature or purpose should apply same costing formula.
Asset retirement obligations (AROs)	ARO made in inventory production is added to the carrying amount of the property, plant, and equipment used in inventory production.	ARO made in inventory production is treated as inventory cost (IAS 2) and can be added to the carrying amount of the inventory.
Accounting methods	First-in, first-out (FIFO); last-in, first-out (LIFO); weighted-average cost and specific identification are allowed methods for determination of inventory cost.	FIFO and weighted-average cost are allowed in determination of inventory cost and LIFO is prohibit. The specific identification method is prescribed for inventory items that are not regularly substitutable and for goods or services produced and separated for specific projects.
Reversal of Write-Downs	Inventory write-down to the lower of cost or market cannot be reversed for subsequent value increase.	Inventory write-down to the lower of cost or net realisable value is reversed for subsequent value increase.
Permanent Inventory Markdowns under the Retail Inventory Method (hereinafter: RIM)	Permanent markdowns have no impact on the gross margins that is used in the RIM. However, they reduce the carrying cost of inventory to net realisable value, diminished for the allowance for an approximately normal profit margin.	Permanent markdowns have impact on the average gross margin used in the RIM. Reduction of the carrying cost of inventory to below the lower of cost or net realisable value is prohibited.

Source: IAS PLUS, *Inventories: Key Differences between U.S. GAAP and IFRSs*, 2017a.

Along with chosen standard (IFRS or US GAAP) inventory revaluation can be also affected by country's own standard. For example, Germany uses two standards, IFRS and German GAAP, so inventory revaluation method depends also on country's standard. Italian tax law allows the application of LIFO along with FIFO and average cost but some sectors are strictly required to use FIFO only, for example oil and gas sector. France determinates cost in accordance with FIFO or the average-cost method, in Switzerland corporate taxpayer can choose which method to apply and in Hong Kong FIFO must be constantly applied (PricewaterhouseCoopers, 2017). In most countries LIFO method is not permitted, but is still in use in United States (hereinafter: US) and Japan. Because of that, many US companies are turning back to FIFO and use LIFO only for tax purpose (Debitoor, n.d.).

Inventory policy affects not only the inventory, but also the cost of goods sold. When evaluating the cost of goods sold we need to keep in mind that the differences are merely in the cost allocation methods and that each requires specific identification regarding the flow of cost from the company's inventory of unsold goods to the cost of goods sold and, because of these specifics, only one method attempts to shape the flow of cost after the actual flow of products. Considering the methods that tend to assign the highest cost to cost of goods sold and the lowest cost of ending inventory, LIFO and HIFO, during inflation, the cost values reflected in the inventory account may be undervalued, relative to their actual replacement cost. Also, the level of working capital, current ratio and such ratios might be underestimated in this case. However, in times of falling prices it is vice versa, LIFO results in a smaller cost of goods sold and a higher closing inventory (US Legal, n.d.). Since LIFO is allowed in the United States, the problem of inventory value misstatement is present because the companies obtain the income tax sheltering provided by the method. It also represents a problem in Japan and, to a lesser extent, in Germany (Haskins, Ferris, & Selling, 2000, p. 155).

In case of a LIFO, when inventory unit levels decline below unit levels existing at the beginning of the fiscal period, LIFO liquidation takes place. In that case, the cost of goods sold consists of the cost of inventory acquired or manufactured during the period plus the cost of inventory acquired or manufactured during past periods (going as far back in time as possible). In times of rising inventory costs, FIFO yields higher reported earnings than other methods mentioned (Financial Accounting Standard Board, 2016; IFRS Foundation, 2016).

From the perspective of the lender or an investor, cash flow is far more important than actual earnings, but in order to evaluate the company's financial health, the way inventories are evaluated for tax and financial statement purposes is also very important. In general, the following statement holds true: During a period of rising accounting materials and manufacturing costs, a company should, if possible, utilise the LIFO or highest in, first out (hereinafter: HIFO) inventory costing method for both taxes and financial statement purposes (Haskins et al., 2000, p. 157). Regardless of these advantages, some companies use FIFO or weighted average and that often happens because neither LIFO nor HIFO are permitted in their countries or circumstances (Haskins et al., 2000).

2.1.2 Capitalising Cost

Senior management typically sets capitalization policy which is used to set a threshold, above which qualifying expenditures are recorded as fixed assets, and below which are charged to expense (Accounting Tools, 2017). Cost capitalization in incurred period affect financial statements in the following ways (eFinanceManagement, 2016):

- Assets on the company's balance sheet increase;
- Presents cash outflow for investing on the cash flow statement;
- Make cash flow from operations higher;
- Higher profitability in comparison with the situation when expenditure is expensed in initial year;
- Higher shareholder's equity as compared to expensing initially;
- Higher return on equity (hereinafter: ROE) and return on assets (hereinafter: ROA) in initial years;
- Lower ROE and ROA in later years because depreciation expense decreases net income.

This effect of an increase in the profitability, resulted from capitalization, lasts until the capital expenditure is higher than the depreciation expense. Capitalization effects in the later periods are (eFinanceManagement, 2016):

- The capitalized amount is distributed over the useful life of the asset as a depreciation/ amortization expense;
- Reduction in net income and the asset's value as a result of the depreciation expense;
- Cash flow statement is not affected;
- Profitability decreases.

Comparing the two standards, US GAAP and IFRS, certain differences in cost capitalization can be found. Under US GAAP, research and development (hereinafter: R&D) costs are expensed as incurred and capitalization of development costs is prohibited (KPMG Institute, 2017). There are some exemptions in treatment of R&D costs in computer software development companies and the natural resource industry, but all original or new product development costs should be expensed as they are incurred (Financial Accounting Standard Board, 2016; IFRS Foundation, 2016). Under IFRS, research costs are expensed, same as under US GAAP. However, unlike US GAAP, companies that use IFRS are allowed to capitalize development expenditures using prescribed guidance (KPMG Institute, 2017).

2.1.3 Estimating Off-Balance Sheet Debt Allowance

Off-balance sheet debt, as the name implies, does not appear on the face of the balance sheet statement. It comes in a form of unconsolidated, contingent liabilities and executory contracts. Under US GAAP, ASC 450 and ASC 460 are main guidance on contingencies treatment and under IFRSs that is IAS 37, Provisions, Contingent Liabilities and Contingent Assets (IAS Plus, 2017b). IAS 39, which was superseded by IFRS 9, prescribed guidance on recognition and measurement of financial instruments (IAS Plus, 2017c).

Table 2. Key Contingencies Differences between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Recognition of contingent losses/provisions	For loss accrual it should be probable (i.e. approx. 80%) that (1) an asset has been impaired or (2) a liability has been incurred.	One of the conditions for recognizing a provision (as a liability) is that it is probable (i.e. > 50%) that an outflow of resources will be required to settle the obligation.
Measurement of contingent losses/provisions - range of estimates	If no amount in the range is more likely than any other in the range, the minimum amount is used to measure the amount that should be accrued for a loss contingency.	If no amount in the range is more likely than any other in the range, the midpoint of the range is used to measure the liability.
Measurement of contingent losses/provisions – discounting	Discounting is permitted if timing of related cash flows is fixed or reliably determinable.	Discounting is required if the effect of discounting is material.

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Table 2. Key Contingencies Differences between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Recoveries of contingent losses (reimbursements)	Gain contingencies related to the recovery of contingent losses are recognized when recovery is deemed probable.	Expected reimbursement by other parties is recognized only when it is almost certain that the reimbursement will be received.
Onerous contracts	Losses on this type of contracts are generally not recognized.	Present obligation under the onerous contract must be recognized as a liability.

Source: IAS PLUS, *Contingencies: Key Differences between U.S. GAAP and IFRSs,* 2017b.

Companies are required under US GAAP, IFRS, Public Company Accounting Oversight Board (hereinafter: PCAOB) and by Securities and Exchange Commission (hereinafter: SEC) rules, to record bad debts and the provision for them at the end of a period such as a month or quarter (Codjia, 2017). Under accrual accounting, US GAAP requires revenue recognition when sales is made. In order to estimate the allowance US GAAP prescribes three procedures: the percentage of credit sales method, the aging of accounts receivable method (a variation of the preceding) and the percentage of ending accounts receivable method (Codjia, 2017). When allowance for bad debt is calculated, it is reported as a deduction from accounts receivable on the balance sheet (Boykin, 2017).

After 1st January 2018, IFRS 9 became mandatory and replaced IAS 39 (i.e. recognition and measurement of financial instruments). The change will significantly affect all companies that have debtors and will also affect the way so called allowance for credit loss (provision for bad debts) is calculated. Under the simplified approach, a loss allowance is recognised for the total expected loss from possible default events that may arise over the expected life of the financial asset, meaning that a loss allowance might be recognised for amounts that are not overdue at the reporting date. Provision for bad debt calculation is no longer based on historical date but is based on expected future credit loss (Steenkamp, 2017).

2.2 Income Statement Analysis

The first statement that is tend to encounter during the analysing process is the income statement, since it announces the numbers necessary for financial/investment decision-making processes, such as revenue generation, expenses made throughout the quarter and their difference - profit. The differences between the two standards, US GAAP and IFRS, are demonstrated below for comprehensive income, revenue recognition methods, depreciation and amortisation methods, as well as impairment and revaluation.

2.2.1 Comprehensive Income

Under US GAAP, ASC 220-10 provide guidelines on comprehensive income reporting and under IFRSs, IAS 1 regulates presentation of all financial statements. Both standards prescribe that components of comprehensive income are reported in either: (1) a single continuous statement of comprehensive income or (2) two separate but consecutive statements of net income and other comprehensive income. Main differences in comprehensive income are seen in a field of reclassification adjustment requirements and are given in Table 3 (Ias Plus, 2017d).

Table 3. Differences in Comprehensive Income between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Reclassification adjustment requirements	If all significant amounts reclassified out of each accumulated other comprehensive income (hereinafter: AOCI) component are demand to be reclassified to net income completely in the same reporting period, Accounting Standards Update (hereinafter: ASU) 2013-02 requires that information about the effects must be separately presented (1) on the face of the statement where net income is presented or (2) as a separate disclosure in the notes. When reclassifications to net income are not completely in the same reporting period, cross-references to other relevant disclosures are needed. Before adoption of ASU 2013-02 reclassification adjustments were shown on the face of AOCI together with OCI components or disclosed in the notes to the financial statements.	Reclassification adjustments are shown in the statement of profit or loss and other comprehensive income (hereinafter: OCI) statement or in the notes.

Source: IAS PLUS, *Comprehensive income: Key Differences between U.S. GAAP and IFRSs*, 2017d.

2.2.2 Revenue Recognition and Earnings Management

Financial Accounting Standard Board (hereinafter: FASB) Concepts Statement No. 5, Recognition and Measurement in Financial Statements of Business Enterprises (under US GAAP), recognised revenue when it is realised or realisable and earned. However, if we choose to analyse a single, comprehensive revenue recognition standard under US GAAP, it turns out that it simply does not exist. IAS 18, under IFRS, represents main guidance on revenue recognition, including the sale of goods, rendering of services, and others' use of an entity's asset.

In 2014 FASB and International Accounting Standard Board (hereinafter: IASB) worked together on regulation of revenue from contracts with costumers. On May 28, FASB issued new standard as ASU 2014-09 (codified as ASC 606 in US GAAP) and IASB issued IFRS 15 (in IFRS) what resulted with better alignment (IAS Plus, 2017e). Standards have minor differences such as impairment loss reversal, interim disclosure requirements, and applicability to non-public entities (Johnson, 2018). From January 2018, the new revenue recognition standard, that will supersede virtually all existing revenue recognition guidance in US GAAP and IFRS, took effect. The core principle of the model is to recognize revenue when customer takes control of the goods or services, as opposed to recognition when the risks and rewards are transferred to the customer under the existing revenue guidance (Deloitte, 2017). Table 4 presents the key revenue differences between the US GAAP and IFRS, IAS 18.

Table 4. Key revenue recognition differences between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Concept / objective	Realised or realisable and earned.	Revenue is recognised when (1) there is a probability of any future economic benefit inflow (2) which can be reliably measured. Standard implies that revenue should be earned to be recognised.
Definition of revenue	Inflows or other enhancements of assets or liabilities settlements (or a combination) from entity's core or meaningful operations.	The gross inflow of economic benefits, from the period, that occur from daily operations and results in equity increase that is not related to contributions from equity participants.

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Table 4. Key revenue recognition differences between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Sale of goods or products	Revenue is recognized when all of the following criteria are met: • Existing of convincing evidence of an arrangement. • There was delivery (i.e. exchange). • The sales price is fixed or determinable. • Collectability is rationally assured. Guidance also provides treatment for product transactions with a right of return under ASC 605-15.	Under IAS 18, revenue is recognised if all of the following conditions are met: • Notable risks and rewords of ownership are shift from entity to the buyer. • Entity has no managerial and effective control over sold goods over the goods sold. • It is possible to measure reliably revenue. • It is presumed that inflow from transaction will happen. • Costs related to the transaction can be measured reliably.
Rendering services	Revenue from service transactions is earned and realised, or realisable, when the same conditions as for the sales of goods and products are met. Beside ASC 605-20, US GAAP prescribes no specific guidance on the rendering of services. For such transaction revenue recognition is mostly based on performance proportional to the balance sheet date.	IAS 18 specifies if the rendering of services can be estimated reliably, revenue from transaction is recognised by the percentage of completion at the balance sheet date. If outcome can be reliably estimated, revenue is recognized to the extent of the recognised expenses that are recoverable.
Software arrangements	Guidance is provided under ASC 985-605.	No specific guidance.

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Table 4. Key revenue recognition differences between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Construction-type contracts	Construction-type contracts are regulated within ASC 605-35. Under standard, completed-contract method is used in situation when percentage-of-completion method is considered as unsuitable. In addition, the scope and price of change orders must be approved by customer before recognition of related revenue.	Guidance on construction-type contracts are presented under IAS 11. In situation when percentage-of-completion method is considered as unsuitable, revenue is recognised to the extent that costs have been incurred, provided that the costs are recoverable. Under this standard completed-contract method is prohibited when it is probable that the customer will approve the scope and price of change order, related revenue can be recognised.
Milestone method	ASC 605-28 determinate use of the milestone method for recognising revenue in research or development arrangements.	No specific guidance.
Multiple-element arrangements	ASC 605-25 presents guidance and criteria for separately consideration on multiple-element revenue recognition. This guidance does not apply to arrangements or deliverables that are within the scope of other authoritative literature.	Under IAS 18, separate recognition criteria are usually applied for each transaction. Exemptions are: • If there is a need for separately applying recognition criteria for each component of single transaction to reflect essence of that transaction.

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Table 4. Key revenue recognition differences between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
		• If connected transactions cannot be understood without referring to transactions as a whole.
Bill-and-hold arrangements	For those arrangements, US GAAP uses the same criteria as SEC entities.	IAS 18 present criteria for bill-and-hold arrangement revenue recognition before product delivery. Although objective for recognising revenue may be similar to objective in US GAAP, criteria are different.
Gross versus net	Revenue can be reported based on gross amount to customer or as company's retained net amount what is specified under ASC 605-45.	In agency relationship, revenue is reported on net basis (IAS 18) and there is not specific guidance to consider.
Customer loyalty programs	Revenue recognition of customer loyalty programs is not specified. Loyalty programs are treated as multiple-element arrangements or under an incremental-cost model (ASC 605-25).	Customer loyalty programs are multiple-element revenue transactions and fair value of the consideration received is required to be allocated between the components of the arrangement by the International Financial Reporting Interpretations Committee (hereinafter: IFRIC) No 13.
Rebates, discounts, incentives and other considerations	Under ASC 605-50 consideration given to customers present revenue reduction. Exception is if received fair value of benefit can be reasonably estimated.	Revenue is measured at the fair value of the consideration received or receivable, considering also trade discounts and volume rebates that are

(table continues)

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Table 4. Key revenue recognition differences between US GAAP and IFRS

Subject	US GAAP	IFRS
		allowed by the entity.
Specific industry and other guidance	Some standards have specialised guidance for specific industries and transactions.	None or limited guidance.

Source: IAS PLUS, *Revenue recognition: Key Differences between U.S. GAAP and IFRSs*, 2017e.

When it comes to valuation, it is better to use industry imposed norms regardless of the national reporting practices in order to be more comparable. Aside from these variations in revenue recognition, the most common concern in corporate revenue recognition policies refers to front-end loading, or aggressive early revenue recognition. The consequences of this practice are overestimation of revenues, net income, receivables and total current assets, which tend to result in overly optimistic assessments of corporate profitability, liquidity and solvency in the current periods. The risk associated with booking revenue too early, which means that the final sale may end up interrupted, can be minimised by adopting more conservative revenue recognition policies (at the point of sale) or by maintaining sufficient reserves to cover the return of future sales. When we talk about revenues, there is also the risk that, once the final sale is consummated, it fails to yield the anticipated level of cash inflow.

2.2.3 Amortisation/ Depreciation Methods and Estimates

Under IFRS, differences in asset componentisation guidance might result in the need to track and account for property, plants, and equipment at a more disaggregated level.

Table 5. Key Depreciation Differences between US GAAP and IFRS

US GAAP	IFRS
Component approach for depreciation is not required, however it is expected that the suitability of significant assumptions within the financial statements be reassessed each reporting period.	Important components such as property, plant, and equipment, with different economics life, should be recorded and depreciated separately covering review of residual values and useful lives at each date on balance sheet.

Source: PWC. *IFRS and U.S. GAAP: similarities and differences 2016*, 2017.

Differences in accounting rules for financial and tax reporting may lead to differences in income reported to shareholders and tax authorities. Tax accounting rules, in contrast to financial reporting standards, are more strictly over revenue and expenses recognition (Plesko, 2004, p. 2). In general, companies often choose accounting policies that lower their reported income and result in tax savings. Although tax benefits are seen as a main motive for earnings manipulation, nontax benefits such as future dividend pay-outs, preserving future debt capacity and employee relations may lead to income reduction (Valentincic & Kosi, 2011, p. 3). Since tax shelter may affect reported profit it is important that reduced amount is not affecting income reported to shareholders (Plesko, 2004, p. 4).

Along with the use of IFRS or US GAAP for financial statement purpose, companies often maintain local Generally Accepted Accounting Principles (hereinafter: GAAP) as the basis for calculation of taxable income (Braga, 2017). Because of their local imposed standards depreciation and amortisation policies varies a lot between countries.

For example, depreciation of fixed assets as a deduction from any source of income is not allowed in United Kingdom, but instead allows specified rates of annual deduction. Capital allowances are deducted in calculating trading income for traders and against income derived from the use of the fixed assets for non-traders. Royalties are usually deductible on an accounts basis, and account's amortisation of intangible assets is also deductible (with an option to take a flat 4% deduction even if not amortised in the accounts). Amortization, impairment, and certain other charges for acquisition of goodwill and customer-related intangibles will not be deductible for tax, but profits and losses on disposals of such goodwill remain taxable (PricewaterhouseCoopers, 2017).

United States prescribe modified accelerated cost recovery system (hereinafter: MACRS) method for capital cost of property. Rapid amortisation may be allowable for certain pollution control facilities. Tax depreciation is not required to conform to book depreciation and generally is subject to recapture on the sale or disposition of certain property, to the extent of gain, which is subject to tax as ordinary income. Cost of goodwill and cost of most intangible assets is usually capitalised and amortisable gradually over 15 years (PricewaterhouseCoopers, 2017).

Treatment for movable fixed assets represents the straight-line method over the asset’s anticipated useful life in Germany. The same method is used also for intangibles over their estimated useful lives, and for goodwill amortization is specified over 15 years. Buildings are depreciated on a variety of straight-line or reducing-rate systems in order to meet full write-down during 25 to 50 years (PricewaterhouseCoopers, 2017).

In France, component approach is used for fix assets depreciation so each component should be depreciated separately regarding with its own lifetime. For some new and renovated assets whose useful life is in excess of three years it is permitted to use declining-balance depreciation. In case of goodwill, by the France tax rules, it cannot be amortised (PricewaterhouseCoopers, 2017).

Italy depreciates for a tax purpose all fixed assets used in the company's business, except land. Amortisation of goodwill derived from an asset deal and amortisation of trademarks is deductible for an amount not exceeding 1/18 of the cost in any year (PricewaterhouseCoopers, 2017).

2.2.4 Impairment and Revaluation

There are two related issues of valuation adjustment of expenditures that was previously recognised as assets: revaluation or impairment. Under US GAAP, ASC 360-10 regulates impairment of long-lived assets to be held and used or to be disposed of by sale and ASC 350 is guidance on impairment of goodwill and other intangibles. Under IFRSs, IAS 36, Impairment of Assets, regulates impairment of assets to be held and used and IFRS 5, Non-Current Assets Held for Sale and Discontinued Operations, present guidance for assets to be disposed of by sale (IAS Plus, 2017f). Key differences between them are given in the Table 6.

Table 6. Key Differences between US GAAP and IFRS in Impairment of Long-Lived Assets

Subject	**US GAAP**	**IFRS**
Impairment method for long-lived assets	Impairment is done when carrying amount of an asset is not recoverable. An asset is not recoverable when carrying amount exceeds the expected future cash flows that will be derived from the asset on an undiscounted basis.	Impairment is done when carrying amount of an asset exceeds the higher value of the asset in use and when exceeds fair value reduced for costs of sales.
Measurement of an impairment loss	The impairment loss represents the amount by which the asset's carrying amount exceeds its fair value.	The impairment loss represents the amount by which the asset's carrying amount exceeds its recoverable amount.
Definition of fair value	Fair value, under ASC 820-10, is price that would be received for sale of an asset or paid for transfer of liability in	Fair value is: • amount received from the sale of asset or cash -

(table continues)

(continued)

Table 6. Key Differences between US GAAP and IFRS in Impairment of Long-Lived Assets

Subject	**US GAAP**	**IFRS**
	an ordinarily transaction between market participants at the measurement date.	generating unit in transaction between knowledgeable, willing parties, less disposal costs. • present value of the future cash flows that is expected to be generate from an asset or cash-generating unit.
Recording the impairment	Impairment charges are recorded directly against the carrying amount of the asset, establishing with that a new cost basis for the asset amortised over its remaining useful life.	Impairment charges may be recorded directly against the carrying amount of the asset to establish a new cost basis or within a contra-account to the asset. New asset value is amortised over its remaining useful life under both methods.
Reversal of impairment charge	Forbidden.	Reversed if there are subsequent changes in the recoverable amount, use of the asset or economic conditions.

Source: IAS Plus, *Impairment of long-lived assets to be held and used or to be disposed of by sale: Key differences between U.S. GAAP and IFRSs*, 2017f.

When permanent impairment takes place, asset value of adjustment depends on professional judgment – and in most cases, the management is unwilling to do downward adjustment (Haskins et al., 2000, p. 164). The reasons for this stem from reduction of total assets, net worth and current earnings. In the United States, under SFAS No. 121, asset impairment is presumed to occur if any of the following conditions are met (Haskins et al., 2000, p. 164):

1) A substantial reduction of the extent to which a plant or other material asset is used.

2) A huge change in the use of an asset.

3) A major drop in the market value of an asset.

4) A significant change in the existing law or business environment, adversely affecting the utility of an asset or group of it.

5) A forecast indicating the lack of long-term profitability for an asset or group of it.

6) Cost capitalised in association with an asset, which exceeds the cost to acquire or construct the asset.

Although appliance of accounting standards presume that profitability and write-offs are negative related, in reality this is not the case, because tax and nontax benefits contribute to write offs decisions (Valentincic & Kosi, 2011). Large companies are more pressured in accounting standards implementation and it is more probable that they will lead to upwards revaluation and during profitable period write off unprofitable operating segment. In addition, complex companies might have more complex ownership structures and hence the need to signal expectations about diminished cash flows, too. Companies also tend to revaluate upwards if they have less financial slack and declining operating cash flows. Potential for write offs increasing if companies already have reduced revenues through write-offs to extract economic benefits in previous years. In addition, write-offs are more likely if opening stock of assets is larger but writing off in previous periods reduces the stock of assets that can be written off (Valentincic & Kosi, 2011, pp. 10-11).

Comparing standards, IFRS, contrary to US GAAP, allows revaluation of long-lived assets. Under US GAAP, the historical cost model is used to report long-lived assets. To make asset value more understandable, this method subtracts accumulated depreciation and an impairment loss from historical cost. IFRS allows both, historical cost and revaluation model. Revaluation model subtract accumulated depreciation and impairment from the fair value to report the value of the assets (eFinanceManagement, 2017). United Kingdom, Australia, and India allow upward revaluation in the values of fixed assets so they can be brought in consonance with fair market values (Revolvy, n.d.).

2.3 Cash Flow Statement Analysis

The cash flow statement shows us how the company creates and manage money through its operating, financial and investing activities. This statement is used to reflect the inflows and outflows of cash or to ascertain the liquidity and solvency of a business. In comparison with the two mentioned standards, IFRS and US GAAP, ASC 230 represents the primary source of guidance for cash flow statements under US GAAP, and IAS 7 represents the same under IFRS (IAS Plus, 2017g). The key differences in cash flow statements under each standard are shown below, in the Table 7.

Table 7. Key differences in statement of cash flows between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
Definition of cash and cash equivalents	Cash and short-term, highly liquid investments are included. Bank overdrafts are not included, restricted cash is not part of cash, and cash equivalents (presented as investing activities).	Cash and short-term, highly liquid investments are included and bank overdrafts are included only in some situations.
Classification of transaction components in cash flow statements	Collective classification of transaction components based on prevalent cash flow sources.	Components of a single transaction are separated and classified as operating, investing or financing.
Cash flow statement classification	More specific regarding items classification.	More flexible regarding items classification.
Report CFs from operating activities	Direct or indirect method is used but net income under each should be reconciled to net cash flows from operating activities.	Direct or indirect method is used, but it is prescribe that only under indirect method net income should be reconciled to net cash flows from operating activities.
Comparative periods	No presentation required.	Presentation of most recent two years is required.
Scope	Prescribes industry-specific guidance.	Prescribes principles for cash flows classification, but industry-specific guidance are present only in small extent.
Scope exemptions	Exemptions are prescribed for defined benefit plans and particular investment companies.	No exemptions.
Disclosure of cash flows pertaining to discontinued operations	Before ASU 2014-08 - separate disclosure is not required.	Disclosure under each category is required either on the face of the cash flow statement or in the notes.

(table continues)

(continued)

Table 7. Key differences in statement of cash flows between US GAAP and IFRS

Subject	**US GAAP**	**IFRS**
	After adoption of this standard disclosed are either the total operating and investing cash flows of the discontinued operation or the depreciation, amortisation, capital expenditures, and significant operating and investing non-cash items of the discontinued operation.	
Presentation of cash flow per share on the face of the financial statements	Forbidden.	Not explicitly forbidden.
CF from hedging instruments	Cash flows from hedging activities and cash flows from the hedged item can be in the same category, if certain requirements are met and if accounting policy is disclosed.	Cash flows from hedging activities and cash flows from the item being hedged are in the same category.

Source: IAS PLUS, *Statement of cash flows: Key Differences between U.S. GAAP and IFRSs*, 2017g.

2.4 Summary on Key Differences between US GAAP and IFRS

The accounting literature lists several earnings attributes that have impact on capital markets: quality, persistence, predictability, smoothness, value relevance, timeliness and conservatism (Francis, LaFonda, Olsson, & Schipper, 2004, p. 972). Quality of analysed (forecast) accounting information depends a lot on these desirable characteristics. For example, persistent earnings numbers are useful in terms of ratios because they are less transitory. Less predictable earnings lead us to higher information asymmetry and higher equity and debt cost. Today many CEOs prefer to smooth out earnings and to stabilize cash flows in order to maintain the perception of lower risk, lower debt and equity cost and in order to improve earnings predictability (Ozili, 2017). Since January 2005, when companies listed in the EU started reporting under IFRS, the company comparability, transparency and quality of financial information has been drastically improved. According to the findings earnings persistence between IFRS and US GAAP is not significant different. In addition, there is evidence of higher earnings predictability and smoothness for firms reporting by US GAAP and those reporting under IFRS (Atwood, Drake, Myers, & Myers, 2011, p. 118). Although US GAAP and IFRS are mostly converged in business combinations, from previous chapters is visible that they still have a lot of differences. Major differences can be seen in the following (Bragg, 2016; Firm of the future, 2018):

- Rules vs. principles. US GAAP, throughout very specific rules and guidelines, determinants treatment of numerous transactions. In order to achieve better financial results, users often purposely create transactions that manipulate with those rules. The rule basis also results in very extensive standards, meaning the text body of US GAAP is much more extensive than those of IFRS. IFRS is principle-based and users are expected to use guidelines by their best judgement.

- LIFO inventory. While under US GAAP companies are allowed to use LIFO method for inventory valuation, under IFRS are not allowed. In theory, IFRS is more correct since LIFO may result in unusually low levels of reported income and mostly does not show the real flow of inventory.

- Write-down reversals. When it comes to inventory write-down reversal, US GAAP prescribes that the value of an inventory asset or fixed asset be written down to its market value. If the market value of the asset subsequently increases, the amount of the write-down cannot be reversed. In the same situation, under IFRS the amount of the write-down can be reversed. In other words, US GAAP is over conservative compared to IFRS, because it does not show positive changes in market value.

- Development costs. US GAAP requires that all development costs be charged to expense the year they occur and are not allowed to be capitalized. Under IFRS some of these costs can be capitalised and amortised over multiple periods. The IFRS position may be too aggressive, allowing for the deferment of costs that should have been charged to expense at once.

- Intangible assets. For intangible assets, such as research and development or advertising costs, IFRS takes into account future economic benefit of an asset (as a way of assessing the value). US GAAP recognize intangible assets just at the fair market value.

- Income statement. IFRS includes extraordinary or unusual items in the income statement and does not segregate them. Contrary, US GAAP separates them and shows them below the net income.

- Classification of liabilities. US GAAP classified liabilities as current (expects to settle a debt within 12 months) or noncurrent (debts that will not be repaid within 12 months). IFRS does not make classification of liabilities but consider all of them as noncurrent.

- Fixed assets. Under US GAAP fix assets are valued using the cost model which takes into account the historical value of an asset and accumulated depreciation. IFRS allows revaluation model.

- Qualitative characteristics. Both standards, US GAAP and IFRS, working within characteristics such as relevance, reliability, comparability and understandability, but unlike US GAAP, under IFRS, decisions cannot be made on the specific circumstances of an individual.

Aside from the mentioned differences, there are still many issues that have yet to be harmonised. Some of the recent proposed guidance deals with simplifying the accounting for goodwill impairment (Intangibles - Goodwill and Other; Topic 350), clarifying business definition (Business Combinations; Topic 805), introduction of an ‘undue cost or effort’ exemption in respect to identifying intangible assets in a business combination, guidance on the main recognition and measurement requirements for deferred income taxes have been aligned with the requirements of full IFRS, etc.

3 WARNING SIGNS WITHIN FINANCIAL STATEMENTS

The term "warning sign" or "red flag" is defined as a problem indicator, i.e., an undesirable characteristic that stands out to an analyst, pertaining to the company's stock, financial statements or negative news reports (Red Flag, 2017). Many cases of fraud are discovered inadvertently and usually appear consistently in reports for several quarters in a row, but the rule of thumb is to examine three years' worth of reports to see the more wholesome picture (Red Flag, 2017). These are the warning sings commonly associated with fraudulent activities (Wyatt, 2009; Sullivan, 2015; Rosen & Rosen, 2017):

1) Falsifying actual revenue: Beside reporting revenue prior it is actually earned, company can also manipulate by reporting fictive revenue. For instance, a company may receive loan proceeds and set it up as cash revenue rather than liability. Similar problem is with investments that are sold and reported as a current income instead as net investment income.

2) Rising debt-to-equity ratio: this means that the company is absorbing more debt than it can handle. The value of D/E ratio depends on industry where the smallest ratios on average are within conglomerates (0.49) and energy sector (0.5) and the highest in financial sector (even higher than 2) (Maverick, 2015; CSI market, 2017). The average

D/E ratio among S&P 500 companies is approximately 1.5 and a ratio lower than 1 is usually considered favourable (Maverick, 2015). A warning sign can be when ratio is much higher than industry average.

3) Falling interest-coverage ratio: Cause for concern is if the ratio is under five.

4) Off-balance sheet subsidiaries: Creative accounting within subsidiaries cannot be easily detected because they are placed off the balance. If company loan money to its subsidiary, does not exchange any funds and set up the obligation through journal entries it indicates that manipulation took a place. One of the best known example of manipulation through subsidiaries was Enron case.

5) "Other" expenses on the balance sheet are large: The organisations usually have "other expenses" that are too inconsistent or too small to be categorised, but if these "other" items amount to high values, it is important to find out what they really entail, as well as whether they are likely to recur.

6) Unsteady cash flow: A cash flow shows how healthy is an organisation. Excess cash may indicate that accounts are being settled, but also may indicate a lake of investments. Since extra cash, lowers return on assets and increases cost of capital it must be invest or distributed (The Business Ferret, 2018). Vice versa, cash deficit could indicate under-billing or uncollected credit sales.

7) Converting reserves into income: There are many reasons behind reserves converting. For example, reserves for bad debts reduce the current asset value of accounts receivable as well as reserves for absorption of mergers and acquisition of profit or loss. If company have large credit-balance reserves, it may influence current-year outcome through entirely or partially reclassification of reserve balance to income.

8) Rising accounts receivable or inventory in relation to sales: Return cannot be generated from money that is tied up in accounts receivable or that was used to produce inventory. Although company must have an inventory big enough to fulfil orders, it should also avoid inventory overaccumulation.

9) Decreasing gross profit margin: Gross profit margin presents company’s proportion of money left over from revenues after deducting the cost of goods sold (Gross Margin, 2018). Declining profit margin is the cause for concern because besides covering costs to produce the product or service, profit margin must also cover other expenses, such as costs of debt.

10) Unusual accounts receivables growth: Faster growth of receivables in comparison with company's sales may be a sign that company is making sales to companies that are unable or unwilling to pay, and it can result in bad debt. This growth can also be an indicator of too early revenue booking (i.e. prior proper time). The tell-tale cause for concern is accounts receivable growth beyond the reported revenue levels. To spot this, it is necessary to compare growth in revenues and receivables on year-to-year basis.

11) Unusual deferrals on the balance sheet: Prepaid assets or deferred assets may represent possible warning sign that company has created artificial revenues. This can be justified throughout documentation but it has to make sense. For example, a company can setting up revenues under contract with major customer as earned in current year but schedule to be pay over longer time period per contract.

12) Earnings before interest, taxes, depreciation and amortisation (hereinafter EBITDA): If company exclude expenses that are recurring and that must be include or are routinely include by others, it represent warning sign. For example if significant portion of marketing expenses is excluded it can be sign that EBITDA is adjusted.

13) Extending the rate of write-offs to a longer time period: Companies set up assets and amortise or depreciate them over a period of years. Expenses or costs must be accurately reported i.e. in the proper year. For instance, when a company acquires another, covenant may be agreed over a 5 year period and its assigned value may be set up as an asset for the same time period. However, net earnings are raised when the company decides to amortise an intangible asset over a prolonged period (more than 5 years). This can be difficult to notice, because even the footnotes might not reflect a change, so the only way to spot this is by monitoring amortisation trends.

14) Odd changes in accounting policies: Net earnings can be modify simply by changing accounting policies, which are than usually explained in details in the footnotes. For example, if company change the way the inventory is valued, it will greatly affected calculation of the cost of goods sold and gross profit. Sudden big changes in gross profit usually are a warning sign.

Reviewing the balance sheet can give an insight into the company's resources and how they are financed, and can give information on working capital i.e. company's ability to meet its financial obligations (Lumen Learning, n.d.). An assessment of the company's debt is of equal importance. Higher indebtedness compared to industry average or peers may present problems during economic downturns. Indebtedness can result in loan covenants, which may require maintaining of certain insurance level or limit or even prohibit company's action to ensure debt repayment (Covenant, 2018). For example, loan covenant can prohibit paying of cash dividend, borrowing of new debt, certain agreements, acquisitions, leases, etc. (Corporate Finance Institute Inc., 2018).

The income statements give an insight into the company's profits and losses. If a company has low level of net profit margin in comparison with gross profit margin, it is an indicator that company's expenditures (rent, interest or operating costs, etc.) are too high and that they must be reduced in order to increase profitability (Ragain Financial, n.d.).

Statement of cash flows is also very important statement since it reconciles a company's cash balance throughout accounting periods. It provides information on where the money is spent and how much more can be spent or returned to shareholders. Most analysts nowadays misinterpret or fail to focus enough on this statement, ignoring roughly 60% of it, or leaving that to advisers (Rosen & Rosen, 2014). By ignoring the gross margin or by failing to evaluate the company in question on a multiple of gross margin, we could miss the real story, as the investing and financing sections of the cash-flow statement can provide us with valuable insight regarding what actually is going on.

4 ANALYSIS OF INTERNAL AND EXTERNAL FACTORS AFFECTING TESCO COMPANY

Knowing macro and micro changes is crucial in understanding daily company performance. Any change in the environment or within the company has a direct effect on management decisions and may initiate manipulation activities. When management manipulate with financial reports in order to mislead shareholders or in order to change reported outcome, it can be almost certainly claimed that earnings manipulation is present. Although engagement in such a manipulation can bring many benefits, for example, lower reported income can result in tax benefits or higher reported income may attract new investors and raise bonuses to management, the consequences can hurt business in a greater extend. Fraudulent behaviour may cost company even 5% of annual revenue (Ramirez-Orellana, Martinez-Romero, & Marino-Garrido, 2017). In order to provide valid conclusion on possible manipulations within financial statements an analysis of environment, industry and companies activities will be provided first.

4.1 Tesco Plc Overview

Tesco Plc (TSCO) is traded on the London Stock Exchange in the United Kingdom. It was founded in 1919 by Jack Cohen and is currently based in Welwyn Garden City, United Kingdom. This British multinational grocery and general merchandise retailer is the third in the world by revenue and the fifth by profit. The company is present in 11 countries, with more than 476,000 employees in approximately 6,900 stores and online shops (Tesco Plc, 2017a).

Along with grocery retail, the company also provides retail banking, as well as financial and insurance services through Tesco Bank. The bank was formed back in 1997, but only became owned in its entirety by Tesco PLC in 2008. Prior to 2008, it was a joint venture between The Royal Bank of Scotland and Tesco in 50:50 proportions (Tesco Plc, 2017a; Kollewe, 2008).
In September 2014, the British giant faced one of the biggest accounting scandals of all time, when it was revealed that Tesco profits were overestimated by £250 million ($327 million). Because of profit overestimation, the Serious Fraud Office and the civil proceedings in the United States investigated company. The fraud scandal in Tesco was a typical case of aggressive accounting in which the company tried to recognise revenue too early and delay the recording costs until a later date (Brinded, 2015).

The upcoming chapters aim at determining whether there were any macro-environmental or industry factor that encourage manipulation. In order to relate the events with the financial standings, timetable of the company's performance in the recent years shows that in (Barry, 2014; The Guardian, 2015):

- 2007: Company presented plan for hundreds Fresh & Easy stores in US. In the same year, market share in United Kingdom (hereinafter: UK) reaches 31.2%.

- 2009: Company has launched its own bank - Tesco Bank.

- February 2011: Group CEO, Sir Terry Leahy, steps down after 14 years, overseeing a leap in pre-tax profits from £750 million in 1997 to £3.4 billion in April 2010. Group market share was 30.5%.

- January 2012: First profit warning after nearly 20 years was issued as a result of poor Christmas trading. Shares drop for 15%, or by more than £4 billion.

- April 2012: Poor sales in January result that in April same year £1 billion was invest in improving of service quality in UK.

- January 2013: Food retailers were hit by horse meat scandal what have cost Tesco £300 million of its market value.

- April 2013: Company reports its first fall in annual profits in 19 years with fall in post-tax profit around 96% (£120 million). US Fresh & Easy was shut down with cost of £1.2 billion. Company also write-down property in amount of £804 million.

- February 2014: Tesco planned to spend £200 million to secure lower prices for basic products. Necessary reduction of annual capital spending trough three year period was needed (spending no more than £2.5 billion).

- April 2014: Profits fall by 6.9%, to £3.05 billion for the year, up until the end of February, while fourth-quarter like-for-like sales slump by 3% as its UK market share falls to 28.6% in the 12 weeks leading up to March 31, from 29.7% in the same period a year before.

- June 2014: Company market share decline to 29% in the 12 weeks leading up to May 25 and 30.5% compared from the previous year. Chain also reported a 3.7% fall in like-for-like sales for the first quarter of its financial year.

- July 2014: Sales and trading profits were below expectations what resulted with announcement of management changing.

- August 2014: Tesco reviled new profit warning and reduce shareholder dividend for 75%. New executive Dave Lewis replaced Philip Clarke.

- September 2014: Company admitted profit overestimation in amount of £250 million. For error investigation company charged Deloitte.

- October 2014: The Financial Conduct Authority revealed drop in first half in pre-tax profits to £112 million or 91.9% and underestimation of original overestimation. Total amount of overestimation was £263 million and company get under criminal investigation by the Serious Fraud Office.

- December 2014: CEO Dave Lewis issues a £500 million profits warning.

- January 2015: Announced shutting down of head office, along with 43 unprofitable stores.

4.2 Macro-Environmental Analysis

Although Tesco is known as food and non-food products retailer, company also provides financial, mobile, insurance, hardware services, etc. Changes in government policies, market conditions, demography, changes in consumer preferences, purchasing of new technology, legislation changes or investments in sustainability can influence on management engagement in earnings manipulation. To get a better understanding of the environment in which Tesco operates and in order to see how those factors can be connected with earning manipulation, analysis of political, economic, social, technological, legal and environmental (hereinafter: PESTLE) factors was used for the observed period from 2008 until 2015.

Political factors

Due to world financial crisis, many governments originate job creations in retail industry what certainly affected Tesco (Pestle Analysis, 2014). Trough new employments company diversify its workplace and increase demand for its products (Pestle Analysis, 2014). Increases in value-added tax (hereinafter: VAT) rate in UK in 2011 from 17.5% to 20% lower consumer spending and decreased company's sales revenue (BBC News, 2011). Fat tax proposed by the UK government with the aim to limit medical problems associated with obesity (The Guardian, 2011), led to the launch of new healthy food range of products in 2014 within Tesco (Tesco Plc, 2014). Tax for larger supermarkets i.e. Tesco Tax initiative in 2014 in UK although refused it may present a big future concern for company. If government decide to adopt this tax or similar political initiatives it would increase prices and have negative impact on revenue (Dudovskiy, 2016). Although Tesco's biggest market is UK, the company is also affected by worldwide global political factors since it operates globally (tax rates, acts of legislation, county stability etc.). For example, while Britain was a member of the EU it significantly increased Britain's trade with other member-states. After China joined World Trade Organization (hereinafter: WTO) and enables free foreign trade, Tesco catch opportunity and expand its business in 2009 through several join ventures (The Guardian, 2009).

Since tax benefits are an important consideration for any company, during higher tax obligations it can be expected that company may affect revenues and be involved in earnings manipulation. Also management incentives such as bonuses, stock and option-based compensations are closely connected with the company performance, i.e. increases in managers incentives may lead to manipulation in company's reported earnings (Bergstresser & Philippon, 2006).

Economic factors

Because of recession in 2007/08, real gross domestic product (hereinafter: GDP) of UK economy dropped even more than during the great depression in 1930s. During 2010/11, UK monetary and fiscal policy, ensured partial recovery of economy, but by Q1 2012, the UK was again in recession. The second part of recession occurred because of European recession, lower confidence resulted from austerity measures, continued weakness of bank lending and decline of real incomes. At the beginning of 2013, UK economy has experienced positive shift in economic growth, but real GDP remained weak (below its pre-crisis level in 2007). During the same year, labour markets became more flexible and caused fall in unemployment rate (Pettinger, 2017). EU and United States followed similar scenarios, but with much more problems with unemployment rate for years despite highly aggressive monetary policies. World financial crisis also affected Asian market, but during 2009 and in the first quarter of 2010 Asia rebounded swiftly (International Monetary Fund, 2010).

During bad economic situation in the world while disposable income levels and household incomes declined, Tesco was focused on its own value brands, which are more affordable, to stand profitable (Pestle Analysis, 2014). In correlation to earnings management, during bad market conditions, it may be expected that companies manipulate earnings upwards to avoid a decline in earnings and loses reporting (Kumar & Vij, 2017).

Social factors

Over the years trends in consumer behaviour changed a lot and showed that in the UK consumers became more interested in bulk shopping and one-stop shopping. Consequently, Tesco has increased offer of non-food items in its stores. Customers' awareness on health issues become even more notable and led to increase offer of healthy and fresh products and groceries (Pestle Analysis, 2014). Demographic changes also influenced operations in retail industry. Aging population, more female workers and decline in home meal preparation, brought into the focus added-value products and services. Due to social changes, possibilities for cost reduction are seen in own-label products and services, in the establishment of favourable supply chain and other improvements in daily operations (Ivory Research, n.d.).

Changing in consumer behaviour, trends and habits can present a big challenge for companies. If they do not meet consumers' expectations, it will have a negative effect on their earnings what can eventually lead to lower share price. To remain earnings stable, companies usually manipulate by adding and removing cash from reserve accounts (What is Earnings Management?, 2018).

Technological factors

Technology is a big factor in company development because it affects company flexibility and work effectiveness. Especially in retail, technology gives the platform to better satisfy customers by helping companies to concentrate on their needs. After adopting Electronic Point of Sale (hereinafter: EPoS), Electronic Funds Transfer Systems (hereinafter: EFTPoS) and electronic scanners, communication with suppliers was made almost in real time and efficiency of distribution and stocking activities has been greatly improved (Ivory Research, n.d.). Technology improvements increased new opportunities for Tesco, enabled development of online shopping and self-service checkout points that made shopping experience for customers much easier and led to reduction in labour costs. Furthermore, Tesco has also invested in energy efficiency projects in order to meet desired set of goals regarding carbon footprint reduction. (Pestle Analysis, 2014).

Technology has big influence on company performance and competitiveness and is form of research and development cost. Treatment of R&D cost present important issue in financial accounting mainly because there is not universal view on how they should be treated which is why is possible to manipulate with them. Since R&D expenditures are related with future economic benefits they should be treated as an asset, but at the same time because of uncertainty of project success they can be treated as expenditures. Income smoothing and meeting debt covenants are viewed as incentives for manipulation trough R&D cost capitalization (Garanina, Nikulin, & Frangulantc, 2016).

Legislative factors

Some of the important legislations and policies that affected Tesco in the UK is the Code of Practice in 2010 that banded demanding payments from suppliers and changing agreed prices retrospectively or without notice and the government’s policies for monopoly controls and reduction of buyers’ power, which may restrict entry to the retail sector. In response to these policies, Tesco provided some promotion offers with lower prices and gave customers a discount on the fuel that they purchase, apropos to the amount spent in their grocery stores (Ivory Research, n.d.). Other key legislations are Consumer Protection from Unfair Trading Regulations, Regulation on Unfair Terms in Consumer Contracts, Sale of Goods Act etc. (Coe, 2015). Since Tesco engaged in financial services it is also affected by Financial Services and Markets Act 2000 in UK (Pygott, 2017).

International standards convergence increases financial reporting quality and lowered engaging in earnings manipulation. There are no exact finding to what extend IFRS actually prevents manipulation (Mikova, 2014) and institutional factors may play a big role in manipulation engagement. In order to secure better reporting quality, UK brought Companies Act 2004 and Companies Act 2006 on audits, investigations and community enterprise.

Environmental factors

Since the end of 2013 Tesco has been more focused on environmental strategy updating. The company has an impact on climate, forest, marine, farmlands and freshwater, either through direct operations or through sourcing activities (Tesco Plc, 2017c). Some of company goals are to halve the carbon intensity of their stores and distribution centres and to reduce carbon intensity per case of goods delivered by 25% until 2020 (Tesco Plc, 2017d).

Corporate environmental disclosure and earnings management have seen as related. To attract current and potential investors through positive corporative image and in order to distract monitoring of earnings activities, managers can tend to voluntarily disclose environmental information. Because of their importance, UK government demand (through Companies Act

2006) that environmental issues are reported in annual reports and accounts (Sun, Habbash, Salama, & Hussainey, 2007; Environment Agency, 2013).

4.3 Industry Analysis

Tesco’s core business retailing was analysed trough Porter’s five forces in order to determinate industry weaknesses and strengths. After the analysis of current and potential future state of the five competitive forces, managers can search for options to influence these forces in their organization’s interest. Although industry-specific business models will limit options, the strategy can change the impact of competitive forces on the organisation. The analysis provided the following information:

- High competition is one of the main characteristics of retailing industry. Among with Tesco, ASDA, Sainsbury's and Morrison's are viewed as the big four of United Kingdom's retail industry. Along with them, there are also powerful global competitors such as Wal Mart Stores (United States), Carrefour S.A. (France), Metro A.G. (Germany), Albrecht Discounts (ALDI) Group (Germany), PriceSmart INC. (United States), Fred's INC. (United States) etc.

- Barriers to entry on such a market are not easily to overcome. To establish favourable supply contracts, leases and be competitive represent almost impossible challenge for new entrants. Because of their vertical structure and centralized buying, chain stores have more favourable position than independent retailers (The Industry Handbook: The Retailing Industry, 2017).

- Power of suppliers is little and big chains usually have a strict control under them. Tesco has a plenty of suppliers for each product category and have control over 800 dairy farmers so it indicates that suppliers’ power is low since company controls terms on which products are received (Joshaddo, 2017).

- Tesco’s consumers have strong effect on their operations. Because of their power, company has introduced service feedback forms in store and online and contact phone line. Consumers also affected price cuts of some key brand products (Joshaddo, 2017).

- Substitute products are easily to find. High availability of same product within other grocery retailers and factors like price, home delivery, online shopping and loyalty programs can affect whether a particular product will be substituted. During past few years, number of substitutes increased. By the end of 2015, Lidl and Aldi managed to capture 10 % of the grocery market (Ho, 2016; Joshaddo, 2017).

Considering provided information high possibility of product substitution, high competition and buyers influence on price reductions for Tesco can pose potential problems. If the retailer does not adjust business to the market conditions (i.e. consumer needs), bad performance could be a motive for potential earnings manipulation. Recognized revenue before they are actually earned is most common way to inflate profit in order to keep shareholders satisfied and attract new investors.

Many powerful retailers also provide other services through their subsidiaries, along with retailing, to strength their business. Besides business diversification after building a loyal national customer base, expanding internationally is one more step to keep business growing. During 2000's retailers expanded their business intensely also through e-commerce which captured almost all the gains in retail sales, and until 2015 fully three-quarters of retail sales growth has occurred through online channels rapidly at an annual pace of about 15 percent (Kesteloo, 2015). For the company’s peer group Sainsbury’s and Asda ware chosen because they are the strongest Tesco’s UK competitors by revenue (Retail Economics, 2017), they are reporting by the same standards (IFRS and UK GAAP) and have similar business strategies. Comparison of core competences, strategies and competitive advantages of Tesco and its key rivals are given in the next chapter.

4.4 Core Competences, Strategies and Competitive Advantages of Tesco and its Key Rivals

Tesco Company captures opportunities fast through related diversification. The company established subsidiaries Tesco Bank, Tesco Mobile and Tesco Technical Support. Most of company’s success comes from low cost leadership in retail industry, internationalization, strategically store locating, open 24 hours a day stores, strong focus on employees and Club Card Loyalty program (Business Essays, 2016). Club card offers the cardholder a variety of benefits and enables Tesco to observe and study consumer behaviours in order to market the right products. This scheme was so successful that helped Tesco to overtake its closest rival Sainsbury’s in 1995 and became the UK’s largest food retailer (Refferal Candy, 2016). Besides the loyalty cart, Tesco lunched separate ‘venture brands’ in 2011 that reached very specific niche markets and in 2015 presented the Brand Guarantee scheme (promise of a refund if branded baskets of ten or more products were found to be more expensive than those sold at their rivals’ stores) (Refferal Candy, 2016). The company also provides click-and-collect that enables people to buy online and collect order trough drive-through counters.

Sainsbury’s is on the second place by sales revenue (Retail Economics, 2017) in the United Kingdom, with 1,304 locations that include supermarkets and convenience formats. According to customers, they are seen as the highest-quality grocer among its peers, which allows them to charge premium prices. In order to increase sales, Sainsbury's is experimenting with variety store layouts, extending offer of general merchandise categories and offer in-store banking services (Downie, 2015). Like Tesco, they diversified their portfolio and growth in digital retailing (trough Argos), in bank, energy and real estate sector. With their partners in Nectar loyalty program, they provide benefits to their loyal consumers (Sainsbury's, 2017a; Nectar, 2017). In addition, Sainsbury's manufactures their own products, has their own brands and adopted among the first radio frequency identification (hereinafter: RFID) what has brought them competitive advantage (UK Essays, 2015). Trough virtual stores they also planned to capture Asian market (Finch, 2010).

Asda is the United Kingdom's third largest grocery chain by sales revenue (Retail Economics, 2017; Kantar World, 2017). Within 604 retail locations including supermarkets and larger format superstores, company sells items such as clothing, furnishings and gasoline in addition to groceries. As well as Tesco and Sainsbury's, Asda has a financial service Asda Money, that offers car insurance, credit cards and travel money bureaux, but they are provided by other companies such as Travelex (Asda Money, 2017a). Company's competitive strategy is seen in sustaining the lowest prices within Big Four UK grocers (Downie, 2015; Bloomberg L. P., 2017). Through International Procurement Limited (hereinafter: IPL), the company creates a unique supply base capability that enables them to lower the cost of goods (IPL Ltd., 2018). In order to meet consumer needs company also improved its store layouts and online sales channel. After a long successful period of grocery home shopping in 2008, the same year they introduced non-food online sales George.com that became fastest growing online fashion business. In addition to the above, they are also working on improvement of nutritional value for their private-label products (Asda, 2017b; Downie, 2015). Company currently doesn't offer a loyalty scheme for shoppers, but if a consumer shops there regularly he/ she can save money and get rewarded with the Asda Money Cashback Credit Card and, for example, can earn unlimited 1% cashback on Asda shopping and Asda fuel and 0.5% elsewhere (Love Money, 2017).

It can be seen that Tesco and chosen peers, Sainsbury's and Asda, have similar strategies in the sense that they grew fast trough focus on customer satisfaction and by investing globally. All companies invest to extend offering services and with grocery retailing as a main business, they participate in banking, energy, real estate industry etc. Considering timeline of events that happened within Tesco, PESTLE factors and mentioned strategy similarities it can be concluded that dynamic environment in which company operates leaded to engagement of management in earnings manipulation. Business similarities and the fact that Sainsbury's will acquire Asda during 2018 can bring very challenging future for Tesco and repeat fraudulent behaviour to keep the position of market leader (Wearden, 2018).

5 ANNUAL FINANCIAL STATEMENT ANALYSIS

Annual consolidated financial statements of Tesco Company were analysed on a yearly basis, from February to February, for an 8-year period from 2008 to 2015. Impact of all businesses within Tesco Company are analysed on a group basis, without partial focus, due to the lack of partial information. Since this accounting scandal took place in September 2014 during the semi-annual reporting period, and since the company in 2013 had firs fall in profits after 19 years an attempt to be as accurate as possible, the years prior to the fraudulent event are also to be taken into account. The accompanying charts and tables were based on audited annual reports from the company's website and the notes in financial papers. Also in order to provide complete conclusion benchmark with a chosen peers Sainsbury's and ASDA on key performance indicators was made.

5.1 Income Statement and Other Comprehensive Income

The table below (Table 8) shows the income statement positions for the period from 2008 to 2015. During world financial crisis, Tesco was growing steadily producing uninterrupted profitability track record, regardless of the bad shape of world economy. Having crisis in mind growing sales may have indicated irregularities or some form of manipulation.

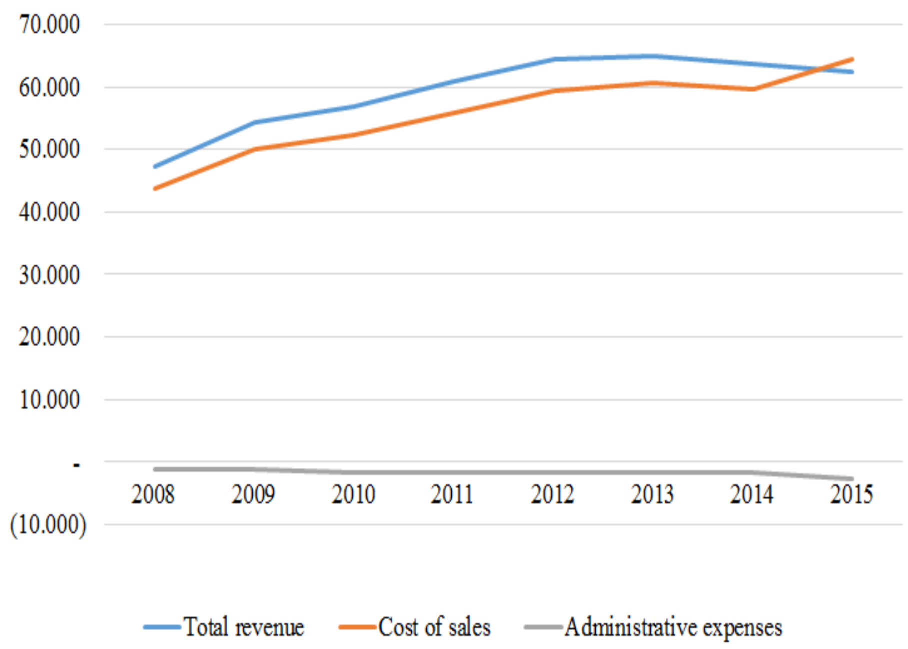
Table 8. Tesco's Income Statement from 2008 to 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Total revenue	47.298	54.327	56.910	60.931	64.539	64.826	63.557	62.284
Cost of sales	(43.668)	(50.109)	(52.303)	(55.871)	(59.278)	(60.737)	(59.547)	(64.396)
Gross profit	3.630	4.218	4.607	5.060	5.261	4.089	4.010	(2.112)
Administrative expenses	(1.027)	(1.248)	(1.527)	(1.676)	(1.652)	(1.562)	(1.657)	(2.695)
Profit/losses arising on property-related items	188	236	377	427	376	(339)	278	(985)
Operating profit	2.791	3.206	3.457	3.811	3.985	2.188	2.631	(5.792)
Share of post-tax profits of joint ventures and associates	75	110	33	57	91	54	60	(13)
Finance income	187	116	265	150	176	177	132	90
Finance costs	(250)	(478)	(579)	(483)	(417)	(459)	(564)	(661)
Profit before tax	2.803	2.954	3.176	3.535	3.835	1.960	2.259	(6.376)
Taxation	(673)	(788)	(840)	(864)	(879)	(574)	(347)	657
Profit for the year from continuig operations	2.130	2.166	2.336	2.671	2.956	1.386	1.912	(5.719)
Loss for the year from discontinued operations	-	-	-	-	(142)	(1.266)	(942)	(47)
Profit for the year	2.130	2.166	2.336	2.671	2.814	120	970	(5.766)

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Company's profits continually rose until 2013 when the first fall after a long series of successful years was recorded. Almost 96% fall in yearly profit compared to the previous year was result of horse meat scandal. Change in financial income from 2010/2009 is related to a new business – bank. Comparing changes on a yearly basis, there is a visible lower growth rate in profit in 2012/11 as a result of poor Christmas sales after which starts profit problems (see Appendix G).

Figure 1. Movements in Income Statement Positions: Total Revenue, Cost of Sales and Administrative Expenses in £m within Tesco



Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

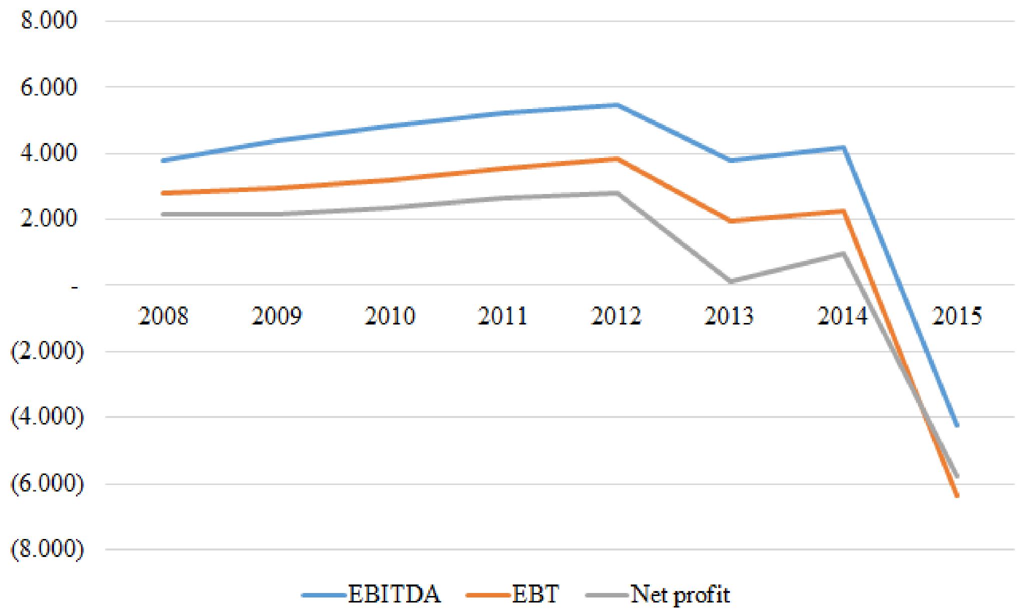
Correlating the cost of sales and total revenue in Figure 1, it can be seen decline in revenue and increase in cost of sales in 2015 what may be an effect of profit overestimation in 2014.
In the observed period visible is also a parallel growth of revenue and cost of sales. Exception is 2012-2013 when cost continues growing and revenue remained almost unchanged compared to the previous year. That indicates that there was a possibility that cost from the previous period was underestimated and/or revenue was overestimated. In addition, the rapidly growth in costs in 2014-2015, when revenue started to drop, results in difficulties and shutting down unprofitable stores in 2014.

Figure 2. Year-On-Year Growth Rates Comparison between Tesco, Sainsbury's and Asda

Source: Own work.

During 2009 Tesco experienced big revenue growth, but after that rate move in a similar pattern as rates of chosen peers. Revenue problems started in 2013 after firs fall in annual profits in 19 years as a result of the horse meat scandal.

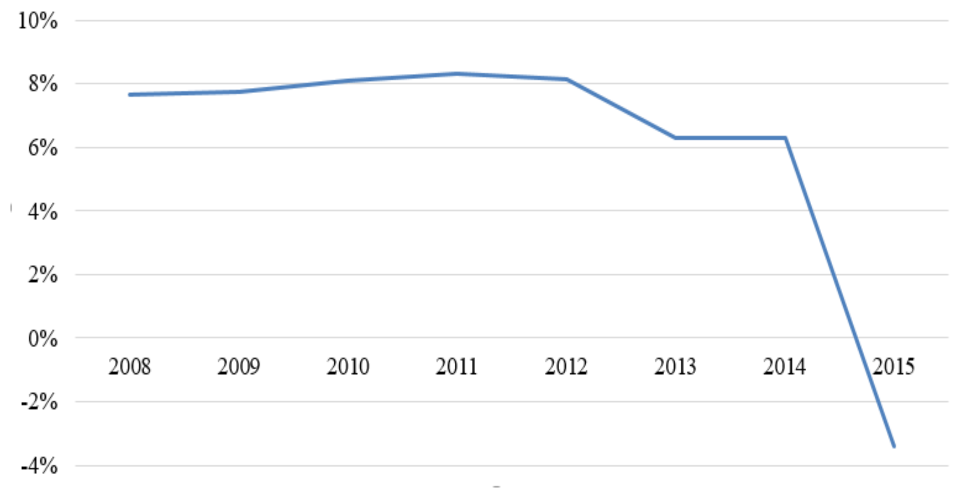
Figure 3. Comparison of EBITDA, EBIT and Net Profit of Tesco



Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017c.

The EBITDA, EBT and Net profit show positive growth trend by 2012. In 2013 EBITDA declined but since structure of EBITDA did not changed over observed period, earnings manipulation cannot be confirmed.

Figure 4. Gross Profit Margin of Tesco



Source: Own work.

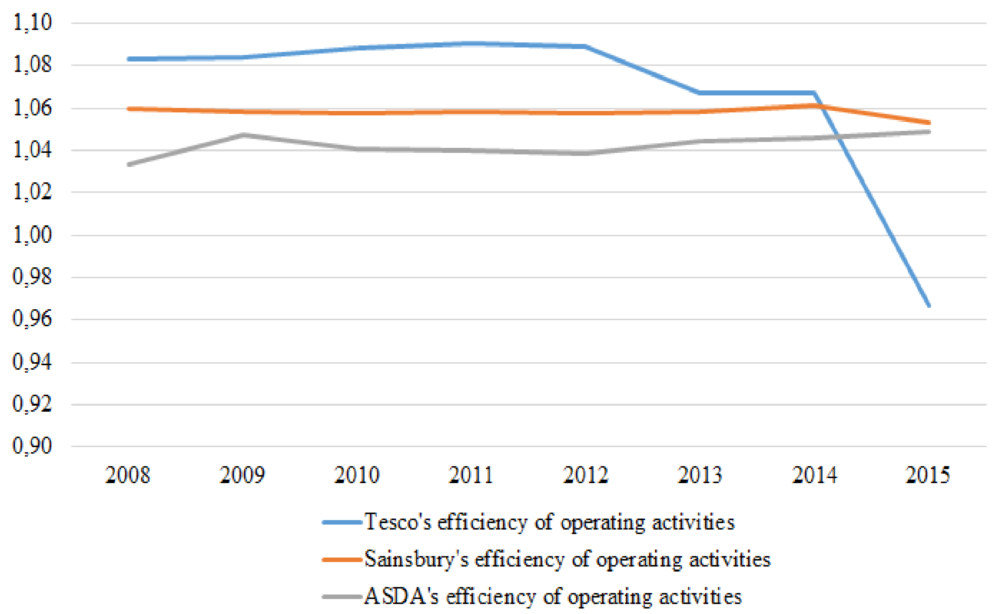
Decreasing gross profit margin is also a warning sign for earnings manipulation. From Figure 4, it is visible stable gross profit margin until year 2012 (constantly moving around 8%), after which starts alarming period.

Figure 5. Comparison of Net Profits between Tesco, Sainsbury’s and Asda in £m

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b; Sainsbury's, *Results, Reports and Presentations 2008-2015*, 2017b; Companies House, *Asda Group Limited Commpany Reports 2008-2015*, 2017.

Tesco’s dominance between key rivals is also visible from the net profit (excluding critical years), but compared to them, it is evident that peers profits are more stable. The company also grew faster than the competitors did until the first scandal in 2013.

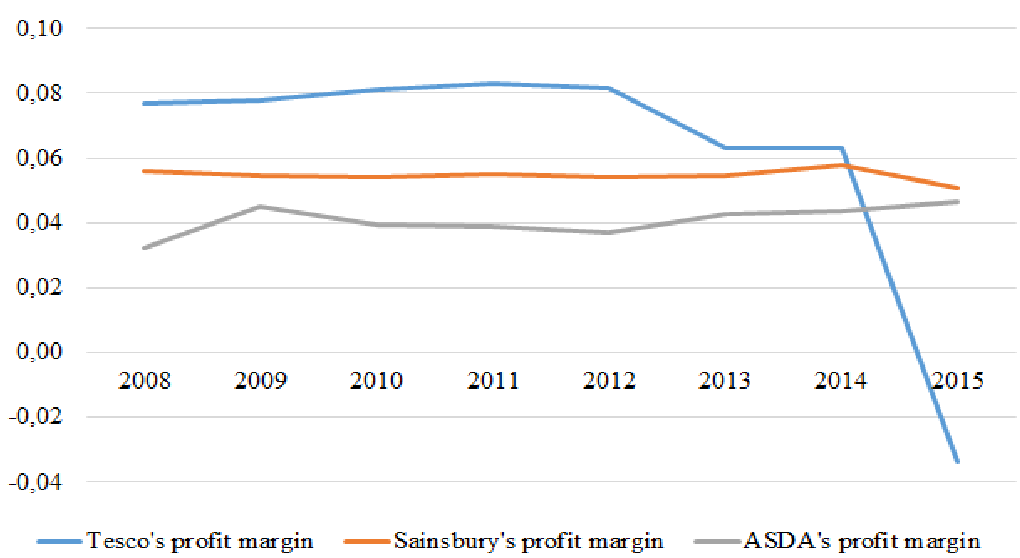
Figure 6. Comparison of Operating Efficiencies between Tesco, Sainsbury’s and ASDA



Source: Own work.

In comparison with the competitors, the company operated efficiently until deterioration in 2015. The same is with the profit margin.

Figure 7. Comparison of Profit Margins between Tesco, Sainsbury’s and Asda



Source: Own work.

Additionally, during the analysis of statement of comprehensive income, visible is the dominance of actuarial losses on defined benefit pension schemes and foreign currency translation differences on total recognised income. Due to the period of 2014 and 2015 defined pension schemes were a subject of re-measurement. Increasing losses in discontinued operation in last period also indicated mentioned instabilities.

5.2 Balance Sheet

In the analysis of the statement of financial positions (i.e. balance sheet), current and non-current assets and liabilities of Tesco company over the 8-year period were analysed.

Table 9. Tesco's Assets from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
NON-CURRENT ASSETS								
Goodwill and other intangible assets	2.336	4.027	4.177	4.338	4.618	4.362	3.795	3.771
Property, plant and equipment	19.787	23.152	24.203	24.398	25.710	24.870	24.490	20.440
Investment property	1.112	1.539	1.731	1.863	1.991	2.001	227	164
Investment and joint ventures associates	305	62	152	316	423	494	286	940
Other investments	4	259	863	1.108	1.526	818	1.015	975
Loans and advances to customers	0	1.470	1.844	2.127	1.901	2.465	3.210	3.906
Derivative financial instruments	216	1.478	1.250	1.139	1.726	1.965	1.496	1.546
Deffered tax assets	104	21	38	48	23	58	73	514
	23.864	32.008	34.258	35.337	37.918	37.033	34.592	32.256
CURRENT ASSETS								
Inventories	2.430	2.669	2.729	3.162	3.598	3.744	3.576	2.957
Trade and other receivables	1.311	1.798	1.888	2.314	2.657	2.525	2.190	2.121
Loans and advances to customers	0	1.918	2.268	2.514	2.502	3.094	3.705	3.814
Loans and advances to banks and other financial assets	0	2.129	144	404	0	0	0	0
Derivative financial instruments	97	382	224	148	41	58	80	153
Current tax assets	6	9	6	4	7	10	12	16
Short-term investments	360	1.233	1.314	1.022	1.243	522	1.016	593
Cash and cash equivalents	1.788	3.509	2.819	1.870	2.305	2.512	2.506	2.165
	5.992	13.647	11.392	11.438	12.353	12.465	13.085	11.819
Assets of the disposal group and non-current assets classified as held for sale	308	398	373	431	510	631	2.487	139
	6.300	14.045	11.765	11.869	12.863	13.096	15.572	11.958
TOTAL ASSETS	30.164	46.053	46.023	47.206	50.781	50.129	50.164	44.214

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Goodwill and other tangible assets, along with property, plants and equipment, make up the biggest part of non-current assets mainly because Tesco was expanding fast in the UK and Europe, as well as overseas. Changes in 2009/08 are indicating a growth in new business - Tesco Bank (growth in derivatives, loans and cash). Investment property and other investments also point out their pressure to achieve performance goals. During 2014/15 drops in goodwill, reduction of investment property and overall non-current assets are indicating problems that the company had because of the crisis after profit manipulation.

Table 10. Tesco's Liabilities from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
CURRENT LIABILITIES								
Trade and other payables	(7.277)	(8.522)	(9.442)	(10.484)	(11.234)	(11.094)	(10.595)	(9.922)
Financial liabilities:								
Borrowings	(2.084)	(4.059)	(1.529)	(1.386)	(1.838)	(766)	(1.910)	(2.008)
Derivative financial instruments and other liabilities	(443)	(525)	(146)	(255)	(128)	(121)	(99)	(89)
Customer deposits and deposits by banks	0	(4.562)	(4.387)	(5.110)	(5.465)	(6.015)	(6.858)	(7.020)
Current tax liabilities	(455)	(362)	(472)	(432)	(416)	(519)	(494)	(95)
Provisions	(4)	(10)	(39)	(64)	(99)	(188)	(250)	(671)
	(10.263)	(18.040)	(16.015)	(17.731)	(19.180)	(18.703)	(20.206)	(19.805)
Liabilities of the disposal group classified as held for sale	0	0	0	0	(69)	(282)	(1.193)	(5)
NET CURRENT LIABILITIES	(3.963)	(3.995)	(4.250)	(5.862)	(6.386)	(5.889)	(5.827)	(7.852)
NON-CURRENT LIABILITIES								
Financial liabilities:								
Borrowings	(5.972)	(12.391)	(11.744)	(9.689)	(9.911)	(10.068)	(9.303)	(10.651)
Derivative financial instruments and other liabilities	(322)	(302)	(776)	(600)	(688)	(759)	(770)	(946)
Post-employment benefit obligations	(838)	(1.494)	(1.840)	(1.356)	(1.872)	(2.378)	(3.193)	(4.842)
Other non-current payables	(42)	(68)	0	0	0	0	0	0
Deferred tax liabilities	(802)	(696)	(795)	(1.094)	(1.160)	(1.006)	(594)	(199)
Provisions	(23)	(67)	(172)	(113)	(100)	(272)	(183)	(695)
	(7.999)	(15.018)	(15.327)	(12.852)	(13.731)	(14.483)	(14.043)	(17.333)
NET ASSETS	11.902	12.995	14.681	16.623	17.801	16.661	14.722	7.071
EQUITY								
Share capital	393	395	399	402	402	403	405	406
Share premium	4.511	4.638	4.801	4.896	4.964	5.020	5.080	5.094
All other reserves	40	40	40	40	40	685	(498)	(414)
Retained earnings	6.871	7.865	9.356	11.197	12.369	10.535	9.728	1.985
	11.815	12.938	14.596	16.535	17.775	16.643	14.715	7.071
Minority interests	87	57	85	88	26	18	7	0
Total equity	11.902	12.995	14.681	16.623	17.801	16.661	14.722	7.071
TOTAL LIABILITIES	(30.164)	(46.053)	(46.023)	(47.206)	(50.781)	(50.129)	(50.164)	(44.214)

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015,* 2017b.

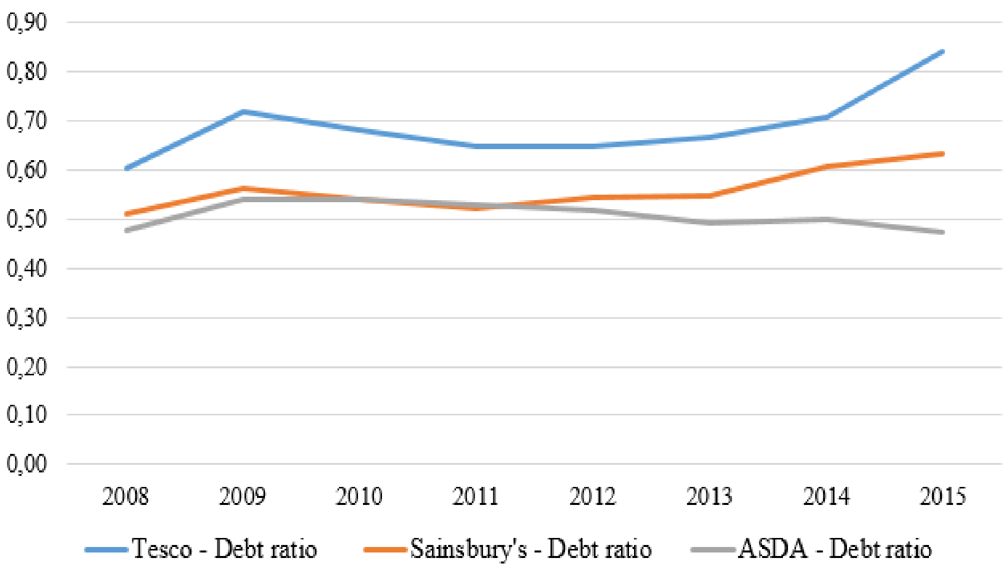
It is also visible from the Table 10 that current liabilities are the highest in the more recent years, mainly owing to higher financial liabilities to banks and higher borrowings since company had problems. Trade and other payables are relatively stable, with a smaller drop in 2015, and they are also the biggest item among the current liabilities. The biggest borrowings occurred in 2009, as well as growth in customer deposits and deposits by banks. Tax liabilities dropped significantly in the final period. Provisions were increasing from year to year. All of the above affected the total current liabilities that were constantly growing and reached very high levels, especially in the last two years and in 2012.

As for non-current liabilities, special attention is drawn to post-employment benefit obligations, which also represent one of the biggest items on the list. Post-employments benefits show constant growth, except for 2011, when there was a drop in comparison to the previous year. This is not common because they did not reduce the number of employees so this drop also serves as a warning sign that may indicate manipulation. The effect of new business in 2009 in a growth of borrowings, deposits and derivatives is also visible. Net assets experienced growth until the 2013 after which they dropped because of the growth in total liabilities and fall in non-current assets, mainly because of reductions due to business difficulties. Nonetheless, the company expansion was profitable until 2013 as the total equity until than has been increasing steadily.

Equity is for the most part made of share premium and retained earnings. Share capital grows insignificantly and the same goes for share premium. All other reserves are constant until 2012, when they slightly rose, compared to the previous year. Other reserves experienced one more increase in 2013, after which they turned to negative because of loss in hedging and translation reserves. Retained earnings were growing until they peaked in 2012. In 2013 they started to fall and 2015 brought drastic reductions as a result of year loss and re-measurement losses on defined benefit pension schemes. This was reflected in total equity, which followed the movement of retained earnings. Minority interest was reduced after 2011.

In order to see if there is any warning sign for earnings manipulation within indebtedness, next figure (Figure 8) presents D/E ratios for observed period in comparison with peers' ratios.

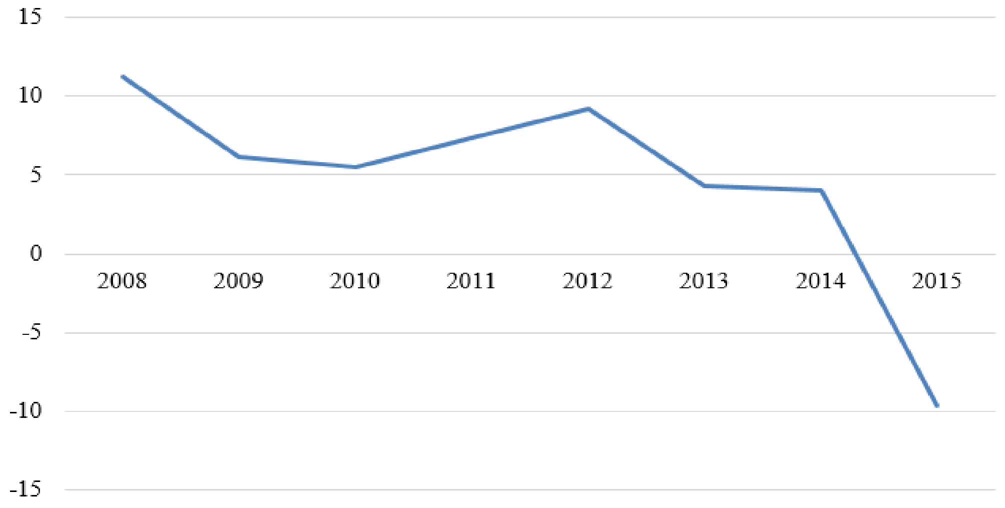
Figure 8. Comparison of Debt Ratios between Tesco, Sainsbury's and Asda



Source: Own work.

The indebtedness ratio is consistently above the peer's ratios mostly because the company had larger volume of activities in retail as well as in bank and insurance then competitors, so it needs more debt. Compared to Sainsbury's, which is the most similar to it in businesses, we can see similar trend in curves. Overall indebtedness is connected to the type of businesses, constant investments. Increasing values after 2012 are connected with fall in profits as result of horse meat scandal, profit warning in 2013 and profit overestimation that affected year 2014 and 2015. In addition, interest coverage ratio dropped under five in 2013 (which is a cause for concern) because of the same events (Figure 9).

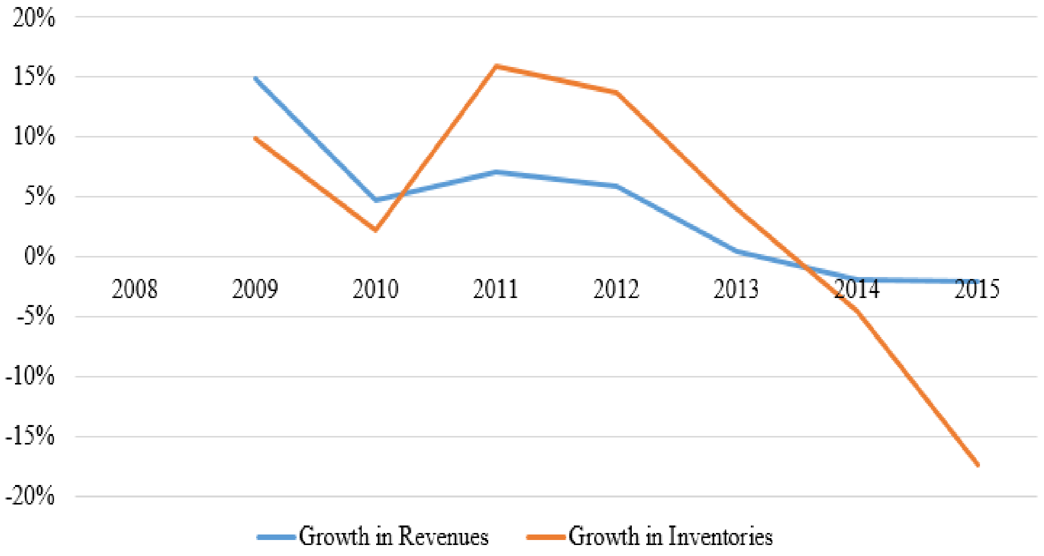
Figure 9. Interest Coverage Ratio of Tesco



Source: Own work.

In connection with shown income statement, following figures (Figure 10, 11 and 12) are showing comparison of some positions in which warning signs on earnings manipulation could be found.

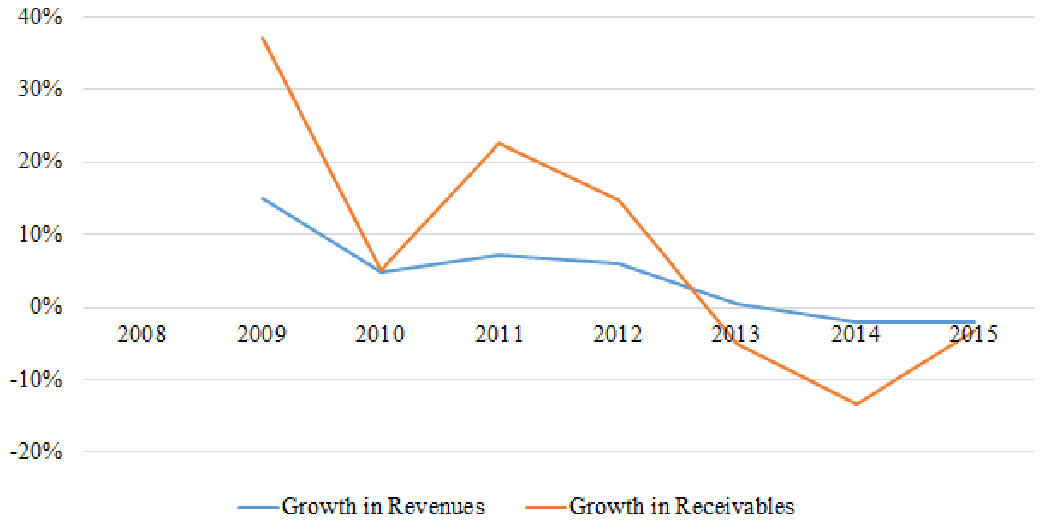
Figure 10. Comparison of Year-On-Year Growth in Revenue and in Inventories within Tesco



Source: Own work.

Inventories increase in 2011 as a response to larger demand in 2009/10 but from 2011 to 2013 higher levels may also indicate possible overaccumulation of the same since they grew faster than revenues. During 2014/15 there were a lot of write-offs and impairments which resulted in a great decrease in inventory.

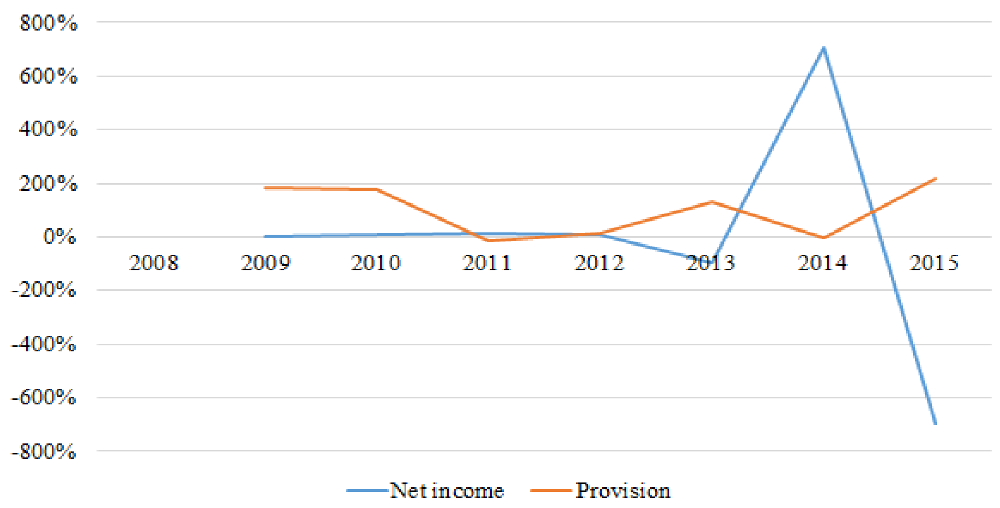
Figure 11. Comparison of Year-On-Year Growth in Revenue and in Receivables within Tesco



Source: Own work.

Comparing revenues and receivables on a year-on-year growth base, faster rate of growth in receivables certainly present warning sign for earning manipulation. It indicates that Tesco had until 2013 extended credit to customers, had aggressive revenue-recognition policies or had manipulated with account receivables what leads to income reduction.

Figure 12. Comparison of Year-On-Year Growth in Net Income and Provisions within Tesco



Source: Own work.

Provisions are raised during 2013 and 2015 during significant declines in profits. This is done in order to increase net income in a future years and it is a sort of earnings manipulation techniques. Higher growth in provision in 2009 and 2010 may also be an indicator that provisions are raised in order to smooth income.

5.3 Cash Flow

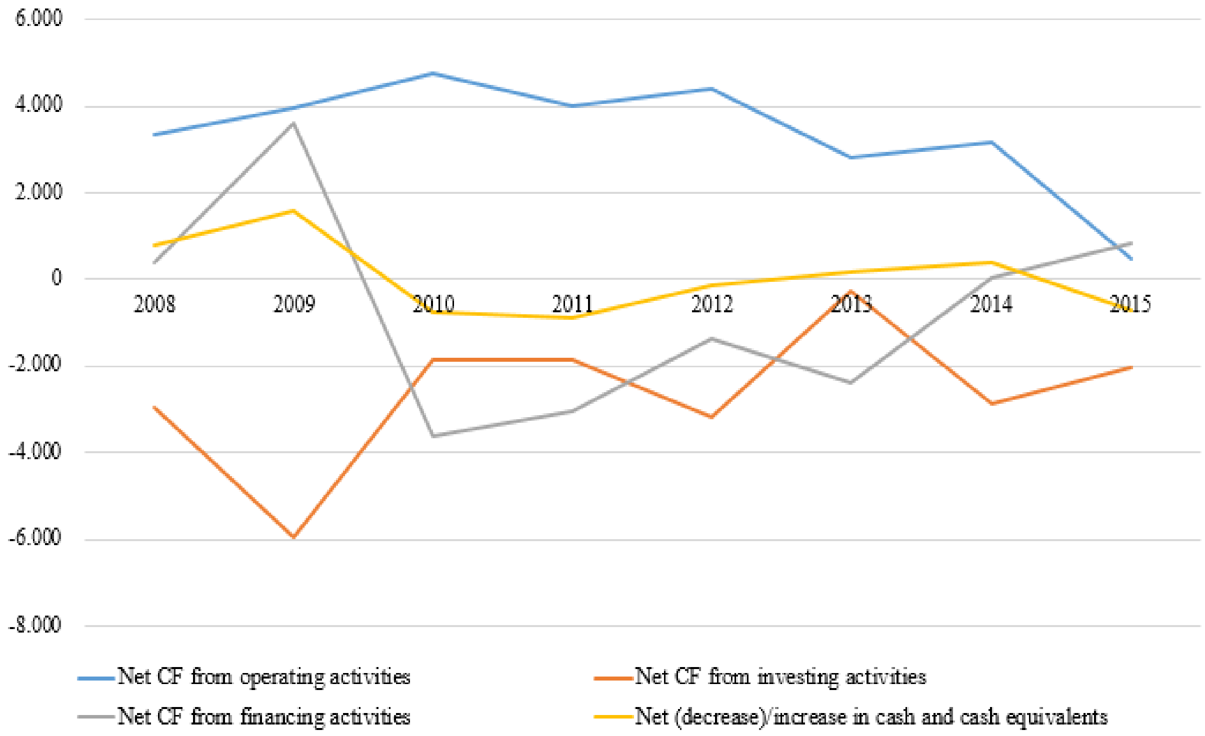
This section analyses the cash flow from the company's operating, investing and financing activities. The Table 11 shows the cash flow for the observed period and the same is presented in a Figure 13 as well, in order to make the fluctuations for different activities more easily comparable.

Table 11. Cash Flows over the years within Tesco in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Net CF from operating activities	3.343	3.960	4.745	3.992	4.408	2.837	3.185	484
Net CF from investing activities	-2.954	-5.974	-1.877	-1.859	-3.183	-278	-2.854	-2.015
Net CF from financing activities	412	3.615	-3.607	-3.036	-1.366	-2.365	56	814
Net (decrease)/increase in cash and cash equivalents	801	1601	-739	-903	-141	194	387	-717

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Figure 13. Movements of Cash Flows within Tesco in £m



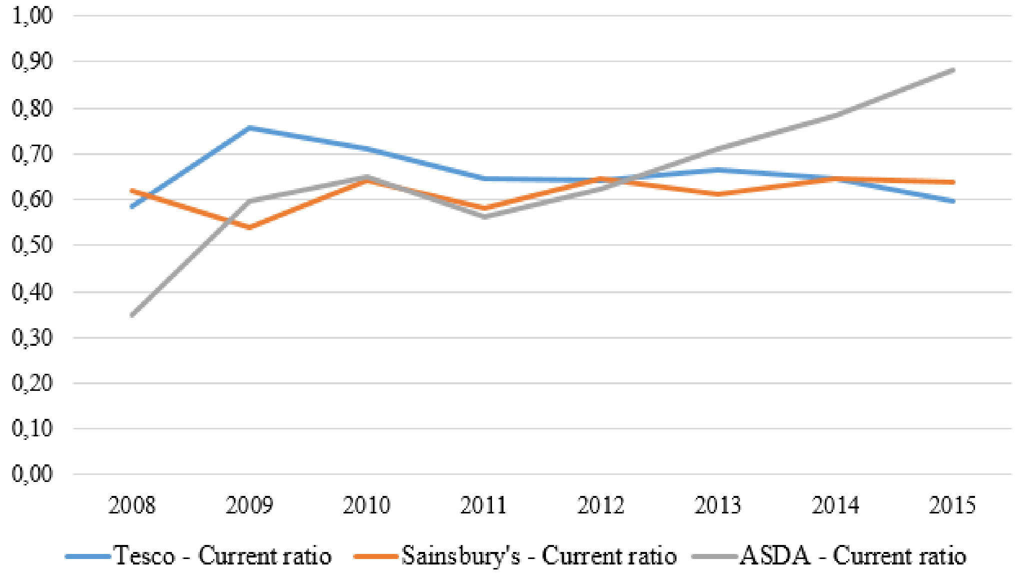
Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Events within the company were reflected also on cash flows. During 2009, cash flows from investments indicates more cash outflows for property, plant, equipment, investment property and acquisition of subsidiaries due to big company investment Tesco Bank. Investment also made a big change in cash flow from financing activities due to increase of borrowings. Cash flow from operation is constantly increasing until 2011 when it experienced lower level despite an increase in sales and profit, which may indicate payment difficulties. In 2013 it also it also fell (compared to 2012) as a result of horse meat scandal. Group also constantly invested, but sold unprofitable units as well. In 2013, the investments were totally reduced and the company pulled some of its businesses. Profit overestimation in 2014 caused deterioration of all cash flows in 2015.

5.4 Key Performance Indicators

In order to see Tesco's overall performance, the following KPI's are given in comparison with those of the peers: Sainsbury's and ASDA.

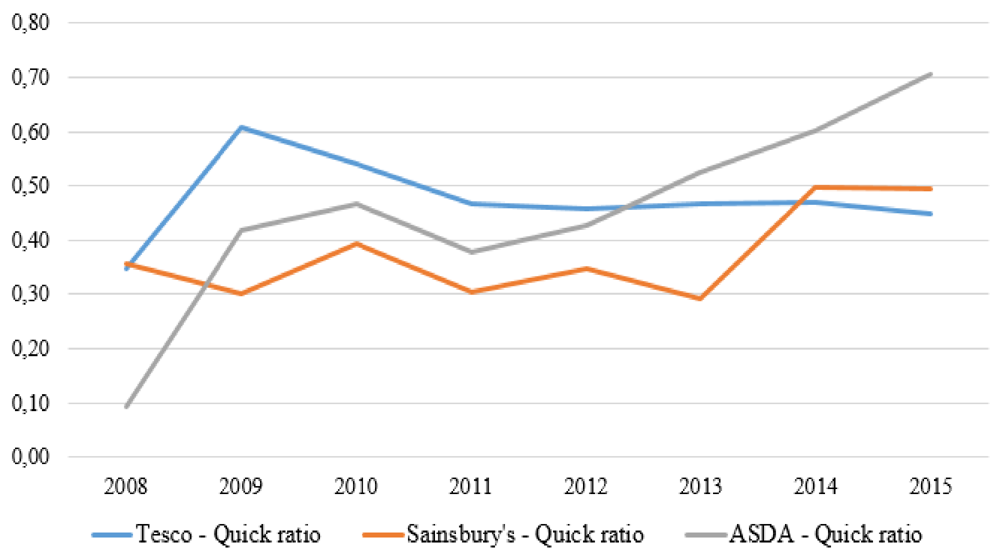
Figure 14. Current Ratios of Tesco, Sainsbury's and ASDA



Source: Own work.

By comparing Tesco's current ratio with peers it can be seen that is more solvent than its key competitors until 2012 when problems arose – first profit warning after 20 years (Barry, S., 2014). Overall current ratio is not so bad compared to Sainsbury's after 2012 but clearly, it can be better. Current ratio also reflected growth in current liabilities and fall in current assets, which is visible from the balance sheet. In the retailing industry, it is typically that this ratio is below 1 and it is acceptable as long as the company is able to negotiate long credit periods with suppliers, while offering shorter credit periods to customers (Current Ratio, 2017).
Looking on inventories, which managed to keep their levels, we can conclude that Tesco continued to operate efficiently in daily business. Quick ratio follows the same trend as the current ratio, but with flatter line in 2013 due to increase in inventories.

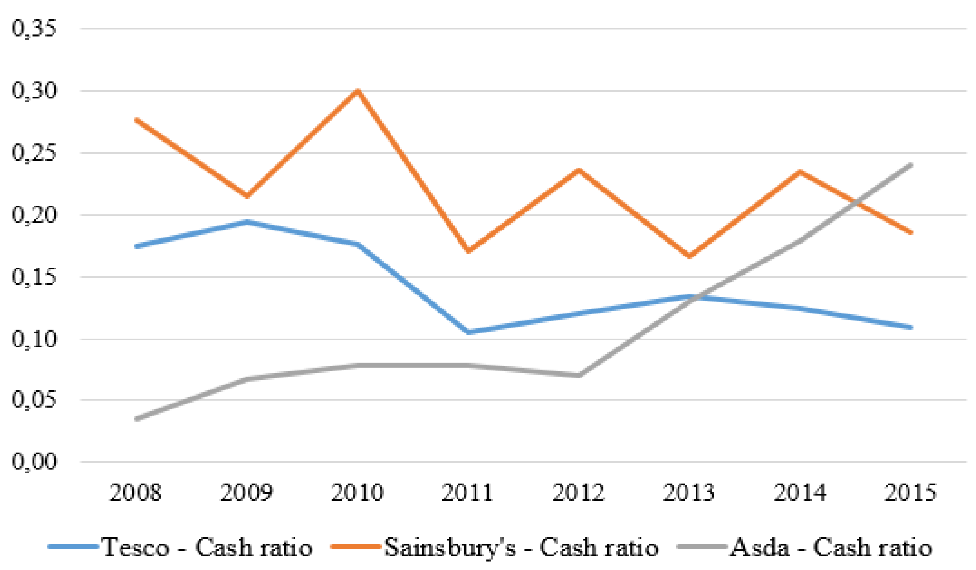
Figure 15. Comparison of Tesco’s, Sainsbury’s and ASDA’s Quick Ratios



Source: Own work.

Retailing industry operates with higher current liabilities and lower cash reserves mostly because it maximally utilises it or takes advantage of potential low-cost loans. From the Figure 15 is visible that Tesco have higher level of quick ratio compared to peers until 2012.

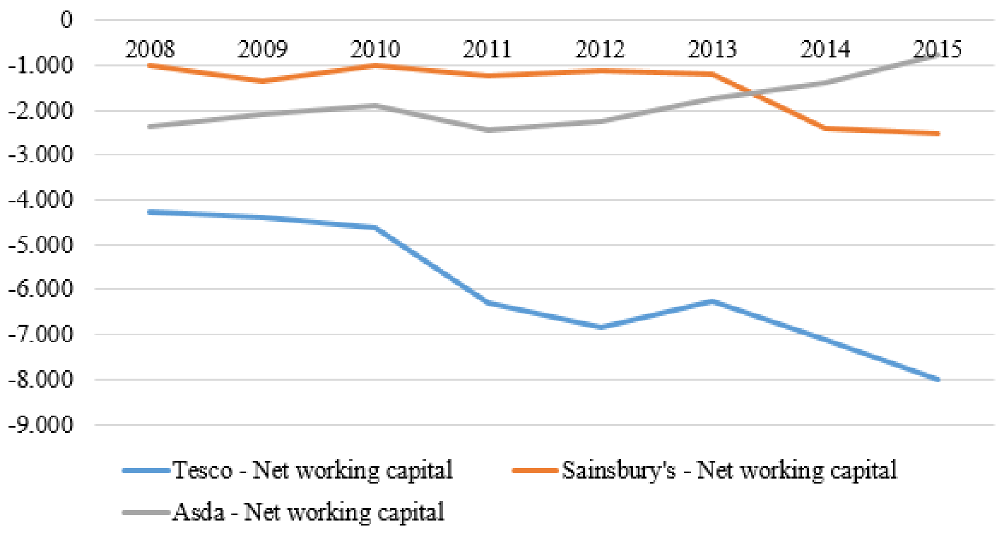
Figure 16. Comparison of Tesco’s, Sainsbury’s and ASDA’s Cash Ratios



Source: Own work.

Comparing cash ratios, we can see that Tesco’s has a low ratio (industry average is cca 0.2) (CSI market, 2017) with the negative trend, which is expected since the company’s current liabilities have grown.

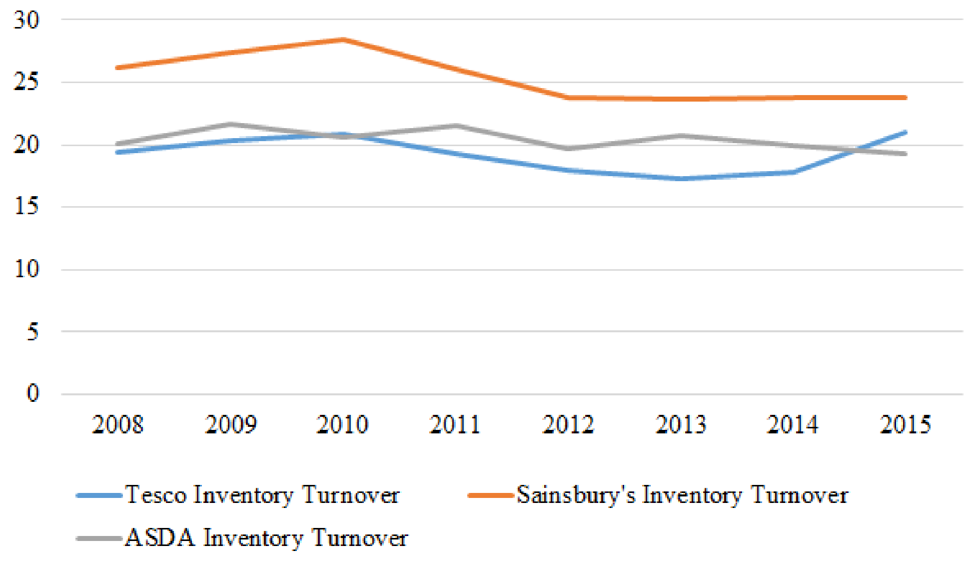
Figure 17. Comparison of Tesco's, Sainsbury's and ASDA's Net Working Capital



Source: Own work.

Net working capital is constantly in the negative and it keeps dropping year after year, so the illiquidity is increasing, showing also a short-term increase of the obligation versus assets. Company's negative working capital is the result of an increase in its accounts payable from large purchases during the years, constant increase in customer and bank deposits.

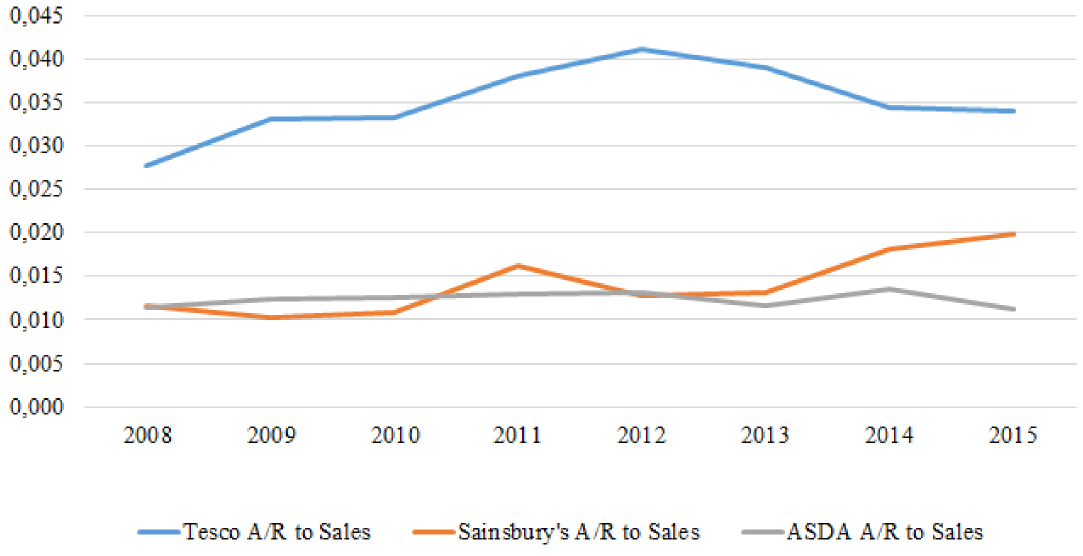
Figure 18. Comparison of Inventory Turnover between Tesco, Sainsbury's and Asda



Source: Own work.

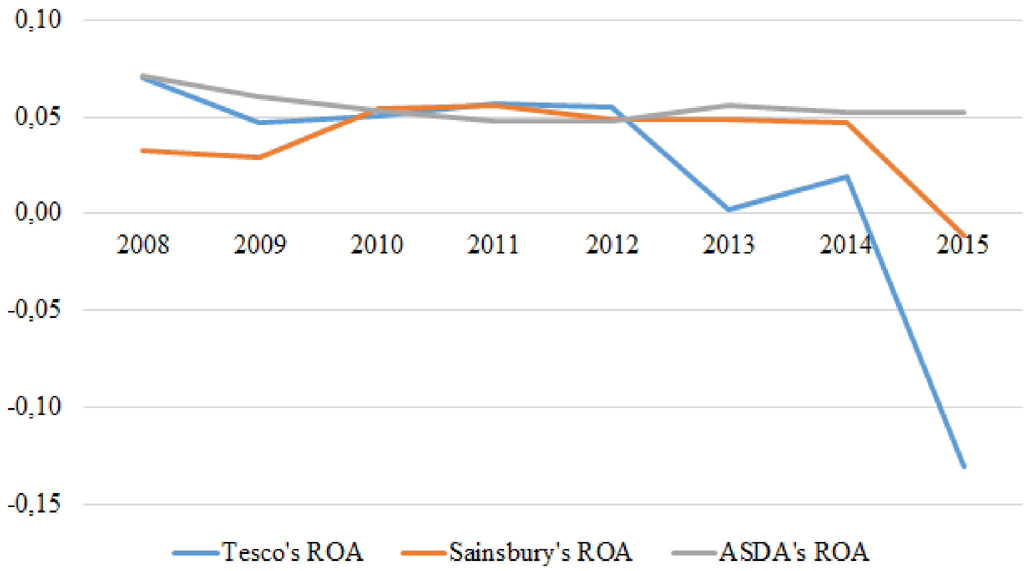
Inventory turnover is mostly at lower levels than competitors' turnovers implying that the company keeps inventory on a much higher level (in relation to sales) than its competitors do. Account receivables (hereinafter: A/R) to sales ratio is below 1 for Tesco and its peers, which means that companies are able to collect money for the goods they sales, but the Figure 19 also points a growing trend in receivables until 2012 for Tesco.

Figure 19. Comparison of Account Receivables to Sales Ratio between Tesco, Sainsbury's and Asda



Source: Own work.

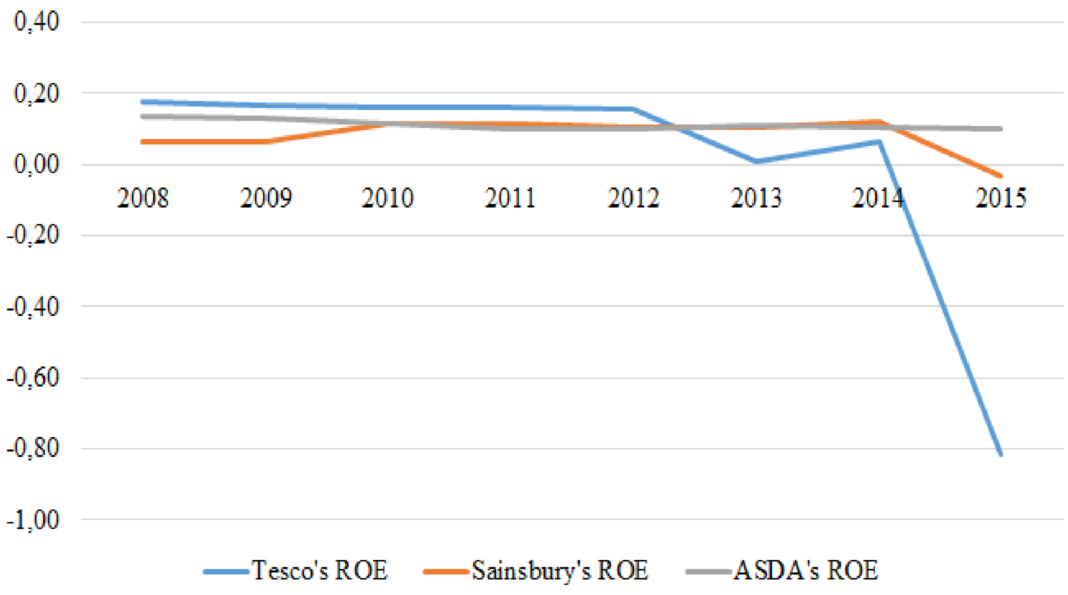
Figure 20. Comparison of Return on Assets Ratios between Tesco, Sainsbury's and Asda



Source: Own work.

Return on assets reflects the events that happened. In 2009, there was an increase in assets as a result of new business within group, and after 2012 the deterioration is mainly the result of deterioration in profits. In between period, Tesco follows the industry.

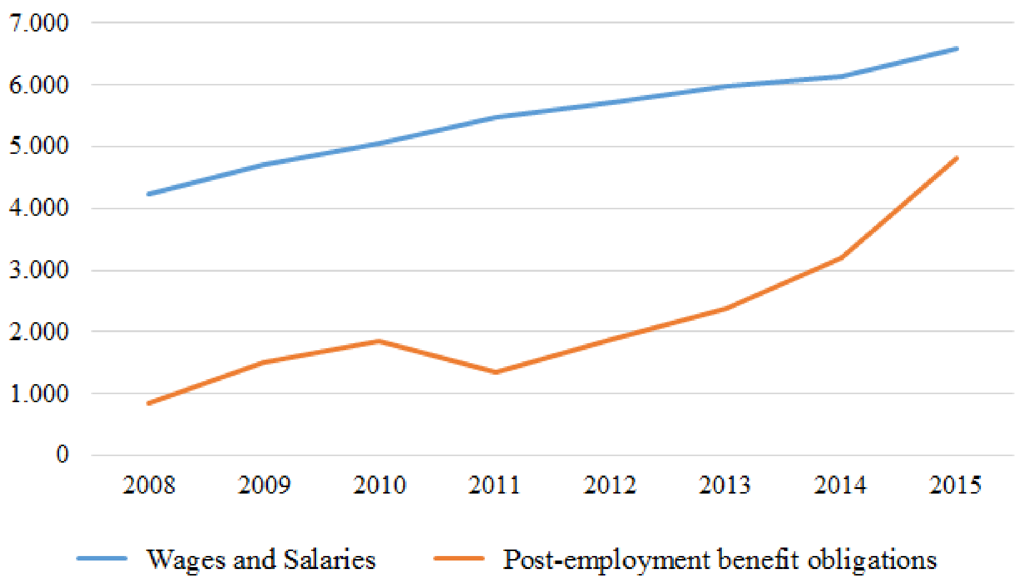
Figure 21. Comparison of Return on Equity Ratios between Tesco, Sainsbury's and Asda



Source: Own work.

Return on equity was stable and higher than the peers' returns until 2012.

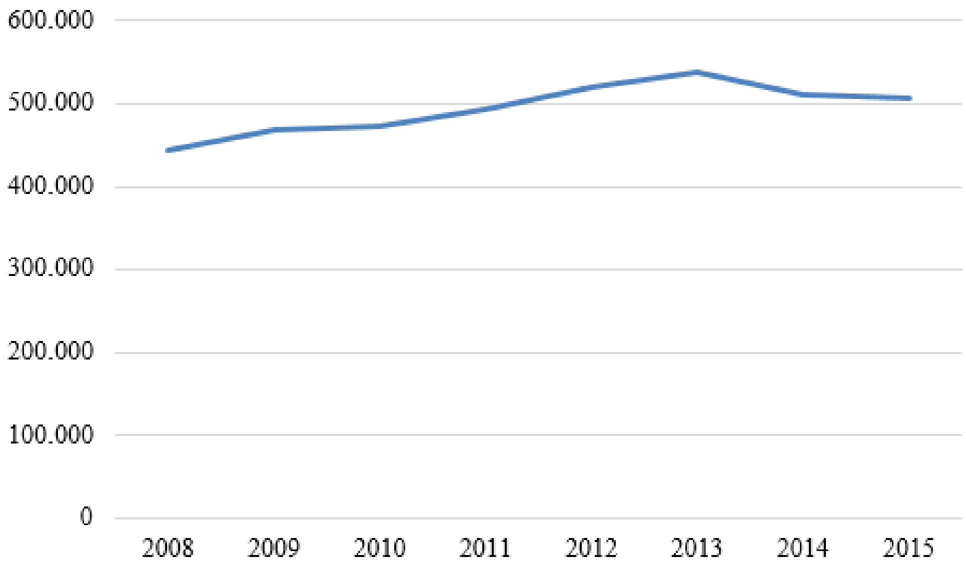
Figure 22. Tesco's Wages, Salaries and Benefit Obligations in £m



Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015, 2017b.*

From the Figure 22 we can see that post-employment benefit obligations increased at the rate faster than that of the wages and salaries. The particularly alarming period occurs between 2010 and 2011, when there was a big drop in post-employment benefits, while wages and salaries continued to grow. Reported reasons for that were market conditions and determined discounted rate but there is also a valid concern for earnings manipulation.

Figure 23. Total Average Number of Employees within Tesco



Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015,* 2017b.

Combining Figure 22 with Figure 23, it is visible that the number of employees rose until 2013 (in line with the salaries), but post-employment benefit obligations dropped, which may indicate underestimation pertaining to that particular item.

Table 12. Comparison of Tesco’s and Sainsbury’s Total Auditors' Remuneration in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Tesco	5.0	6.3	5.3	6.0	7.1	7.5	10.2	8.7
Sainsbury's	1.5	1.7	1.3	1.0	0.9	1.0	1.2	1.2

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015,* 2017b; Sainsbury's, *Results, Reports and Presentations 2008-2015,* 2017b.

Looking on auditors' remuneration and report we can see an increase in remuneration due to business growth and growth in other advisory services from auditors. Compared to Sainsbury’s, Tesco’s remuneration is a lot bigger mainly because advisory service that Tesco use.

Although some of key performance indicators were analysed for Tesco and its peers, throughout this chapter, in order to confirm Tesco inclusion in earning manipulation, Table 13 shows the Beneish model. The model combines 8 indexes that are helpful in earnings manipulation identification. Within this model, day's sales in receivable index (hereinafter: DSRI), depreciation index (hereinafter: DEPI) and total accruals to total assets (hereinafter: TATA) are used to confirm aggressive accounting practice. Gross margin index (hereinafter: GMI), assets quality index (hereinafter: AQI), sales growth index (hereinafter: SGI), sales, general and administrative expenses index (hereinafter: SGAI) and leverage index (hereinafter: LVGI) may indicate existence of tendency to commit fraud (Ramirez-Orellana, A. et al., 2017, p. 47).

Table 13. The Beneish Model for Earnings Manipulation Identification within Tesco

	2008	2009	2010	2011	2012	2013	2014	2015
Day's sales in receivables index (DSRI)	1,095	1,194	1,002	1,145	1,084	0,946	0,885	0,988
Gross margin index (GMI)	0,990	0,988	0,959	0,975	1,019	1,292	1,000	-1,861
Asset quality index (AQI)	1,003	0,935	0,968	0,982	0,987	0,994	1,006	0,974
Sales growth index (SGI)	1,109	1,149	1,048	1,071	1,059	1,004	0,980	0,980
Depreciation index (DEPI)	1,030	0,977	0,903	0,983	0,999	0,916	1,021	0,834
Sales, general and administrative expenses index (SGAI)	1,000	1,000	1,001	0,999	1,000	1,018	1,002	1,119
Leverage index (LVGI)	1,055	1,186	0,949	0,951	1,000	1,021	1,031	1,230
Total accruals to total assets (TATA)	-0,003	-0,012	0,041	0,014	0,022	0,040	0,005	0,032
Manipulation index	**-2,328**	**-2,319**	**-2,272**	**-2,226**	**-2,243**	**-2,208**	**-2,585**	**-3,996**

Source: Own work.

Reported results show that day's sales in receivable index is higher than 1 until 2013 which may indicate use of revenue inflation practice. Neither gross margin index, nor assets quality index and nor sales growth index show manipulation during observed period. GMI indicates problems in 2014 and 2015 that was result of profit overestimation, AQI does not indicate much change in cost deferral during the period and SGI shows business growth until 2014. In 2008 and 2014, depreciation index was greater than 1 indicating lower depreciation policy in order to increase earnings. Increase in sales, general and administrative expenses in 2013 may indicate a loss of control under cost, which is the result of a fall in sales and horse meat scandal in 2013. Total accruals to total assets indicator was the highest in 2010 and 2013 and may present manipulation encouraged by profit warnings. Increase in debt in 2008, 2009 and from 2013 to 2015 indicates high leverage of the company.

Manipulation index is estimated from Beneish prediction indexes (Table 13) and it is used in detection of earnings manipulation. If the value of the index is greater than -2.22 it confirms that manipulation within company exist, vice versa index lower than -2.22 exclude manipulation (Beneish Model, 2018). Tesco's manipulation index is not greater than -2.22, in observed period, so earnings manipulation is rejected by this model. Since this model may lead to incorrect results (Tarjo & Herawati, 2015) and since other findings point possible manipulations this result should be taken with caution.

In addition, throughout notes changes in accounting policies were not spotted, but revenue recognition, depreciation and property profit allocation are finding more aggressive within Tesco compared to peers (Kamal, 2014). Also, revenue falsification cannot be detected from annual financial reports nor from the Beneish model, but it is known that the company reported fictive revenues in semi-annual report in 2014 and that prior that event was warned in 2010 because of aggressive accounting intentions.

6 DISCUSSION AND CONCLUSION

This thesis, An Analysis of Earnings Management Techniques, is comprised of a theoretical part, in which an analysis of key differences in accounting standards (US GAAP and IFRS) has been presented and empirical part, which includes financial analysis. The objectives of this paper were to systematically describe types of earnings manipulation applied both under US GAAP and under IFRS, and to try to determine financial analysis methods which would help detect possible misdeeds and distortions. In the empirical part, business operations of Tesco Plc were analysed, with an emphasis on the year 2014, when accounting manipulation was discovered. The case study includes analysis on macro and micro factors affecting Tesco Plc and analysis of the key positions within financial statements for the period from 2008 to 2015, aiming to provide a precise overview regarding what happened in the company at the time and to explain how the big overestimation of £250 million in profits happened.

The analysis indicates how important compatibility between standards is, especially when they pertain to companies that do business globally, if we wish to reduce the potential for manipulations to the minimum. Since many countries have their own rules beyond these two standards, it is necessary to minimize the gap between them in order to create common practice. Only when that is achieved can we implement proper reporting habits and limit the potential for manipulations because that would reduce, if not eradicate, the "grey area" where these creative combinations take place. In order to better understand the analytical part, the theoretical part also reveals the warning signs that are often put in practice, to show the particularly tricky points that deserve special attention when it comes to empirical scenarios.

The investigation into what happened at Tesco Plc, prior to and in the year 2014, included collecting the knowledge on the reporting standards, gathering the financial reports and notes, familiarizing oneself with the positions in which frauds usually happen and connecting it with events in the environment.

The research findings are as follows:

1) Conflicting movements of sales growth and sales costs - in 2012 when there was a recorded slowdown in revenue cost, linear growth is retained which may indicates that the cost from previous periods was underestimated and/or revenue was overestimated.

2) In comparison of revenues and receivables on year-on-year growth base, faster rate of growth in receivables certainly present warning sign for earning manipulation and may indicate earlier revenue booking before 2013.

3) Large inventories from 2011 until 2013 are indicating possible overaccumulation of the same.

4) Provisions are raised during 2013 and 2015 during significant declines in profits. Possible is that this is done in order to increase net income in a future. Higher growth in provision in 2009 and 2010 may also indicate that provisions are raised in order to smooth income.

5) Big drop in post-employment benefit obligations in 2011 during increasing number of employees may indicate underestimation pertaining to that particular item.

6) Tesco operates with higher current liabilities and lower cash reserves mostly because it maximally utilises cash or takes advantage of potential low-cost loans.

7) Changes in accounting policies were not spotted, but revenue recognition, depreciation and property profit allocation are finding more aggressive within Tesco compared to peers.

8) Bigger changes within the company business directly affected all financial statements – 2011/2012 lower profits, 2013 horse meat scandal, 2014 profit overestimations.

9) Indexes from the Beneish model indicate possible aggressive accounting practice. The day's sales in receivable index (DSRI) presents possible revenue inflation practice until 2013. In addition, it is possible that Tesco used lower depreciation policy in 2008 and 2014 (by depreciation index DEPI). Total accruals to total assets (TATA) index was the highest in 2010 and 2013 and may present manipulation encouraged by profit warnings. Increase in debt (LVGI) in 2008, 2009 and from 2013 to 2015 indicates high leverage of the company.

10) Falsification of revenue cannot be detected from annual financial reports. Also, manipulation indexes from the Beneish model did not confirmed earnings manipulation.

The empirical part shows that by pushing aggressive accounting methods too far (recognising revenue too early and delaying recording costs), a company may end up with revenue that had not been earned yet and with costs that should have been booked earlier. Dynamic environment in which company operates leaded to engagement of management in earnings manipulation, but it cannot be concluded in what extent. High possibility of product substitution, high competition and buyers influence on price reductions present big challenges and can lead to lower performance in future what may again trigger inclusion in earnings manipulation. The Beneish model successfully detected aggressive accounting practice within Tesco and confirmed previous findings, but did not indicate earnings manipulation. Since this model may lead to incorrect results (Tarjo & Herawati, 2015) and since other findings point possible manipulations it cannot be concluded that the model gave right results in this case.

The limitations of the case study mostly pertain to gathering data for analysis. It is nearly impossible to find any data that have not been redone in order to make comparisons with the audited data. In addition, financial statements alone are not enough due to the changes in policies and in reporting representations (such as adding some crucial positions that were not shown in previous years because they were deemed irrelevant at the time). Performing horizontal analysis, vertical analysis, analysis of KPIs and analysis of certain statements positions may still not be enough to be certain of manipulative intentions – the final step may require taking an internal look. The reason for this lies in the fact that annual reports are presented in the way that will make the company seem as appealing to potential investors as possible. It is also important to point out that independence of external auditors, as we can see from this case and many other historical cases, is questionable. Therefore, such audits are to be taken with a grain of salt. The direction of future research could be aimed towards analysing the company’s original documentation and business accounts. It is also possible to analyse certain positions in greater depth with the help of professional auditing tools/software.

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APPENDIXES

TABLE OF APPENDIXES

Appendix A: Povzetek

V zadnjih dvajsetih letih je finančna liberalizacija s svetovnimi aplikacijami prispevala k pomembnosti preglednosti in odgovornosti svetovnega finančnega poročanja. Številni dogodki, ki vključujejo čiste računovodske goljufije, so ogrozili zaupanje investitorjev v finančna poročila, še posebej, če analizirano podjetje izvira iz države v vzponu. Običajno so uporabljena tista računovodska prikrivanja, ki vplivajo na prepoznanje prihodkov, vrednost zalog in dolgoročnih sredstev, vrednost dobrega imena itd.

V procesu premagovanja morebitnih računovodskih manipulacij, namenjenih povišanju uspešnosti podjetja, bi bilo potrebno preučiti kakovost računovodskega poročanja. Visokokakovostno finančno poročanje se navadno opisuje kot prikaz pomembnih značilnosti, kar pomeni, da finančna poročila prikazujejo informacije, ki so koristne za odločitve uporabnikov in so zanesljive, kar pomeni, da morajo biti informacije točne, resnične in poštene (Accounting Explained, 2013). V procesu ocenjevanja kakovosti računovodskega poročanja je kot primarna metoda uporabljena analiza njihovega upoštevanja bodisi US GAAP (ameriški računovodski standardi) ali MSRP (mednarodni sistem računovodskega poročanja) (Shamrock, 2012a, p. 1). Sarbanes-Oxley in podobni pravni postopki v EU so začeli novo obdobje varstva potrošnikov in vlagateljev. Vendar je še vedno nejasno, ali se goljufije v zvezi s finančnim poročanjem z uveljavitvijo zgoraj navedenih zakonov znatno omejujejo.

Glavna vprašanja, s katerimi se ukvarja ta teza, so naslednji:

1. Kateri načini manipulacije s prihodki se običajno uporabljajo v bilanci stanja, izkazu poslovnega izida in izkazu denarnih tokov?

2. Kateri opozorilni znaki se lahko uporabijo za odkrivanje manipulacije s prihodki?

3. Katere razlike v US GAAP in MSRP so najpogosteje izkoriščene za prikrivanje ekonomske vsebine?

Prvo vprašanje se nanaša na poimenovanje in opis tehnik manipuliranja s skupnimi prihodki, ki se uporabljajo pri računovodstvu in finančni analizi. Te tehnike so pogosto v celoti skladne z MSRP in US GAAP (odvisno od države, v kateri veljajo določeni računovodski standardi), vendar se kljub temu uporabljajo z jasnim namenom, da prikrijejo pravo ekonomsko vsebino transakcij podjetja. Drugo vprašanje je namenjeno opisovanju priljubljenih tehnik, ki se uporabljajo za odkrivanje in v izogib računovodski manipulaciji - tako imenovane "rdeče zastavice", ki naj bi kazale na možno manipulacijo s prihodki. Nazadnje bo tretje vprašanje poskušalo ponuditi seznam vrzeli v računovodskem poročanju v okviru dveh standardov in odgovoriti, zakaj nekateri analitiki trdijo, da US GAAP zagotavlja več manipulativnih možnosti v primerjavi z MSRP (Bragg, 2016).

Poleg analize razpoložljive bibliografije, se teza osredotoča tudi na finančno analizo kot glavno orodje za pridobivanje dragocenih informacij iz uradnih dokumentov podjetja. Predstavljena je bila temeljita analiza podjetja Tesco PLC, ki združuje analizo bilance stanja, denarnih tokov in izkaza poslovnega izida ter zagotavlja primerjalno analizo s podobnimi podjetji, da bi odkrili možne manipulacije prihodkov.

V primerjavi dveh standardov, US GAAP in MSRP, so prikazane večje razlike na naslednjih področjih (Bragg, 2016; Firm prihodnosti, 2018):

- Pravila in načela. US GAAP vsebuje zelo specifična pravila in smernice, ki predpisujejo obravnavo številnih transakcij. Da bi dosegli boljše finančne rezultate, uporabniki pogosto namerno ustvarjajo transakcije, ki manipulirajo s temi pravili. MSRP temelji na načelih in od uporabnikov pričakuje, da bodo uporabili smernice po njihovi najboljši presoji.

- Popis LIFO. Metoda LIFO za vrednotenje zalog je dovoljena po US GAAP, medtem ko je po MSRP prepovedana. Teoretično je MSRP pravilnejši, saj lahko LIFO povzroči nenavadno nizke ravni poročanega dohodka in večinoma ne kaže dejanskega toka popisa.

- Odpis odprava. Ko gre za odpis zalog, US GAAP predpisuje, da se vrednost zaloge ali osnovnega sredstva zapiše kot tržna vrednost. Če se tržna vrednost sredstva kasneje poveča, se znesek odpisa ne more spremeniti. V enaki situaciji se v skladu z MSRP znesek odpisa spremeni.

- Stroški razvoja. US GAAP zahteva, da se vsi stroški razvoja zaračunajo kot stroški v letu, v katerem se pojavijo, in jih ni dovoljeno kapitalizirati. V skladu z MSRP se nekateri od teh stroškov lahko kapitalizirajo in amortizirajo v več obdobjih. Položaj MSRP je lahko preveč agresiven, kar omogoča odlog stroškov, ki bi morali biti zaračunani hkrati.

- Neopredmetena sredstva. Za neopredmetena sredstva, kot so stroški za raziskave in razvoj ali oglaševanje, MSRP upošteva prihodnjo ekonomsko korist sredstva (kot način ocenjevanja vrednosti). US GAAP priznava neopredmetena sredstva samo po pošteni tržni vrednosti.

- Izkaz poslovnega izida. MSRP v izkazu poslovnega izida vključuje izredne ali nenavadne postavke in jih ne ločuje. Nasprotno jih US GAAP ločuje in jih prikazuje pod neto dohodkom.

- Klasifikacija obveznosti. US GAAP razvršča obveznosti kot kratkoročne (pričakuje se, da bo dolg poravnan v 12 mesecih) ali dolgoročne (dolg, ki ne bodo poravnan v 12 mesecih). MSRP ne razvršča obveznosti, ampak jih vse obravnava kot dolgoročne.

- Osnovna sredstva. V skladu z US GAAP se osnovna sredstva vrednotijo po modelu stroškov, ki upošteva preteklo vrednost sredstva in nabrano amortizacijo. MSRP omogoča model revalorizacije.

- Kvalitativne lastnosti. Oba standarda, US GAAP in MSRP, delujeta v okviru lastnosti, kot so ustreznost, zanesljivost, primerljivost in razumljivost, vendar v skladu z US GAAP in v nasprotju z MSRP, odločitve glede posebnih okoliščin posameznika niso možne.

Raziskave o računovodskih standardih US GAAP in MSRP so pokazale, kako pomembna je združljivost med standardi, zlasti če se nanašajo na podjetja, ki poslujejo po vsem svetu, in če želimo zmanjšati možnosti manipulacij na najmanjšo možno mero. Ker imajo mnoge države poleg teh dveh standardov tudi lastna pravila, je treba zmanjšati vrzel med njimi, da bi ustvarili neko splošno prakso. Šele, ko to dosežemo, lahko izvajamo ustrezne navade poročanja in omejimo možnosti manipulacij, saj bi to zmanjšalo, če ne celo izkoreninilo, "sivo področje", kjer se odvijajo te ustvarjalne kombinacije.

Pred analizo računovodskih izkazov so bile opisane običajne rdeče zastavice, ki so povezane z manipulacijo prihodkov. Kot najpogostejši kazalniki goljufivih dejavnosti, povezanih s predstavljeno manipulacijo prihodkov, so: višje razmerje med dolgom in kapitalom v primerjavi s povprečjem v industriji, razmerje pokritosti obresti od petih, nenavadnih računovodskih usmeritev, povezanih z zunajbilančnimi hčerinskimi družbami, velikimi "drugimi" stroški na saldu stanja, nestanovitni denarni tok, prerazvrstitev rezervne bilance v prihodke, naraščajoče terjatve ali zaloge v zvezi s prodajo, zmanjšanje bruto stopnje dobička, nenavadni odlogi v bilanci stanja, brez stroškov, ki jih je treba vključiti v EBIT ali EBITDA, s čimer se razširi stopnja odpisov na daljše časovno obdobje in nenavadne spremembe računovodskih politik. Ko gre za manipulacijo prihodkov, obstajajo tudi primeri, ko se prihodek poroča, preden je dejansko zaslužen ali je celo izmišljen. Podjetje lahko, na primer, prejme posojilo in ga določi kot prihodek denarnih sredstev in ne kot odgovornost. Podoben problem nastane z naložbami, ki so prodane in poročane kot tekoči dohodek namesto čisti prihodek podjetja.

Škandal pri goljufiji v Tescu je bil značilen primer agresivnega računovodstva, v katerem je podjetje prezgodaj poskušalo prepoznati prihodke in odložiti prikaz stroškov na kasnejši čas (Brinded, 2015). Septembra 2014 se je britansko podjetje srečalo z enim od največjih računovodskih škandalov vseh časov, ko je bilo ugotovljeno, da so bili dobički precenjeni za 250 milijonov funtov (327 milijonov dolarjev). Zaradi precenitve dobička, je Urad za resne goljufije in civilne postopke v Združenih državah podjetje vzelo pod drobnogled. Da bi ugotovili, ali obstaja kakšen makro-ekološki ali industrijski dejavnik, ki spodbuja manipulacijo, predhodno analizo finančnih poročil, je teza predložila pregled samega podjetja, analizo PESTLE, analizo Porterjevih petih sil in poslovno primerjavo med podjetjem Tesco in podobnimi podjetji. Za skupine podobnih podjetjih sta bili zbrani skupini Sainsbury in Asda, ker sta po svojih prihodkih najmočnejši konkurenci Tesca v Združenem kraljestvu (Retail Economics, 2017), poročajo po enakih standardih (MSRP in UK GAAP) in imata podobne poslovne strategije. Glede na dogodke, ki so se zgodili v podjetju Tesco, faktorji PESTLE in podobne strategije s primerjanimi podjetji, je bilo ugotovljeno, da dinamično okolje, v katerem deluje podjetje, vodi do vključevanja vodstva v upravljanje prihodkov. Velika možnost zamenjave izdelkov, visoka konkurenca in vpliv kupcev na znižanje cen lahko predstavljata velike izzive. Če trgovec na drobno ne prilagodi poslov razmeram na trgu (tj. potrebam potrošnikov), bi lahko bila slaba uspešnost motiv za morebitno manipulacijo s prihodki. Priznani prihodki, preden so dejansko zasluženi, so najpogostejši način za povišanje dobička, da bi podjetje ohranilo zadovoljstvo delničarjev in privabilo nove vlagatelje.

Pri analizi računovodskih izkazov podjetja Tesco so ugotovitve, pridobljene z analizo notranjih in zunanjih dejavnikov, ki so v opazovanem obdobju (od leta 2008 do leta 2015) vplivale na podjetje in najpogostejše rdeče zastavice, ki so bile predstavljene v okviru teoretičnega prispevka, pomagale pri prepoznavanju možnih manipulacij. Omenjene rdeče zastavice so bile iskane v bilanci stanja, izkazu poslovnega izida, izkazu vseobsegajočega donosa in izkazu denarnih tokov. Primerjava s podobnimi podjetji je bila izvedena s pomočjo nekaterih pomembnih ključnih kazalnikov uspešnosti. Za potrditev vključitve Tesca v manipulacijo s prihodki je bil uporabljen Beneišov model. V okviru tega modela se za potrditev agresivne računovodske prakse uporabljajo dnevna prodaja terjatvenih indeksov (DSRI), indeks amortizacije (DEPI) in skupne časovne razmejitve v skupnih sredstvih (TATA). Indikator nagnjenosti k goljufijam (Ramirez-Orellana et al., 2017) je tudi indeks bruto marž (GMI), indeks kakovosti sredstev (AQI), indeks rasti prodaje (SGI), prodaja, indeks splošnih in administrativnih stroškov (SGAI) in indeks vzvoda (LVGI). Vsi zgoraj omenjeni indikatorji napovedovanja so pomagali pri ocenjevanju Beneišovih indeksov manipulacij v tem obdobju.

Ugotovitve iz analize finančnih izkazov kažejo naslednje:

1) V letu 2012, ko je prišlo do zabeležene upočasnitve prihodkov, se je ohranjala linearna rast prodaje, kar lahko pomeni, da so bili stroški prejšnjih obdobij podcenjeni in/ali so bili prihodki precenjeni.

2) V primerjavi s prihodki in terjatvami na medletni stopnji rasti, hitrejša stopnja rasti terjatev zagotovo predstavlja rdečo zastavico za manipulacijo prihodkov in lahko kaže na predhodno vpisane prihodke pred letom 2013.

3) Velike zaloge od leta 2011 do leta 2013 kažejo na možne previsoke vpise.

4) Med leti 2013 in 2015 so se med znatnim zmanjšanjem dobička zaloge zvišale. Možno je, da je to narejeno, da bi v prihodnosti povišali čisti prihodek. Povišanje zalog v letih 2009 in 2010 lahko tudi kaže, da se zaloge višajo v namen nemotenega dohodka.

5) Veliko zmanjšanje obveznosti v namen pozaposlitvenih dodatkov v letu 2011, med naraščajočim številom zaposlenih, lahko kaže na podcenjevanje, ki se nanaša na to določeno postavko.

6) Tesco posluje z višjimi kratkoročnimi obveznostmi in nižjimi denarnimi rezervami predvsem zato, ker maksimalno uporablja gotovino ali izkorišča potencialne nizkocenovne kredite.

7) Spremembe računovodskih usmeritev niso bile zaznane, vendar so, v primerjavi s podobnimi podjetji, v Tescu bolj agresivni glede priznavanja prihodkov, amortizacije in dodeljevanja dobička.

8) Večje spremembe v poslovanju podjetja so neposredno vplivale na vse računovodske izkaze - nižji dobički 2011/2012, škandal glede konjskega mesa v letu 2013, precenitve dobička v letu 2014.

9) Indeksi Beneišovega modela kažejo na možno agresivno računovodsko prakso. Dnevna prodaja terjatvenih indeksov (DSRI) predstavlja možno inflacijo do leta 2013. Poleg tega je mogoče, da je Tesco v letu 2008 in 2014 uporabil nižjo amortizacijsko politiko (po indeksu amortizacije DEPI). V letu 2010 in v letu 2013 je bil indeks skupne časovne razmejitve v skupnih sredstvih (TATA) najvišji, in morda predstavlja manipulacijo, ki jo spodbujajo opozorila o dobičku. Povišanje dolga (LVGI) v letih 2008, 2009 in od leta 2013 do 2015 kaže na visoko stopnjo finančnega vzvoda podjetja.

10) Ponarejanja prihodkov iz letnih finančnih poročil ni mogoče zaznati. Tudi manipulacijski indeksi Beneišovega modela niso potrdili manipulacije prihodkov.

Iz empiričnega dela je razvidno, da preveč agresivne računovodske metode (prezgodnje prepoznavanje prihodka in zavlačevanje z beleženjem stroškov) lahko podjetju prinese dohodke, ki še niso bili zasluženi, in stroške, ki bi jih bilo treba zabeležiti prej. Beneišov model je uspešno zaznal agresivno računovodsko prakso v Tescu in potrdil prejšnje ugotovitve, vendar ni prikazal manipulacije prihodkov. Ker ta model lahko privede do nepravilnih rezultatov (Tarjo in Herawati, 2015) in ker druge ugotovitve kažejo na morebitne manipulacije, ni mogoče sklepati, da je model v tem primeru dal ustrezne rezultate.

Omejitve študije primera se večinoma nanašajo na zbiranje podatkov za analizo. Skoraj nemogoče je najti podatke, ki niso bili ponovljeni, da bi naredili primerjave z revidiranimi podatki. Poleg tega samo računovodski izkazi niso dovolj zaradi sprememb v politikah in v predstavitvah poročanja (na primer dodajanje nekaterih ključnih točk, ki v preteklih letih niso bile prikazane, saj so takrat veljale za nepomembne). Izvedba primerjalne analize, analize ključnih kazalnikov uspešnosti in analize položajev določenih trditev, ne morejo biti dovolj, da bi bili prepričani o manipulativnih namerah - zadnji korak bo morda zahteval notranjo revizijo. Razlog za to je v dejstvu, da so letna poročila predstavljena na način, da bi podjetje naredili čim bolj privlačno za potencialne vlagatelje. Prav tako je pomembno poudariti, da je neodvisnost zunanjih revizorjev, kot je razvidno iz tega primera in številnih drugih zgodovinskih primerov, vprašljiva. Zato je potrebno na take revizije gledati s kančkom zadržka. Prihodnje raziskave bi lahko bila namenjene analizi prvotne dokumentacije in poslovnih računov podjetja. Tudi s pomočjo profesionalnih revizijskih orodij/programske opreme je mogoče podrobneje analizirati določena stališča.

Appendix B: List of Abbreviations

A/R	Account receivables
AOCI	Accumulated Other Comprehensive Income
AROs	Asset Retirement Obligations
ASC	Accounting Standards Codification
ASU	Accounting Standards Update
AQI	Assets Quality Index
COGS	Cost of Goods Sold
DEPI	Depreciation Index
DSRI	Day’s Sales in Receivable Index
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortisation
EFTPoS	Electronic Funds Transfer Systems
EPoS	Electronic Point of Sale
EU	European Union
FASB	Financial Accounting Standard Board
FOB	Free On Board
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
GMI	Gross Margin Index
HIFO	Highest In, First Out

IAS	International Accounting Standard
IASB	International Accounting Standard Board
IFRIC	International Financial Reporting Interpretations Committee
IFRS	International Financial Reporting Standards
IPL	International Procurement Limited
IPO	Initial Public Offering
LIFO	Last In, First Out
LVGI	Leverage Index
MACRS	Modified Accelerated Cost Recovery System
OCI	Other Comprehensive Income
PCAOB	Public Company Accounting Oversight Board
PESTLE	Political, Economic, Social, Technological, Legal and Environmental
RFID	Radio Frequency Identification
R&D	Research and Development
RIM	Retail Inventory Method
ROA	Return on Assets
ROE	Return on Equity
SEC	Securities and Exchange Commission
SGAI	Sales, General and Administrative Expenses Index

SGI	Sales Growth Index
TATA	Total Accruals to Total Assets
UK	United Kingdom
US	United States
US GAAP	United States Generally Accepted Accounting Principles
VAT	Value-Added Tax
WTO	World Trade Organization

Appendix C: Tesco PLC- Income Statement from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Total revenue	47.298	54.327	56.910	60.931	64.539	64.826	63.557	62.284
Cost of sales	(43.668)	(50.109)	(52.303)	(55.871)	(59.278)	(60.737)	(59.547)	(64.396)
Gross profit	3.630	4.218	4.607	5.060	5.261	4.089	4.010	(2.112)
Administrative expenses	(1.027)	(1.248)	(1.527)	(1.676)	(1.652)	(1.562)	(1.657)	(2.695)
Profit/losses arising on property-related items	188	236	377	427	376	(339)	278	(985)
Operating profit	2.791	3.206	3.457	3.811	3.985	2.188	2.631	(5.792)
Share of post-tax profits of joint ventures and associates	75	110	33	57	91	54	60	(13)
Finance income	187	116	265	150	176	177	132	90
Finance costs	(250)	(478)	(579)	(483)	(417)	(459)	(564)	(661)
Profit before tax	2.803	2.954	3.176	3.535	3.835	1.960	2.259	(6.376)
Taxation	(673)	(788)	(840)	(864)	(879)	(574)	(347)	657
Profit for the year from continuig operations	2.130	2.166	2.336	2.671	2.956	1.386	1.912	(5.719)
Loss for the year from discontinued operations	-	-	-	-	(142)	(1.266)	(942)	(47)
Profit for the year	2.130	2.166	2.336	2.671	2.814	120	970	(5.766)

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Appendix D: Sainsbury's - Income Statement from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Total revenue	17.837	18.911	19.964	21.102	22.294	23.303	23.949	23.775
Cost of sales	(16.835)	(17.875)	(18.882)	(19.942)	(21.083)	(22.026)	(22.562)	(22.567)
Gross profit	1.002	1.036	1.082	1.160	1.211	1.277	1.387	1.208
Administrative expenses	(502)	(420)	(399)	(417)	(419)	(457)	(444)	(1.132)
Profit/losses arising on property-related items	30	57	27	108	82	67	66	5
Operating profit	530	673	710	851	874	887	1.009	81
Share of post-tax profits of joint ventures and associates	(2)	(111)	138	60	28	24	28	8
Finance income	83	52	33	32	35	19	20	19
Finance costs	(132)	(148)	(148)	(116)	(138)	(142)	(159)	(180)
Profit before tax	479	466	733	827	799	788	898	(72)
Taxation	(150)	(177)	(148)	(187)	(201)	(174)	(182)	(94)
Profit for the year	329	289	585	640	598	614	716	(166)

Source: Adapted from Sainsbury’s. *Results, Reports and Presentations 2008-2015*, 2017b.

Appendix E: Asda - Income Statement from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Total revenue	18.573	19.836	20.546	21.848	22.843	23.325	23.232	22.375
Cost of sales	(17.971)	(18.937)	(19.741)	(21.002)	(22.003)	(22.331)	(22.220)	(21.329)
Gross profit	602	899	805	846	841	994	1.013	1.046
Operating profit	602	899	805	846	841	994	1.013	1.046
Finance income	35	11	10	4	12	2	3	4
Finance costs	(117)	(111)	(76)	(83)	(78)	(82)	(95)	(75)
Profit before tax	520	799	739	768	774	914	921	975
Taxation	(112)	(149)	(131)	(194)	(164)	(151)	(141)	(155)
Profit for the year from continuig operations	409	650	608	573	610	763	780	820
Loss for the year from discontinued operations	218	-	-	-	-	-	-	-
Profit for the year	627	650	608	573	610	763	780	820

Source: Companies House, *Asda Group Limited Commpany Reports 2008-2015*, 2017.

Appendix F: Tesco Plc - Comprehensive Income Statement from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Change in fair value of available-for-sale investments	-4	3	1	2	13	-11	-4	-8
Foreign currency translation differences	38	-257	343	-344	-22	420	-1.102	5
Reclassification adjustment for movements in foreign exchange reserve and net investment hedging						20	-	-17
Actuarial losses on defined benefit pension schemes	187	-629	-322	595	-498	-735	0	0
Gains/(losses) on cash flow hedges:								
Net fair value gains/(losses)	66	505	-168	-22	241	84	-235	-2
Reclassified and reported in the Group Income Statement	-29	-334	5	8	-142	-63	61	102
Tax on items taken directly to equity	123	435	54	-153	73	104	97	-7
Net income recognised directly in equity	381	-295	-87	86	-335	-181	-1.183	73
Profit for the year	2.130	2.166	2.336	2.671	2.814	120	970	-5.766
Total recognised income and expense for the year	2.511	1.871	2.249	2.757	2.479	-61	-859	-6.875
Equity holders of the parent	2.500	1.872	2.222	2.746	2.466	-57	-848	-6.850
Minority interests	11	-1	27	11	13	-4	-11	-25
	2.511	1.871	2.249	2.757	2.479	-61	-859	-6.875
Continuing operations	-	-	-	2.851	2.607	1.209	138	-6.794
Discontinued operations	-	-	-	-105	-141	-1266	-986	-56
				2.746	2.466	-57	-848	-6.850

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Appendix G: Horizontal Analysis of Tesco PLC Income Statement from 2009 until 2015

(index change 100% is basis, i.e. presents no change)

	2009/2008	2010/2009	2011/2010	2012/2011	2013/2012	2014/2013	2015/2014
Total revenue	114,86%	104,75%	107,07%	105,92%	100,44%	98,04%	98,00%
Cost of sales	114,75%	104,38%	106,82%	106,10%	102,46%	98,04%	108,14%
Gross profit	116,20%	109,22%	109,83%	103,97%	77,72%	98,07%	-52,67%
Administrative expenses	121,52%	122,36%	109,76%	98,57%	94,55%	106,08%	162,64%
Profit/losses arising on property-related items	125,53%	159,75%	113,26%	88,06%	-90,16%	-82,01%	-354,32%
Operating profit	114,87%	107,83%	110,24%	104,57%	54,91%	120,25%	-220,14%
Share of post-tax profits of joint ventures and associates	146,67%	30,00%	172,73%	159,65%	59,34%	111,11%	-21,67%
Finance income	62,03%	228,45%	56,60%	117,33%	100,57%	74,58%	68,18%
Finance costs	191,20%	121,13%	83,42%	86,34%	110,07%	122,88%	117,20%
Profit before tax	105,39%	107,52%	111,30%	108,49%	51,11%	115,26%	-282,25%
Taxation	117,09%	106,60%	102,86%	101,74%	65,30%	60,45%	-189,34%
Profit for the year	101,69%	107,85%	114,34%	105,35%	4,26%	808,33%	-594,43%

Source: Own work.

Appendix H: Tesco PLC - Balance Sheet from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
NON-CURRENT ASSETS								
Goodwill and other intangible assets	2.336	4.027	4.177	4.338	4.618	4.362	3.795	3.771
Property, plant and equipment	19.787	23.152	24.203	24.398	25.710	24.870	24.490	20.440
Investment property	1.112	1.539	1.731	1.863	1.991	2.001	227	164
Investment and joint ventures associates	305	62	152	316	423	494	286	940
Other investments	4	259	863	1.108	1.526	818	1.015	975
Loans and advances to customers	0	1.470	1.844	2.127	1.901	2.465	3.210	3.906
Derivative financial instruments	216	1.478	1.250	1.139	1.726	1.965	1.496	1.546
Deferred tax assets	104	21	38	48	23	58	73	514
	23.864	32.008	34.258	35.337	37.918	37.033	34.592	32.256
CURRENT ASSETS								
Inventories	2.430	2.669	2.729	3.162	3.598	3.744	3.576	2.957
Trade and other receivables	1.311	1.798	1.888	2.314	2.657	2.525	2.190	2.121
Loans and advances to customers	0	1.918	2.268	2.514	2.502	3.094	3.705	3.814
Loans and advances to banks and other financial assets	0	2.129	144	404	0	0	0	0
Derivative financial instruments	97	382	224	148	41	58	80	153
Current tax assets	6	9	6	4	7	10	12	16
Short-term investments	360	1.233	1.314	1.022	1.243	522	1.016	593
Cash and cash equivalents	1.788	3.509	2.819	1.870	2.305	2.512	2.506	2.165
	5.992	13.647	11.392	11.438	12.353	12.465	13.085	11.819
Assets of the disposal group and non-current assets classified as held for sale	308	398	373	431	510	631	2.487	139
	6.300	14.045	11.765	11.869	12.863	13.096	15.572	11.958
TOTAL ASSETS	30.164	46.053	46.023	47.206	50.781	50.129	50.164	44.214

(table continues)

(continued)

Appendix H: Tesco PLC - Balance Sheet from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
CURRENT LIABILITIES								
Trade and other payables	(7.277)	(8.522)	(9.442)	(10.484)	(11.234)	(11.094)	(10.595)	(9.922)
Financial liabilities:								
Borrowings	(2.084)	(4.059)	(1.529)	(1.386)	(1.838)	(766)	(1.910)	(2.008)
Derivative financial instruments and other liabilities	(443)	(525)	(146)	(255)	(128)	(121)	(99)	(89)
Customer deposits and deposits by banks	0	(4.562)	(4.387)	(5.110)	(5.465)	(6.015)	(6.858)	(7.020)
Current tax liabilities	(455)	(362)	(472)	(432)	(416)	(519)	(494)	(95)
Provisions	(4)	(10)	(39)	(64)	(99)	(188)	(250)	(671)
	(10.263)	(18.040)	(16.015)	(17.731)	(19.180)	(18.703)	(20.206)	(19.805)
Liabilities of the disposal group classified as held for sale	0	0	0	0	(69)	(282)	(1.193)	(5)
NET CURRENT LIABILITIES	(3.963)	(3.995)	(4.250)	(5.862)	(6.386)	(5.889)	(5.827)	(7.852)
NON-CURRENT LIABILITIES								
Financial liabilities:								
Borrowings	(5.972)	(12.391)	(11.744)	(9.689)	(9.911)	(10.068)	(9.303)	(10.651)
Derivative financial instruments and other liabilities	(322)	(302)	(776)	(600)	(688)	(759)	(770)	(946)
Post-employment benefit obligations	(838)	(1.494)	(1.840)	(1.356)	(1.872)	(2.378)	(3.193)	(4.842)
Other non-current payables	(42)	(68)	0	0,0	0,0	0	0	0
Deferred tax liabilities	(802)	(696)	(795)	(1.094)	(1.160)	(1.006)	(594)	(199)
Provisions	(23)	(67)	(172)	(113)	(100)	(272)	(183)	(695)
	(7.999)	(15.018)	(15.327)	(12.852)	(13.731)	(14.483)	(14.043)	(17.333)
NET ASSETS	11.902	12.995	14.681	16.623	17.801	16.661	14.722	7.071

(table continues)

(continued)

Appendix H: Tesco PLC - Balance Sheet from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
EQUITY								
Share capital	393	395	399	402	402	403	405	406
Share premium	4.511	4.638	4.801	4.896	4.964	5.020	5.080	5.094
All other reserves	40	40	40	40	40	685	(498)	(414)
Retained earnings	6.871	7.865	9.356	11.197	12.369	10.535	9.728	1.985
	11.815	12.938	14.596	16.535	17.775	16.643	14.715	7.071
Minority interests	87	57	85	88	26	18	7	0
Total equity	11.902	12.995	14.681	16.623	17.801	16.661	14.722	7.071
TOTAL LIABILITIES	(30.164)	(46.053)	(46.023)	(47.206)	(50.781)	(50.129)	(50.164)	(44.214)

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Appendix I: Vertical analysis of Tesco PLC Balance Sheet from 2008 until 2015

	2008	2009	2010	2011	2012	2013	2014	2015
NON-CURRENT ASSETS								
Goodwill and other intangible assets	7,74%	8,74%	9,08%	9,19%	9,09%	8,70%	7,57%	8,53%
Property, plant and equipment	65,60%	50,27%	52,59%	51,68%	50,63%	49,61%	48,82%	46,23%
Investment property	3,69%	3,34%	3,76%	3,95%	3,92%	3,99%	0,45%	0,37%
Investment and joint ventures associates	1,01%	0,13%	0,33%	0,67%	0,83%	0,99%	0,57%	2,13%
Other investments	0,01%	0,56%	1,88%	2,35%	3,01%	1,63%	2,02%	2,21%
Loans and advances to customers	0,00%	3,19%	4,01%	4,51%	3,74%	4,92%	6,40%	8,83%
Derivative financial instruments	0,72%	3,21%	2,72%	2,41%	3,40%	3,92%	2,98%	3,50%
Deffered tax assets	0,34%	0,05%	0,08%	0,10%	0,05%	0,12%	0,15%	1,16%
	79,11%	69,50%	74,44%	74,86%	74,67%	73,88%	68,96%	72,95%
CURRENT ASSETS								
Inventories	8,06%	5,80%	5,93%	6,70%	7,09%	7,47%	7,13%	6,69%
Trade and other receivables	4,35%	3,90%	4,10%	4,90%	5,23%	5,04%	4,37%	4,80%
Loans and advances to customers	0,00%	4,16%	4,93%	5,33%	4,93%	6,17%	7,39%	8,63%
Loans and advances to banks and other financial assets	0,00%	4,62%	0,31%	0,86%	0,00%	0,00%	0,00%	0,00%
Derivative financial instruments	0,32%	0,83%	0,49%	0,31%	0,08%	0,12%	0,16%	0,35%
Current tax assets	0,02%	0,02%	0,01%	0,01%	0,01%	0,02%	0,02%	0,04%
Short-term investments	1,19%	2,68%	2,86%	2,16%	2,45%	1,04%	2,03%	1,34%
Cash and cash equivalents	5,93%	7,62%	6,13%	3,96%	4,54%	5,01%	5,00%	4,90%
	19,86%	29,63%	24,75%	24,23%	24,33%	24,87%	26,08%	26,73%
Assets of the disposal group and non-current assets classified as held for sale	1,02%	0,86%	0,81%	0,91%	1,00%	1,26%	4,96%	0,31%
	20,89%	30,50%	25,56%	25,14%	25,33%	26,12%	31,04%	27,05%
TOTAL ASSETS	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

(table continues)

(continued)

Appendix I: Vertical analysis of Tesco PLC Balance Sheet from 2008 until 2015

	2008	2009	2010	2011	2012	2013	2014	2015
CURRENT LIABILITIES								
Trade and other payables	24,12%	18,50%	20,52%	22,21%	22,12%	22,13%	21,12%	22,44%
Financial liabilities:								
Borrowings	6,91%	8,81%	3,32%	2,94%	3,62%	1,53%	3,81%	4,54%
Derivative financial instruments and other liabilities	1,47%	1,14%	0,32%	0,54%	0,25%	0,24%	0,20%	0,20%
Customer deposits and deposits by banks	0,00%	9,91%	9,53%	10,82%	10,76%	12,00%	13,67%	15,88%
Current tax liabilities	1,51%	0,79%	1,03%	0,92%	0,82%	1,04%	0,98%	0,21%
Provisions	0,01%	0,02%	0,08%	0,14%	0,19%	0,38%	0,50%	1,52%
	34,02%	39,17%	34,80%	37,56%	37,77%	37,31%	40,28%	44,79%
Liabilities of the disposal group classified as held for sale	0,00%	0,00%	0,00%	0,00%	0,14%	0,56%	2,38%	0,01%
NET CURRENT LIABILITIES	13,14%	8,67%	9,23%	12,42%	12,58%	11,75%	11,62%	17,76%
NON-CURRENT LIABILITIES								
Financial liabilities:								
Borrowings	19,80%	26,91%	25,52%	20,52%	19,52%	20,08%	18,55%	24,09%
Derivative financial instruments and other liabilities	1,07%	0,66%	1,69%	1,27%	1,35%	1,51%	1,53%	2,14%
Post-employment benefit obligations	2,78%	3,24%	4,00%	2,87%	3,69%	4,74%	6,37%	10,95%
Other non-current payables	0,14%	0,15%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Deferred tax liabilities	2,66%	1,51%	1,73%	2,32%	2,28%	2,01%	1,18%	0,45%
Provisions	0,08%	0,15%	0,37%	0,24%	0,20%	0,54%	0,36%	1,57%
	26,52%	32,61%	33,30%	27,23%	27,04%	28,89%	27,99%	39,20%
NET ASSETS	39,46%	28,22%	31,90%	35,21%	35,05%	33,24%	29,35%	15,99%

(table continues)

(continued)

Appendix I: Vertical analysis of Tesco PLC Balance Sheet from 2008 until 2015

	2008	2009	2010	2011	2012	2013	2014	2015
EQUITY								
Share capital	1,30%	0,86%	0,87%	0,85%	0,79%	0,80%	0,81%	0,92%
Share premium	14,95%	10,07%	10,43%	10,37%	9,78%	10,01%	10,13%	11,52%
All other reserves	0,13%	0,09%	0,09%	0,08%	0,08%	1,37%	-0,99%	-0,94%
Retained earnings	22,78%	17,08%	20,33%	23,72%	24,36%	21,02%	19,39%	4,49%
	39,17%	28,09%	31,71%	35,03%	35,00%	33,20%	29,33%	15,99%
Minority interests	0,29%	0,12%	0,18%	0,19%	0,05%	0,04%	0,01%	0,00%
Total equity	39,46%	28,22%	31,90%	35,21%	35,05%	33,24%	29,35%	15,99%
TOTAL LIABILITIES	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

Source: Own work.

Appendix J: Horizontal Analysis of Tesco PLC Balance Sheet from 2008 until 2015

(index change 100% is basis, i.e. presents no change)

	2009/2008	**2010/2009**	**2011/2010**	**2012/2011**	**2013/2012**	**2014/2013**	**2015/2014**
NON-CURRENT ASSETS							
Goodwill and other intangible assets	172,39%	103,72%	103,85%	106,45%	94,46%	87,00%	99,37%
Property, plant and equipment	117,01%	104,54%	100,81%	105,38%	96,73%	98,47%	83,46%
Investment property	138,40%	112,48%	107,63%	106,87%	100,50%	11,34%	72,25%
Investment and joint ventures associates	20,33%	245,16%	207,89%	133,86%	116,78%	57,89%	328,67%
Other investments	6475,00%	333,20%	128,39%	137,73%	53,60%	124,08%	96,06%
Loans and advances to customers		125,44%	115,35%	89,37%	129,67%	130,22%	121,68%
Derivative financial instruments	684,26%	84,57%	91,12%	151,54%	113,85%	76,13%	103,34%
Deffered tax assets	20,19%	180,95%	126,32%	47,92%	252,17%	125,86%	704,11%
	134,13%	107,03%	103,15%	107,30%	97,67%	93,41%	93,25%
CURRENT ASSETS							
Inventories	109,84%	102,25%	115,87%	113,79%	104,06%	95,51%	82,69%
Trade and other receivables	137,15%	105,01%	122,56%	114,82%	95,03%	86,73%	96,85%
Loans and advances to customers		118,25%	110,85%	99,52%	123,66%	119,75%	102,94%
Loans and advances to banks and other financial assets		6,76%	280,56%	0,00%			
Derivative financial instruments	393,81%	58,64%	66,07%	27,70%	141,46%	137,93%	191,25%
Current tax assets	150,00%	66,67%	66,67%	175,00%	142,86%	120,00%	133,33%
Short-term investments	342,50%	106,57%	77,78%	121,62%	42,00%	194,64%	58,37%
Cash and cash equivalents	196,25%	80,34%	66,34%	123,26%	108,98%	99,76%	86,39%
	227,75%	83,48%	100,40%	108,00%	100,91%	104,97%	90,32%
Assets of the disposal group and non-current assets classified as held for sale	129,22%	93,72%	115,55%	118,33%	123,73%	394,14%	5,59%
	222,94%	83,77%	100,88%	108,37%	101,81%	118,91%	76,79%

(table continues)

(continued)

Appendix J: Horizontal Analysis of Tesco PLC Balance Sheet from 2008 until 2015

	2009/2008	2010/2009	2011/2010	2012/2011	2013/2012	2014/2013	2015/2014
TOTAL ASSETS	152,68%	99,93%	102,57%	107,57%	98,72%	100,07%	88,14%
CURRENT LIABILITIES							
Trade and other payables	117,11%	110,80%	111,04%	107,15%	98,75%	95,50%	93,65%
Financial liabilities:							
Borrowings	194,77%	37,67%	90,65%	132,61%	41,68%	249,35%	105,13%
Derivative financial instruments and other liabilities	118,51%	27,81%	174,66%	50,20%	94,53%	81,82%	89,90%
Customer deposits and deposits by banks		96,16%	116,48%	106,95%	110,06%	114,01%	102,36%
Current tax liabilities	79,56%	130,39%	91,53%	96,30%	124,76%	95,18%	19,23%
Provisions	250,00%	390,00%	164,10%	154,69%	189,90%	132,98%	268,40%
	175,78%	88,77%	110,71%	108,17%	97,51%	108,04%	98,02%
Liabilities of the disposal group classified as held for sale					408,70%	423,05%	0,42%
NET CURRENT LIABILITIES	100,81%	106,38%	137,93%	108,94%	92,22%	98,95%	134,75%
NON-CURRENT LIABILITIES							
Financial liabilities:							
Borrowings	207,48%	94,78%	82,50%	102,29%	101,58%	92,40%	114,49%
Derivative financial instruments and other liabilities	93,79%	256,95%	77,32%	114,67%	110,32%	101,45%	122,86%
Post-employment benefit obligations	178,28%	123,16%	73,70%	138,05%	127,03%	134,27%	151,64%
Other non-current payables	161,90%	0,00%					
Deferred tax liabilities	86,78%	114,22%	137,61%	106,03%	86,72%	59,05%	33,50%
Provisions	291,30%	256,72%	65,70%	88,50%	272,00%	67,28%	379,78%
	187,75%	102,06%	83,85%	106,84%	105,48%	96,96%	123,43%
NET ASSETS	109,18%	112,97%	113,23%	107,09%	93,60%	88,36%	48,03%

(table continues)

(continued)

Appendix J: Horizontal Analysis of Tesco PLC Balance Sheet from 2008 until 2015

	2009/2008	2010/2009	2011/2010	2012/2011	2013/2012	2014/2013	2015/2014
EQUITY							
Share capital	100,51%	101,01%	100,75%	100,00%	100,25%	100,50%	100,25%
Share premium	102,82%	103,51%	101,98%	101,39%	101,13%	101,20%	100,28%
All other reserves	100,00%	100,00%	100,00%	100,00%	1712,50%	-72,70%	83,13%
Retained earnings	114,47%	118,96%	119,68%	110,47%	85,17%	92,34%	20,41%
	109,50%	112,81%	113,28%	107,50%	93,63%	88,42%	48,05%
Minority interests	65,52%	149,12%	103,53%	29,55%	69,23%	38,89%	
Total equity	109,18%	112,97%	113,23%	107,09%	93,60%	88,36%	48,03%
TOTAL LIABILITIES	152,68%	99,93%	102,57%	107,57%	98,72%	100,07%	88,14%

Source: Own work.

Appendix K: Tesco PLC – Statement of Cash Flows in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Net CF from operating activities	3.343	3.960	4.745	3.992	4.408	2.837	3.185	484
Net CF from investing activities	-2.954	-5.974	-1.877	-1.859	-3.183	-278	-2.854	-2.015
Net CF from financing activities	412	3.615	-3.607	-3.036	-1.366	-2.365	56	814
Net (decrease)/increase in cash and cash equivalents	801	1601	-739	-903	-141	194	387	-717

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Appendix L: Tesco PLC – Operating Profit, EBITDA, EBIT and Net Profit from 2008 until 2015 in £m

	2008	2009	2010	2011	2012	2013	2014	2015
Operating profit	2.791	3.206	3.457	3.811	3.985	2.188	2.631	(5.792)
D&A	992	1.189	1.384	1.420	1.498	1.590	1.532	1.552
EBITDA	3.783	4.395	4.841	5.231	5.483	3.778	4.163	(4.240)
EBIT	2.803	2.954	3.176	3.535	3.835	1.960	2.259	(6.376)
NET PROFIT	2.130	2.166	2.336	2.671	2.814	120	970	(5.766)

Source: Adapted from Tesco PLC, *Investors - Reports, results and presentations 2008-2015*, 2017b.

Appendix M: Key Performance Indicators - Tesco PLC

	2008	2009	2010	2011	2012	2013	2014	2015
Liquidity ratios								
Current Ratio (Current Assets / Current Liabilities)	0,58	0,76	0,71	0,65	0,64	0,67	0,65	0,60
Quick Ratio ((Current Assets - Inventories) / Current Liabilities)	0,35	0,61	0,54	0,47	0,46	0,47	0,47	0,45
Cash Ratio (Cash / Current Liabilities)	0,17	0,19	0,18	0,11	0,12	0,13	0,12	0,11
Net working capital (Current Assets - Current Liabilities)	-4.271	-4.393	-4.623	-6.293	-6.827	-6.238	-7.121	-7.986
Leverage ratio								
Debt Ratio (Total Liabilities / Total Assets)	0,61	0,72	0,68	0,65	0,65	0,67	0,71	0,84
Activity ratios								
Inventory Turnover (Sales revenue / Inventories)	19,46	20,35	20,85	19,27	17,94	17,31	17,77	21,06
Account Receivables to Sales (A/R / Sales revenue)	0,028	0,033	0,033	0,038	0,041	0,039	0,034	0,034
Cost-effectiveness								
Efficiency of Operating Activities (Sales profitability / Cost of sales)	1,08	1,08	1,09	1,09	1,09	1,07	1,07	0,97
Profitability ratios								
Profit Margin (Sales Profit / Sales Revenue)	0,08	0,08	0,08	0,08	0,08	0,06	0,06	-0,03
Return on assets (Net Profit / Total Assets)	0,07	0,05	0,05	0,06	0,06	0,00	0,02	-0,13
Return on equity (Net Profit / Equty)	0,18	0,17	0,16	0,16	0,16	0,01	0,07	-0,82

Source: Own work.

Appendix N: Key Performance Indicators - Sainsbury's

	2008	2009	2010	2011	2012	2013	2014	2015
Liquidity ratios								
Current Ratio (Current Assets / Current Liabilities)	0,62	0,54	0,64	0,58	0,65	0,61	0,64	0,64
Quick Ratio ((Current Assets - Inventories) / Current Liabilities)	0,36	0,30	0,39	0,30	0,35	0,29	0,50	0,49
Cash Ratio (Cash / Current Liabilities)	0,28	0,21	0,30	0,17	0,24	0,17	0,24	0,19
Net working capital (Current Assets - Current Liabilities)	-995	-1.349	-996	-1.234	-1.104	-1.214	-2.403	-2.502
Leverage ratio								
Debt Ratio (Total Liabilities / Total Assets)	0,51	0,56	0,54	0,52	0,54	0,55	0,61	0,63
Activity ratios								
Inventory Turnover (Sales revenue / Inventories)	26,19	27,45	28,44	25,99	23,77	23,61	23,83	23,85
Account Receivables to Sales (A/R / Sales revenue)	0,012	0,010	0,011	0,016	0,013	0,013	0,018	0,020
Cost-effectiveness								
Efficiency of Operating Activities (Sales profitability / Cost of sales)	1,06	1,06	1,06	1,06	1,06	1,06	1,06	1,05
Profitability ratios								
Profit Margin (Sales Profit / Sales Revenue)	0,06	0,05	0,05	0,05	0,05	0,05	0,06	0,05
Return on property (Net Profit / Total Assets)	0,03	0,03	0,05	0,06	0,05	0,05	0,05	-0,01
Return on capital (Net Profit / Equty)	0,07	0,07	0,12	0,12	0,11	0,11	0,12	-0,03

Source: Own work.

Appendix O: Key Performance Indicators – Asda

	2008	2009	2010	2011	2012	2013	2014	2015
Liquidity ratios								
Current Ratio (Current Assets / Current Liabilities)	0,35	0,59	0,65	0,56	0,62	0,71	0,78	0,88
Quick Ratio ((Current Assets - Inventories) / Current Liabilities)	0,09	0,42	0,47	0,38	0,43	0,53	0,60	0,71
Cash Ratio (Cash / Current Liabilities)	0,03	0,07	0,08	0,08	0,07	0,13	0,18	0,24
Net working capital (Current Assets - Current Liabilities)	-2.366	-2.101	-1.895	-2.437	-2.238	-1.752	-1.408	-757
Leverage ratio								
Debt Ratio (Total Liabilities / Total Assets)	0,48	0,54	0,54	0,53	0,52	0,49	0,50	0,47
Activity ratios								
Inventory Turnover (Sales revenue / Inventories)	20,14	21,68	20,58	21,51	19,70	20,69	19,90	19,34
Account Receivables to Sales (A/R / Sales revenue)	0,011	0,012	0,013	0,013	0,013	0,012	0,014	0,011
Cost-effectiveness								
Efficiency of Operating Activities (Sales profitability / Cost of sales)	1,03	1,05	1,04	1,04	1,04	1,04	1,05	1,05
Profitability ratios								
Profit Margin (Sales Profit / Sales Revenue)	0,03	0,05	0,04	0,04	0,04	0,04	0,04	0,05
Return on assets (Net Profit / Total Assets)	0,07	0,06	0,05	0,05	0,05	0,06	0,05	0,05
Return on equity (Net Profit / Equty)	0,14	0,13	0,12	0,10	0,10	0,11	0,11	0,10

Source: Own work.

Appendix P: The Beneish Model for Earnings Manipulation Identification within Tesco PLC

	2008	2009	2010	2011	2012	2013	2014	2015
Day's sales in receivables index (DSRI)	1,095	1,194	1,002	1,145	1,084	0,946	0,885	0,988
Gross margin index (GMI)	0,990	0,988	0,959	0,975	1,019	1,292	1,000	-1,861
Asset quality index (AQI)	1,003	0,935	0,968	0,982	0,987	0,994	1,006	0,974
Sales growth index (SGI)	1,109	1,149	1,048	1,071	1,059	1,004	0,980	0,980
Depreciation index (DEPI)	1,030	0,977	0,903	0,983	0,999	0,916	1,021	0,834
Sales, general and administrative expenses index (SGAI)	1,000	1,000	1,001	0,999	1,000	1,018	1,002	1,119
Leverage index (LVGI)	1,055	1,186	0,949	0,951	1,000	1,021	1,031	1,230
Total accruals to total assets (TATA)	-0,003	-0,012	0,041	0,014	0,022	0,040	0,005	0,032
Manipulation indeks	-2,328	-2,319	-2,272	-2,226	-2,243	-2,208	-2,585	-3,996

Source: Own work.